The mindful gamer: Diagrammatical strategies on the bio-political plane of digital gaming culture

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The Mindful Gamer: Diagrammatical Strategies on the Bio-political Plane of Digital Gaming Culture

ACADEMISCH PROEFSCHRIFT

ter verkrijgi ng van de graad van doctor

aan de Universiteit van Amsterdam

op gezag van de Rector Magnificus

prof. dr. D.C. van den Boom

ten overstaan van een door het College voor Promoties ingestelde

commissie, in het openbaar te verdedigen in de Agnietenkapel

op dinsdag 21 april 2015, te 12:00 uur

door Nikolaos Kolonias

geboren te Athene, Griekenland

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'While allegory employs 'machinery,' it is not an engineer's type of machinery at all. It does not use up real fuels, does not transform such fuels into real energy. Instead, it is a fantasized energy, like the fantasized power conferred on the shaman by his belief in daemons.'

Angus Fletcher, Allegory

'Within the armor is the butterfly, and within the butterfly—is the signal from another star.'

Philip K. Dick

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INTRODUCTION

In the nineteen-sixties, Marshall McLuhan asserted that the emergence of computerised networks will connect our world and compact it to the size of a global village connecting 'all social and political functions together in a sudden implosion.'[1] Today we live within such computerised, technological mode of representation and consumption of immaterial images. However, digitalisation didn't just enter our societies as a new mediated reality that connects our world on a global scale. It also created new modes of thought and sense, affecting and altering our lives and how we perceive and act in the world. Digital media established themselves in our social realities both as a post-modern algorithmic language of control and as a diagrammatic structure for a personal de/re-territorialisation.

From the images of cinema and television to those of digitised gaming, various media territories have expanded within our visual culture. The emergence of the digital image and its abstract, coded diagram extended existing media territories through its ability to produce heterogeneous digitised expressions. In the space of less than four decades, digitsed games appeared as a new interfaced reality in our visual mediated culture. Unlike the other traditional forms of media, games established a contemporary interface that encompasses a range of mediation and interaction that spans from immersive, First-Person Shooters (FPS) to Massive Multiplayer Online (MMO) virtual realities that cybernetically respond to a gamer's actions and thoughts.

In the last few years, digital game studies have seen a rapid development through discourse based on distinctive theoretical positions. As a result, digital games find themselves theorised within various academic models such as media studies and neuro-

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[1] McLuhan 1964: p.5.

Marshall McLuhan, in his book, *Understanding Media* (1964), uses the term in order to describe the way cybernetic machines, through their network capabilities, will able to transform the dispersed and disconnected world of the 60s into the size of a global village.

science, as well as within the context of ludology.[2] Nevertheless, academic study of digital games is a recent phenomenon. Even though digital games are studied within a variety of diverse models, their basic characteristic as an interaction medium, based on the mechanics of rules, often forces their study on a sensory-motor model that's founded on the effects caused by the reactive procedures of action. In his book, *Gaming: Essays in Algorithimic Culture* (2006), Alexander Galloway states: 'If photographs are images, and films are moving pictures, then video games are actions. Let this be word one for video game theory.'[3]

Starting with the idea that digital games are action machines - as opposed to cinematic ones - Galloway attempts to embrace a new approach for the medium, situating the study of games within a four-part schema that theorises the effects of action performed by gamers. For Galloway, games as an interactive medium functions within two major poles: that of the relation between user and the machine and that of the story represented within the game. Within these two poles, he identifies four different categories of action: 1. machine acts, 2. ambient acts, 3. non-operator acts and 4. operator acts. Turning to Deleuze's semiotic categories, as described in his book, *The Movement Image* (1986), Galloway proceeds to a classification where the signs of action, perception, and affection take their positions within the digitised images of gaming. In his classification, Galloway sees action and perception images appearing in terms of the bipolar relation between user and machine, where the action image is a process that dominates gaming interfaces. This image operates 'step by step, move by move, by the user and machine.'[4] Through his four-part schema, Galloway describes some of the gaming machine parameters that we find ourselves interfaced with today. However, he also sees the design of the medium as a mechanism that aims to control our affect and senses under its own system of logic. Galloway makes an important contribution to game studies with his focus on action, but he also raises issues about how digital games can be

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[2] The notion is used in game studies as a term to describe the process of digitised gaming and to denote a new discipline that studies its effects.

[3] Galloway 2006: p.18.

[4] ibid: p.2.

emancipated from a design that merely functions as a system of control. Is there a form of action in gaming that can be a praxis of resistance and transformation?

With the development of digitalism it seems that everything that until yesterday perceived as solid melted into the air, as Karl Marx and Freidrich Engels in their 'The Communist Manifesto' have it. When the vacuum of digitalism opened it sucked in Empires, life, questioning the uses and nature of human beings and marked that something has changed in the nature of reality. Digital games as objects of this digitized entertainment void, and for reasons including their mode of attention, their interactive mode of consumption, their industrial mode of production or the affective matrix that they design, often are theorised as key nodes of our current image culture and perceived not only as mass consumed entertaining commodities but also as 'drugs' which due to their digitized 'trans' are able to produce addictive and disempowering affective subjects. Historically games are set within the 'fears of digitalism' and the drug consumption culture where 'users' regularly consume and enjoy them even though they know they are 'bad' and 'addictive'. And even though they have been perceived as unhealthy products of popular culture, at the same time games historically have been a key interface in the development of digital culture and its economies of production and consumption.

The post-cinematic image appeared not only as a new representational mode, or entertainment field, but also as a computerised factory, producing a new consciousness that aligns with the post-Fordist conditions of hot-cage capitalism. Gaming software, as a commodity produced by this updated, computerised factory, is more than a product that is organised to be consumed; it also produces certain intensities and neuro-psychological vibrations that alter the plastic body/brain while affecting our perceptions and actions. This manufacturing process plants the seeds for producing a current subjectivity, offering a contemporary *dispositif* of power. This power is bio-political and 'addresses the biological, economic, and spiritual life of its users.'[5] In this sense, our affiliation with the gaming interface is involved within a specific logic or diagram, one that is produced through mechanisms of affect, and that expresses both a psycho-biological and cultural

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[5] Terranova 2007: p.126.

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phenomenon. This spiritual role of media clearly sets media theory not only as a process of theorization of media culture but at the same time as an invention of new set of practices; 'of how we navigate these digitized realms'. So, in this project I will look at games not only as images of action which express a distinctive shift in the 'structure of feelings'[6]. But at the same time I explore how we can discuss about the gaming process as a spiritual practice from which gamers are able to create multiple zones of meaning. Thus, I will seek to both examine the way gaming is related with the image culture of cognitive capitalism, which aims to produce flexible individuals that continuously solve problems through the invention of affective mechanisms of correction and goal orientation. And how we can respond to this affective matrix designed by the gaming industry. Accordingly this study will not be limited in the way that software as an affective map organized by the industry that aims to control and produce flexible subjects, but also at the ways in which we can respond to these affective products by forming what Hakim Bey called 'autonomous zones'[7] of subjectivation[8].

By utilising concepts from the fields of neurology and the Buddhist epistemology of the mind, I claim that gamers can create multiple autonomous zones of interaction alongside the cybernetic-affective diagram of gaming. I argue that, through mindfulness, gaming representation is disorganised and affectivity is distorted by taking on an

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[6] Here, I refer to Steven Shaviro's concept of post-cinematic affect that claims that the digital regime has extended our organisation of feelings by setting a new mediated reality. He states: 'I am therefore concerned, in what follows, with effects more than causes, and with evocations rather than explanations. […] so much as at something like what Raymond Williams called 'structures of feeling' (though I am not using this term quite in the manner that Williams intended). I am interested in the ways that recent film and video works are expressive: that is to say, in the ways that they give voice (or better, give sounds and images) to a kind of ambient, free-floating sensibility that permeates our society today, although it cannot be attributed to any subject in particular.' (Shaviro 2010: p.2.).

[7] Bey 2003: p.xi.

[8] The term 'subjectivation' comes from Foucault's work on ethics and govermentality. It appears as a term to differentiate between the concepts of subjectivation and subjectification. Foucault, in work on ethics and govermentality, introduces the term subjectivation to denote the ways subjects, through various technologies of the self, were able to internally form and modify their subjectivity. Through this internal process, individuals are able to govern themselves and constitute an ethical mode of being. For further analysis on subjectivation and govermentality see Chapter 4 and 5.

autonomous stance. Digital games produce an algorithmic 'reality' of images and signs, creating the new reality of an infinite gaming world. This reality is now constructed and perceived as a dynamic process that is repetitively generated by digitalism's control mechanisms. It's the setting of infinite images for consumption, a virtual market, designed within an interactive topology, where the brain's internal cognitive processes are expressed, consumed, and visualised. What characterises gaming technology from other media forms is that they allow multiple connections and interactions within their topological game spaces. Within this topological diagram, the software and the brain, as specific types of images, 'receive and give back movement,' but at the same time they 'choose the manner in which they restore what they receive.'[9] Inside this ontological system of images, the human brain is not a passive receiver that endlessly consumes, but a creative agent that functions as 'a special kind of image' during 'an interval that we call thinking.'[10] Deleuze, in his book on cinema, *The Movement Image* (1986), follows Bergson by seeing the brain, not as a passive receiver of outside stimulus, but as an image that internally opens itself into new modes of thought by altering and transforming experience. Cinema, Deleuze argues, presents us with a type of image that confronts us with its own automatism, opening thought into a moving assemblage where the world and the image continuously interact. Within this cinematic movement, perception is not disconnected, but becomes part of it. As Deleuze noted, 'the brain is the screen.'[11] Following current neuro-scientific research that indicates the brain restructures itself, I argue that the brain is not only conditioned in relation to gaming experience, but also through an internal thought process that reveals a spiritual automatism and incites us to generate a new synthesis of reality. Deleuze, following Artuad, notices that the artistic aspect of cinema confronts its own impossibility to perceive the whole, forcing us into a

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[9] Bergson 2002: p.84.

[10] ibid 84.

[11] Greg Flaxman, in The Brain is the Screen, writes: 'In the Movement Image, Deleuze says that the brain is a very special kind of image, one that opens up an interval in the modulations and variations of the universe. This interval propels what we call thinking, but only insofar as it is preparatory to action: in the interval, a momentary delay, perception is transformed into action, which is to say a re-action to a given set of images (situation).' (Flaxman 2000: p.35.).

new image of thought that is 'no longer a sensory/motor mechanism,'[12] but a direct cerebral shock. Deleuze writes: 'It is only when movement becomes automatic that the artistic movement is realised: *producing a shock to thought, communicating vibrations to the cortex, touching the nervous and cerebral system directly.*'[13] This new thought is the spiritual automaton within us that opens perception into a new vision of things which are no longer logical possibilities, but the 'impossibility of thinking that is thought.'[14] A spiritual automaton, in these terms, is a process where we can initiate a new movement and vision of things, forcing us into a new mode of thought that enables us to internally produce a new sense of reality outside the realm designed by the game space.

Lambert and Flaxman, in their essay, 'Ten Proposition on the Brain' (2005), argue, that in our current digitised realities we still maintain an internalisation even though the gamer takes a 'circuitous path of externalisation,' through 'the feedback brain, in order to achieve identification through its future possibilities'[15] it still maintains its internalization, its own internal process of negotiation and experimentation. Following Deleuze's Bergsonian ontology of the brain offered in his *Cinema* books, both software and the brain differ with themselves internally, transforming themselves through the internal motor of 'creativity and evolution.'[16] In other words, both software and the brain receive and give back movement, but also choose the manner in which they restore what they receive. This ontological regime is founded on a dynamic interdependence between the 'user' and the 'screen.' This affiliation sets the gamer as an active agent that constantly performs a synthesis of things. By utilising the Buddhist notion of mindfulness, I suggest that we can create a more positive thesis about the aspects of digital games. I argue that, through the use of mindfulness techniques, we can imternally transform the control mechanisms imposed by digital gaming images and open thought into an autonomous mode that is both spiritual and ethical.

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[12] Deleuze 1989: p.156.

[13] ibid p.156.

[14] ibid p.166.

[15] ibid p.126.

[16] Bergson 1911/2007.

In order to explore the ways that the digital regime, as a contemporary gaming image, produces a shift in the modes of affection that has an impact on our subjectivation, and to explore how we can turn gaming into a performative practice that creates autonomous zones of meaning, we must first examine how computerised gaming affects our ways of living and thinking. For instance, what gaming practices and forms of governance do gamers apply and perform? What economies and political engagements are produced within these gaming systems? In order to follow these questions and elaborate these arguments, I will study the gaming process in the post-Fordist condition of cognitive capitalism through a genealogical method. Using Foucault's genealogy as its method for diagramming the socio-political aspects of gaming culture, this thesis can be seen as cultural analysis, working with historical texts and events that functioned as key factors in the development of digital gaming culture. From my perspective, Foucault's genealogy does not denote a linear history, but instead it utilises materials that emerge from historically different lines with related events. Foucault notes that 'Genealogy does not oppose itself to history, as the lofty and profound gaze of the philosopher might compare to perspective of the scholar. On the contrary, it rejects the meta-historical deployment of ideal significations and indefinite teleologies. It opposes itself to the search for origins.'[17]

Following the historical method, as proposed by Foucault, this study differs from the more current notion of history that sees media as a 'non-chronological' technological apparatus. By choosing a media genealogy, I put more emphasis on the bio- and neo-political strategies that take place within gaming culture. By taking this path, historical facts will not be seen as static points of linear movement, but as events that compose the wider diagram of the digital gaming culture. This is a method whose main aim is to map the different types of power and knowledge that produced the chronological order of events in the hope that they might be once again unleashed and create a new future.

Throughout this genealogy, I will examine the popular games that played a key role in defining digital culture, as well as the practices and strategies that were

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[17] Foucault 2006: p.96.

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historically applied by gamers. This will map how these strategies functioned as a contemporary diagram of governance. Thus, in this historical cartography, I will not just categorise games, but also map the changes and dynamics of 'interfaced mutations,' such as those epitomised in digital gaming. The theoretical corpus of this diagram is based on the work of new media theorist such as Shaviro, Pisters, Zepke, Land, and Bifo. It is formed from the traces of digital gaming culture found within computer science, media theory, and philosophy. I also will draw from media interfaces such as newspapers, magazines, Internet journals and other sources, such as films and sci-fi literature.

I will also look at the ways gaming is embedded within our current phase of cognitive capitalism, with its 'relentless processes of accumulation, its fragmentation of older forms of subjectivity,' and its 'technologies for controlling perception and affection.' [18] The design of these digital gaming spaces will be perceived as the organisation of the bio-political governance of affection. This genealogy will not only be complex in its historical engagement, but also politically and philosophically critical of the way gaming participates in contemporary bio-political modes of control. This bio-political governance is designed mainly by the 'gaming-entertainment complex,' which produces the technical means of gaming and has an interest in controlling consciousness and affect for marketing and profit purposes. This is achieved by controlling our attention through the technologies of rules and consumption which modulate the systems of attention. Through 'First-Person Shooter' subjectivity, for example, gaming rules turn the gamer into an operator within a cybernetic system, using subjectivity as important feedback information, a mechanism that enables greater modulation and control within the game. Affection is reduced to a mechanism for optimising performance, allowing the gamer to solve problems through affectivity and cognitive responses, slowly rising to the optimum efficiency of the game's 'transcendental subjectivity.'

By setting gaming software within the fields of Foucault's bio-politics and Deleuze and Guattari's theory, I move towards defining digital technology as the

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[18] Shaviro 2012 : '*Post Continuity – Full Text*' . Pinocchio Theory , March 26. http://www.shaviro.com/Blog/?p=1034.

extension of our image culture that was designed, and functions, as a cybernetic system of control. In these terms, I will examine the politics of gaming as the bio-political process of a specific form of subjectivation that exemplifies contemporary capitalism, inasmuch as it involves a cybernisation of thought and affection. At the same time, I will explore gaming as an image regime that initiates the need for experimentation in order to escape from its cybernetic control. Gaming theory, however, often excludes the exploration of political issues surrounding our contemporary digitised consumer culture. Due to this omission, I find it important to maintain a political discourse around digital gaming, and not to exclude the political implications of its modulation and control mechanisms. I believe that, within a discourse of digital gaming technology, it's important to reflect on discourses of control. This is in consideration of its expressions, at other times, as a technological regime capable of acting both as a mechanism of control and as a virtual environment that initiates the need for creating new practices for autonomy and freedom.

The fact is that digitised gaming images produce expressions that are composed under cybernetic control systems. This is achieved through an affectivity that aims to control the gamer and set him under its own rules and conditions. At the same time, it presents the possibility for creating new aesthetic practices to remake experience within these contemporary control systems. The primary question then is, not only how affection functions as a mechanism of correction and flexibility, but how affect can be liberated from this ideological sense and act as a resistant force against its contemporary conditions. As a result, this study will involve a re-thinking of game aesthetics, oriented around the main research questions of: How can we understand a 'poetics of affection' at work within the cognitive economies of gaming? How does gaming design act as a mechanism of control? In which ways do affection and sense function together to create new forms of subjectivity that both extend, and sometimes challenge, the contemporary, bio-political, and neo-liberal mechanisms of control?

In response to these questions, I will set gaming theory into a connection with media philosophy, along with recent developments in neuro-science and the ancient knowledge of Eastern epistemologies of the mind, in order to examine the affective logic

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of digital gaming, to investigate the ways that affect is produced and instrumentalised, and postulate how we can turn these digital subjectivations into ethical actions. To study this, I examine the ethical discourse of digital images, then move on to examine specific examples of games, reading them through the lens of Buddhist meditational practices and Foucault's 'technologies of the self' as the basis for an ethical response to the control mechanisms of digital spaces. As a consequence, meditation will not be described just as a reflexive process, but an ethical and aesthetic practice – or spiritual exercise, as described by Hadot and Foucault. Buddhist mystical practices, thus, will offer a way to think about how mindfulness, as an aesthetic experimentation, can be a form of ethical and political engagement that functions as a method for being and acting within a digitally mediated world. I will explore the politics of gaming by suggesting that, while digital games exhibit many characteristics of a control society, they also provide an interface for practice and experimentation where a variety of affective modes can be actualised from mindful performative activities. This is the opening of the way for mindfulness as a practice to initiate other bodies in motion, affective bodies that constitute the potential for a contemporary form of 'care of the self.'[19]

The concept of mindfulness, therefore, will be used to develop a new disciplinary approach that draws on the insights of Buddhist epistemology and its meditational technologies to suggest a politically engaged and utterly contemporary 'care of the self.' Buddhist meditational practices will be examined in connection with digital gaming as modes of spiritual exercises that have the potential to form a method of ethics in gaming. In this sense, mindfulness will be discussed as a contemporary 'technology of the self' that provides a principle for creating new ways of 'gaming the game.' As a result, these exercises will be considered as a performative practice that invents a new synthesis, a different set of sensations, new connections, and ultimately, new neurons that contest the plasticity of the interface. In this context, mindfulness will be viewed as a specific mode

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[19] Foucault asserts that the practice of taking care of one's self requires the implementation of different technologies which 'permit individuals to effect, by their own means or with the help of others, a certain number of operations on their own bodies and souls, thoughts, conduct and way of being, so as to transform themselves and attain a certain state of happiness, purity, wisdom, perfection or immortality.' (Foucault 1988: p.18.)

of affection that influences the mind and body by experiencing reality in its expanded and virtual dimension, where sensibility is modelled from a decentralised system of infinite relations of causes and effects. Mindfulness, thus, is an ethico-aesthetic practice that passes through different stages: from affirmation to difference, from critique to evaluation, from new thought to new physiology, and from joy to life. It is a practice that is spiritual, therapeutic, and mystical.

Luca di Blasi, in his essay, 'Cybermysticism and Mediamysticism' (2004), argued for an understanding of interfaced media as a type of 'cyber-mysticism' that has a direct relation to Buddhist practices, because they are not conceived as being related to the divine or to religion, but as a way of 'fleeing from the new medium' and 'exaggerating or radicalising'[20] the gaming reactions and their interfaced thought. As di Blasi puts it: 'This, too, is mysticism: an attempt to step out of the game.'[21] These Buddhist technologies will not be considered as techniques of transcendental knowledge, but rather as immanent machines of selective becoming. This is a gaming practice that suggests fullness, rather than a digitised vacuum. The fact is that, in our age of digital reproduction, mindfulness has turned into the 'new' post-modern 'Western Now.' However, my take on mindfulness is not an 'empty' practice that aims to create more productive subjects for the digital market. Instead, it is a practice that employs 'fullness instead of emptiness, so much fullness that there isn't enough matter to fill its fullness, so it resorts imagination,'[22] and creating more lines of virtuality than the virtual technological realities of competition that are produced and imagined by the gaming-military-entertainment complex.

In the following chapters, I address the issues outlined in the introduction through references to specific games and practices within a contemporary digital interface culture. In the encounter between Foucault and Deleuze, political philosophy, neuro-science and Buddhism, this thesis follows the method of what Guattari called 'metamodelisation,' in order to map the wider media aspects of digital gaming culture. This will be achieved by

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[20] di Blasi 2004: p.3.

[21] ibid: p.3.

[22] Codrescu 2009: p.6.

paying attention to the question of how aesthetics and politics act within the digital game interface. By following Guattari's metamodelisation as a method, this thesis is more than an interdisciplinary analysis of a specific cultural phenomenon or medium. It's also an investigation into the manner in which concepts are influenced by the connection established between different models. Guattari's metamodelisation emerges in this thesis as a potential model for how to create an interdisciplinary methodology by approaching concepts of different methods and models to study and create tools that can theorise and respond to the 'internal' dynamics of digitalism. On a theoretical level, this meta-modelling aims to cross academia's disciplinary boundaries and utilise these concepts as tools to diagram the constituent powers of gaming. Metamodelisation is an essential part of this thesis, since it offers the possibility for a philosophical approach that does not aim to create a dominant model that translates all the others and its own system of logic, but to an open communication and exchange between different disciplines and methodologies. The intention is to explore the emergence of digitised gaming culture, its relation to gamers' perceptions, and its location within the emergence of cognitive capitalism. The methodological aim of this study is one of re-singularising digital game theory by connecting it to other models and disciplines. This allows us to explore how games function as machines to organise gamers' subjectivities, and the ways we can contemplate 'gaming' performative acts as a method to 'dis-organise' gaming's soft-coded organisation.

The examples that I use in this study are not going to present an in-depth analysis of particular games (except in the last chapter), but the games that I discuss will present moments or nodes in the broader cartographies of the genealogical mappings of gaming culture. What I am going to offer is a wide perspective of how the current situation in the gaming industry emerged and developed within a particular form of cognitive capitalism (as a new form of bio-politics) and how devising new strategies within those 'capturing machines' might possible. Therefore, in this genealogical diagram, I will construct a map of the digital gaming culture based on three main axes: 1. the expansion of the digital gamespace interface, 2. the creation of certain economic conditions, and 3. the development of governmental organisations that historically implied specific

technologies of self, performed 'through various regimes of signification and asignification.'[23]

In chapter one, DIAGRAMMATICS, I present the methodology followed in this thesis. The main aim of this chapter is to delineate, in a clear manner, the method and logic that I will follow in this study. The intention is to transport gaming practices into a philosophical context, particularly the work of Deleuze, Guattari, and Foucault's late research on the technologies of the self, in order to consider the intensive relations and affections produced in digital gaming. Beginning with Felix Guattari's notion of metamodelisation, this chapter will situate the study of computer games in relation to their sensory, affective and political dimensions.

In chapter two, THE COMPUTATIONAL UNIVERSE, I expand these issues by mapping digital gaming culture through a genealogical study, both as a coded interface that is closely related to its development (and tied-in to the military-entertainment complex) and with a fictional world that was designed by the gaming industry as a product for the market. By doing so, I will construct a geneological diagram of the development of the gaming interface and its space design. This analysis is grounded within the history of technological advances (from the first abstract 'gaming images' to digital 3D realism), and also within the theory of affection and immaterial labour, as discussed by theorists such as Maurizzio Lazzarato (immaterial labour) and Jasper Juul (Playbour). The purpose of this chapter is to demonstrate, not what digital games are, but how they became the form of software they're perceived to be.

In chapter three, DIGITAL MACHINES – A BRAIN INTERFACE, I aim to further discuss the expansion of digital culture by tracing the roots of its interfaces and by examining its relation to the human brain, which historically acted as a primal model and a metaphor for its development. I argue that the technological design of computer culture consistently borrowed concepts from biology and neuro-science (and vice versa), setting up an 'exchange that does not fall under the notion of metaphorics, but acts on the more

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[23] Parikka 2010: p.104.

fundamental becoming/biological of the digital culture.'[24] Then, I look at media theorists who emphasise the importance of cultural, historical, technological, political, and aesthetic perspectives within the digital media. By following this theoretical line, I will argue that games, as products of our current digital culture, are not just technical machines. They're also a 'brain interface,' constructed by the relations the brain forms, and that form it, and coupling themselves with organic life (the embodied mind), no longer on a static space (a Euclidian geometry), but on a topology of virtual interaction. By defining software as a relational interface, I try to advance the theory of gaming culture by setting digital code within the fields of ethology.[25] This will open game theory to thinking of our digital gaming culture and its software formations, not just as a language of control, but also as processes of relation and interaction. Such a look at digital code offers a way of approaching gaming interfaces as affective machines, positioning them into a philosophical framework that is more adjusted with the theory of affection, and examining the intensive relations of digital gaming. Therefore, I will discuss how ethology delineates the notions of body, affect, and intensities and argue that, by embracing digital gaming under an ethological understanding, we can view its mechanical function as an interface that interacts and affects other bodies. In that sense, the gaming machine will be considered as an interface that institutes connections. These affiliations can be expressed as apparatuses of training for the market, as entertaining machines, and as generators of flexible subjects. They can also be viewed as militarised gaming machines which can be - at the same time – an experimental interface for mindful gamers.

In chapter four, THE GAMING AUTOMATON, I begin my analysis of games by extending the genealogy of gaming culture to gamers and the bio-political praxis that they historically applied. Whereas the previous chapters focused more on the game interface, its technological development and design and, to a lesser extent, on gamers' perspectives, this chapter explores how gamers historically performed various strategies

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[24] Parikka 1997: p.121.

[25] Deleuze, in his book *Spinoza Practical Philosophy* (1988), regards Spinozian Ethics to be an 'ethology,' which he defines as the 'study of the relations of speed and slowness, and of the capacities for affecting and being affected that characterize each thing.' (Deleuze 1988: p.126.).

and technologies of subjectivation to be allowed access to the game. It will be argued that, historically, gamers were asked to game according to certain patterns, rules, and self-caring practices that are not always related with the game itself. I first identify the forms of bio-political govermentality that are modelled in the digital gaming industry by developing a specific design and set of rules for the gamers, and then look to how these gaming designs and sets of rules are linked with the neo-liberal ideas of cognitive capitalism. In this way, I identify two methods of the governance of gamers: one in which the affective body is controlled within the domain of the digital image regime and another where the affective body is subjectified and governed through a set of bio-political strategies and performative practices that aim to train, discipline, and control the gaming subject. What I identify is that, historically, gamers are controlled though the software's organisational structures and through specific forms of governance and different sets of self-technologies for constructing an entrepreneur of the self.

Finally, chapter five, FROM MEDIATION TO MEDITATION, brings this thesis full circle by discussing Deleuze and Focault's views on late capitalism's use of technology as a societal and individual control mechanism. These include the potential of capitalism to control desires, which created the invention of a new political engagement within the realm of 'digitised' capitalism. I suggest that the digital gamers are cognitively active consumers who are also able to mindfully create zones of autonomous stance. This is a form of micro-politics, functioning both as an activism of resistance and as a therapy against the cybernation of affection that the digital gaming regime aims to establish. This idea comes through my use of Buddhist meditational technologies that emerge as an experimental aesthetic practice and which could act as a transformative force to our awareness of how we perceive and act in the world. Having explored this notion of a 'mindful gamer' within contemporary digital era, my project draws to its end.

CHAPTER 1

DIAGRAMMATICS

Meta-Modelisation

This chapter presents the methodology followed in this thesis. Its aim is to bring gaming practices into contact with a philosophical context and place them within the field of ethology. By taking this step, my research positions the study of gaming culture and its performative practices under a 'trans-disciplinary meta-methodology,' or meta-modelisation, in order to investigate how gaming culture operates as a diagram for broader ecologies of the self, in particular, its social and political dimensions. Meta-modelisation refers to Félix Guattari's notion of the 'transversal' that argues for a dynamic and dispersed engagement between different disciplines.[26]

Guattari, in his essay, 'Schizoanalytic Metamodelisation' (1995), is critical of interdisciplinary approaches, claiming the need for a meta-methodology that is both creative and radical in its engagement with diverse disciplines. Guattari is not interested in a methodological approach that aims to connect theories and disciplines under one universal model. Rather, he searches for a meta-methodology that is 'something that does not found itself as an over-coding of existing modelling, but more as a procedure of 'auto-modelling,' which appropriates all or part of existing models to construct its own cartographies, its own reference points and, thus, its own analytic approach and analytic methodology.'[27] In Guattari's view, this process of 'auto-modelling' is not a question of composing a standard model as a programming code that will guide us. Rather, the aim is to find ways in which heterogeneous models can enable us to re-singularise and extend our methodology into other disciplines.

For Guattari, traditional methodological approaches aim to ascertain a centralised body of knowledge that acts as a theoretical machine for over-coding other existing models. To escape from such a methodological schema we need a process that re-maps

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[26] Guattari, in his essay, 'Three Ecologies'(2000), uses the term 'ecosophy' in relation to the three main ecologies which are the environmental, mental and social worlds that we live in. For Guattari, our current conception of ecology is misleading and we should move into a more holistic notion of the term. Guattari argues that we should move into a methodological approach where we consider the environmental, social and personal dimensions as an interrelated and interconnected whole.

[27] Guattari 1996: p.122.

existing methodologies by producing new conjunctions and interpretations of heterogeneous disciplines. Meta-modeling, in this sense, proposes a dynamic communication between models, with openness and an exchange between diverse disciplines, in order to avoid any universal model. Janell Watson, in her book, *Guattari's Diagrammatic Thought* (2011), notes that meta-modelling is not just a mix of already established methodologies, based on their similarity, but the drawing of a new map that utilises different disciplines and models. She notes, 'the mapping of meta-modelisation is not a model for a system, but a meta-model or remapping; Guattari suggests making maps for each singular situation.'[28] Meta-modelling, as Watson asserts, is a method that rejects comparison between models or the formation of fixed and universal disciplines, but aims to create a meta-methodological diagram for composing specific models of their always singular conditions. This diagram is, therefore, dynamic, rather than static, because each discipline moves the others and makes them creative.

In accordance with Guattari's 'meta-modelisation,' this study does not follow a method of comparison that would identify and separate disciplines. Rather, it attempts to draw a diagram between diverse disciplines through a meta-modelisation which acts a 'practice of cultural communication' that emerges between cultures and disciplines while acknowledging their diversity, and utilises a variety of models in the construction and negotiation of its theory.[29] I use the term 'diagrammatic' in a context that also resonates with Gilles Deleuze's reading of Foucault's work. In his book, *Foucault* (2006), Deleuze sees Foucault's genealogy as an analysis of the diagram, defining a particular 'microphysics of power'[30] that includes both minor movements and lines of resistance.

Deleuze isolates two main characteristics in Foucault's diagrammatic method that will guide this thesis. First, a diagram expresses a 'transcendental dimension of a historical event,'[31] a virtual topology that organises the political, economic, and biological aspects of a historical event. The second feature of the diagram is its dynamic

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[28] Watson 2001: p.123.

[29] See: Van Dijck 2003.

[30] Deleuze 2004: p.593.

[31] Zepke 2005: p.187.

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nature that carries new potentials into all its actualisations, making it ready to transform and adapt to new contexts. Foucault, as a cartographer - or as a meta-modeller - outlines a method for mapping a manifold of dynamic historical events. Deleuze, in his analysis on Foucault's method, writes:

> Every diagram is inter-social and constantly evolving. It never functions in order to represent a persisting world, but produces a new kind of history. Nor does it survey history; it makes history by unmaking preceding realities and significations; constituting hundred of points of emergence or creativity, unexpected conjunctions, or improbable continuums. It doubles history with a sense of continual evolution.[32]

In other words, unlike a view of history as a series of static events connected through cause and effect, the diagrammatic method looks for what enables change, tracing the mechanisms of power and affirming what escapes them in their search for something new. Diagrams, therefore, do not represent reality, but seek to release what moves beyond its limits. Deleuze refers to this as 'the map of relations between forces; a map of destiny or intensity, which ... acts as a non-unifying immanent cause, and which is coextensive with the whole social field.'[33]

By following this diagrammatic, or meta-modellising, method, my aim is to construct a genealogical mapping of digital game aesthetics in terms of its political, biological, and spiritual affects. Typically, gaming theories have focused on the aesthetic or the narrative dimensions of the digitised image. However, the practice of gaming is not only about representation and storytelling. It is also about the active syntheses of the intensities and forces of materials and their affects. In this context, and drawing on Deleuze's work on cinema, we can say that games are charged with a specific type of affectivity that's based on their own mode and rhythm of digitised movement and time, thus creating a new procedure of signification and a-signification.

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[32] ibid: p.31.

[33] ibid: p.32.

If we see the gaming image as a specific form of affection, we can start to think of our engagement with the gaming interface in terms of a diagram that produces certain modes of thought and action through immersion and intensification. The gaming image, in this sense, emerges through specific diagrams of rhythms and affects, and constitutes an important aspect of contemporary subjectivity. As a result, the act of gaming will not be examined as a technological development, but as the '*diagram*' of a specific organisation of material, force, and affect through the technological interface.

More specifically, by approaching gaming as a bio-political project within the regime of cognitive capitalism, I aim to study the emergence of digital gaming culture as a new diagram that organises our structures of feeling and thinking under capitalist conditions. Gaming and its software organisation, within this context, are not simply the product of coded languages or hardware, as Kittler perceives them,[34] but specific modes of thought. They are a spiritual automatism which joins aesthetics and politics, forming a diagram that does not oppose aesthetics to politics, but interfaces them under its own modes of economics, logic, expressions, and sense. The aesthetics of digital gaming concerns not just the images represented on the screen, but also its production of sensible experience; it is about the bio-political process of controlling the forces that express the affective, sensory, and bodily changes produced by our interaction with the gaming screen. As a result, aesthetics is a key component of the bio-political aspects of the gaming image, inasmuch as gaming design functions as the main mechanism for producing the gaming subject. In each of its historical phases, gaming software produces a specific assemblage of intensities which create neuro-psychological vibrations that affect the plastic body/brain.

Gaming, in our age of digital screens, has become an interface for training flexible individuals, economic minds that operate according to the laws of profit and score, turning the bio-political project of neo-liberalism into 'playbour.' This, I argue, resulted from the emergence of the military-entertainment complex, a development capable of enacting certain modes of subjectivation as part of our contemporary control

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[34] Kittler 1999.

society. Here, I am referring to Gilles Deleuze's essay, 'Postscript of the Societies of Control' (1992), where he maps the shift from Foucault's disciplinary societies to one founded on control. While disciplinary societies were based on a system of codes and laws that were enacted by different institutions such as 'the prison, the hospital, the factory, and the school.' [35] Deleuze argues that, with the arrival of computerised machines, control operates through modulation rather than limit, and through a process of subjectivation that tends to interiorise control mechanisms. More important, for concepts of political struggle, the emergence of digital machines meant the de-territorialisation of the factory within the shell of coded interfaces that decentralise production and expand it beyond geographical boundaries. Codes are the form of expression of control societies. Unlike discipline, which demands monitoring and regulation, codes only require programming and activation.

Making digital game culture a key part of the bio-politics of control societies means studying how digitised spaces produce an '*aesthetics of control*' and re-thinking how life within these cybernetic systems of control is exercised and sustained. We can study gaming culture without connecting it to its social-political, ethical, and/or aesthetic dimensions, but such an approach tends to see performative acts of gaming as a series of abstract mathematical transactions. Against this view, I argue that games enable new modes of subjectification, accompanied by a variety of new technologies of governmentality.[36] Digitalism and gaming are not, in this sense, just the manufacture of a technical machine, but a diagrammatic structure that has formed a gaming body through the implementation of different bio-political and governmental strategies. In this context, gaming will be discussed as one of the main areas in which current virtual economies and bio-political strategies are formed and performed.

Steven Shaviro, in his book, *Post Cinematic Affect* (2010), argues that, 'while the 20th century was the age of film and television,' the emergence of digitalism shaped new modes of sensibility, affecting both cinematic production and our ways of feeling the world. He notes: 'Film gave way to television as a 'cultural dominant' a long time ago, in

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[35] Deleuze 1992: p.4.

[36] See: Chapter 4.

the mid-twentieth century; television, in turn, has given way in recent years to a computer- and network-based, digitally generated, new media.' [37] For Shaviro, the emergence of digital technologies has moved cinema into a new 'post-cinematic' expressive mode (which is not anti- or non-cinematic) that involves 'new structures of feeling.' Following Shaviro, I argue that digital game technologies are machines that produce a specific mode of affect, organising and materialising a contemporary subject from this sensation. As such, gaming diagrams 'are not ideological superstructures, as traditional Marxist criticism would have it. Rather, they lie at the very heart of social production, circulation, and distribution by generating specific forms of subjectivity.'[38] In this regard, affect has both virtual and actual dimensions. It is the plane where contemporary control and exploitation are actualised, and where new modes of thought and sensation are produced. This is, as Guattari put it, the organisation of 'a machinic subjectivity that fuels great impetuses like Silicon Valley.'[39] This subjectivity involves significant changes in perception, as well as changes in the plastic structures of the brain, which are in turn determined by the techno-economic diagrams of digital culture. This affective turn links media theory with the brain and contemporary neurological research.

Neuroscience

The brain thinks, not man. Man is just a cerebral crystallization.

Gilles Deleuze and Félix Guattari

In the 1990s, the 'decade of the brain,'[40] neuro-science emerged as a new discipline that responded in new ways to old questions about the nature of consciousness and the brain's structure. These contributions of neuro-science opened a link between different disciplines that use the recent data from neuro-science as their main point of

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[37] Shaviro 2010: p.1.

[38] ibid: p.3.

[39] Guattari 2009: p.160.

[40] Jones and Mendel 1999: p.6.

departure. For instance, Francesco Varela, in his book, *The Embodied Mind* (1999), illustrates the necessity for an interdisciplinary approach that includes phenomenology, Buddhism, and neuro-science in order to make sense of the neural data relating to time. As a result, he emphasises the need for an '*active link*' between neuroscience and philosophy, in which both models may be modified 'in a fruitful, complementary way.'[41] In a similar manner, Screen Studies has started to draw on neuro-science, becoming more interested in the physical and functional properties of the brain. In her article, 'Multiple Screen Aesthetics, Neurothrills and Affects of Surveillance' (2008), Patricia Pisters argues that 'with all the new developments in contemporary neuro-science and the visualisation technologies, it seems that both the brain and the screen are important places for any interdisciplinary encounter.'[42] Pisters shows us that a link between neuro-science and screen studies is possible, and can be both insightful and productive for the way that we theorise screen media.[43] Building on Deleuze and Guattari, Pisters proceeds to connect the art of cinema and neuro-science, arguing that the link between science and cinema comes, not only through a brain that acts as a junction between consciousness and the screen, but also from the '*mediated audio-visual image*' in another junction where science, art, and philosophy meet. This is why there is such an obvious link between the brain and the screen image: 'The Brain is the Screen.'[44] A connection between brain sciences and media philosophy now seems an obvious path, as the organic brain now acts

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[41] Varela et al. 1999: p.306.

[42] Pisters 2008: p.8.

[43] See: Pisters 2008, 2012.

[44] Deleuze 1986 cited Flaxman 2000: p.283.

Deleuze, in his 1986 interview on cinema, says: 'The brain is unity. The brain is the screen. I don't believe that linguistics and psychoanalysis offer a great deal to the cinema. On the contrary, the biology of the brain—molecular biology—does. Thought is molecular. Molecular speeds make up the slow beings that we are. As Michaux said, 'Man is a slow being, who is only made possible thanks to fantastic speeds.' The circuits and linkages of the brain don't pre-exist the stimuli, corpuscles, and particles [grains] that trace them. Cinema isn't theater; rather, it makes bodies out of grains. The linkages are often paradoxical and on all sides overflow simple associations of images. Cinema, precisely because it puts the image in motion, or rather endows the image with self-motion [auto-mouvement], never stops tracing the circuits of the brain. This characteristic can be manifested either positively or negatively. The screen, that is to say, ourselves, can be the deficient brain of an idiot as easily as a creative brain [of a thinker].' (Deleuze 1986, citing Flaxman 2000: p.283.).

and surfs within a fluid, technological, and mediated realm.[45] Pisters states, following Deleuze, that the screen is no longer considered a window on the world, giving access to it, but is seen more as a complex field of data, providing access to (normally or previously) invisible aspects of the microcosmic, macrocosmic, and brain activity.[46] Deleuze himself makes the connection of the brain with the screen by attributing Bergson's ontology to cinema. By Following Bergson, Deleuze sees in classical cinema an image of movement that indirectly expresses the whole of time. This is an image of movement that finds its conditions within the virtual dimension of duration. Duration is not a chronological order of past movements that leads us to the present, it is the coexistence of all movements and their constant becoming that constructs, and is expressed, in a single image. For Bergson the brain selects those images that are of interest to it, isolating a perspective on, and an indirect image of, duration. This suggests an ontology of images, as well as a mechanism (the screen) that produces them, that is shared by the brain and the cinema. More importantly, perhaps, this also suggests that the brain/screen is already connected to the wider 'duration' it expresses, is determined by it, and provides feedback, in a constant process of reconstruction. The brain/screen is, in the language of neuro-science, 'plastic,' which is the founding condition for both the affective controls dominating our subjectivation and for any hopes we have of liberation.

As a part of the digital screen culture of today, gaming is grounded on the cybernetic digital/brain and the virtual worlds it invents and inhabits. However, this symbiosis is not founded on an idea of the brain as a complete biological subject, but rather as a plastic and dynamic structure that is composed out of its relations with internal

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[45] William Gibson's book, *Neuromancer* (1984), already connects the emergence of digital image with the brain. In *Neuromancer*, Gibson presents us with a new reality that is structured within a digitised, coded territory (cyberspace). This new reality is defined as a 'Cyberspace, a consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters and constellations of data. Like city lights, receding...' (Gibson 1984: p.20). In Gibson's sense, the new digitsed space is infused with the bodies and nervous systems, producing a neuro-space that at the same time expresses the functions of the mind and the predesigned software of the industry.

[46] See: Pisters 2007 , 2012.

and exterior forces. In his book, *The Time-Image* (1989), Deleuze reminds us that this is not to think of the brain as a specifically human organ, but as a mode of organisation whose potential remains unknown. 'The human being is only one [possible] cerebral crystallisation,'[47] Deleuze writes. In his view, the brain cannot be thought of as a predesigned system, with its own pre-established command center, but as a 'random mechanism,' occupying an infinite probabilistic space. Deleuze sees the brain as a diagrammatic construction, functioning within a topological geometry which has the creative potential to create new synaptic connections. Deleuze writes:

> On the one hand, the organic process of integration and differentiation increasingly pointed to relative levels of interiority and exteriority and, through them, to an absolute outside and inside, in contact topologically: this was the discovery of a topological cerebral space, which passed through relative mediums [*milieux*] to achieve the co-presence of an inside deeper than any internal medium, and an outside more distant than any external medium. On the other hand, the process of association increasingly came up against cuts in the continuous network of the brain; everywhere there were micro-fissures which were not simply voids to be crossed, but random mechanisms introducing themselves at each moment between the sending and receiving of an association message: this was the discovery of a probabilistic or semi-fortuitous cerebral space, 'an uncertain system'. It is perhaps through these two aspects that the brain can be defined as an acentred system.[48]

So, for Deleuze, the brain is no Cartesian command centre, but instead includes the 'totality of all relations, including those not yet actualised.'[49] As such, brains are

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[47] Deleuze 1996: p.202.

[48] Deleuze 1989: p.211.

[49] ibid: p.198.

machines that produce 'probabilistic' events, they cannot be reduced to their origins or contexts, nor can their effects be pre-determined.[50]

From Buddhist philosophy through to neuro-science, our embodied[51] minds are explained as collective assemblages and abstractions of singularities that produce both the body and the mind, rather than as centralised control systems. When we think of the brain as an a-centered dynamic construction, the notion of 'neural-plasticity' becomes an important part of our discussion. The term 'plasticity' refers to the fact that the biological mechanisms of neural systems underlying the brain's complex mechanisms are continuously mutating and re-organising through the inner and outer alterations of experience. These alterations affect the brain's architectonics and mean that the brain can no longer be thought of as a specific organism, but as the expression of our socio-political world. Thus, 'neuronal man'[52] is not a neural given, but a series of molecular and environmental events by which its neural architectonics are folded and assembled in relation to the world, and to the degree in which its sensations govern attention. In other words, the brain is composed of assemblages of outer and inner machines. This means the brain is not a centralised command and control mechanism, but a form of historical expression and the a-historical construction of a new event. These folds of the brain's interior and exterior define its plasticity and determine its constant condition of change.

In her book, *What Should We Do with Our Brains?* (2008), Catherine Malabou argues that neuro-plasticity does not just suggest the flexible ability of the brain to adapt

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[50] Deleuze says: 'I think one particularly important principle is the biology of the brain, a micro-biology. It's going through a complete transformation, and coming up with extraordinary discoveries. It's not to psychoanalysis or linguistics but to the biology of the brain that we should look for principles, because it doesn't have the drawback, like the other two disciplines, of applying ready-made concepts. We can consider the brain as a relatively undifferentiated mass and ask what circuits, what kinds of circuit, the movement-image or time-image traces out, or invent, because the circuits aren't there to begin with.' (Deleuze 1995: p.60.).

[51] Varela et. al 1992.

Varela, in his book, The Emobodied Mind (1992), connects the theory of neuro-science with the Buddhists epistemology of the mind, arguing that our cognition is not separated from the environment that it is formed. Rather it is co-dependent, arising in relation to its environment and its internal virtual dimension.

[52] Changeux 1997 :p.13.

to its environment, because this does not express the radical ability of the brain to transform itself. Thus, she writes, the notion of flexibility only presents us with the equation of 'plasticity, minus its genius.'[53] For Malabou, flexibility is a notion that only expresses the brain's capacity to adapt to its environment and, in its neo-liberal embodiment, is an integral part of cognitive capitalism's production of 'part-time jobs, temporary contracts, the demand for absolute mobility and adaptability, as well as the demand for creativity.'[54] Plasticity, on the other hand, denotes a more radical political concept since it affirms, not just our ability to adapt to circumstance, but also our ability to intervene and change the way that we think, feel, and act. For Malabou, plasticity presents an active force that is capable of resistance.[55] In these terms, the plastic brain is bio-politically constructed, but also has the ability to map new cartographies by inventing new ways for digital technology to re-construct the world. Our digitised society, thus, is not composed of passive brains, but of active and autonomous users who are able to respond to and modify its intensive cybernetic control rhythms.

By taking the brain's plasticity as the most significant point of contention in societies of control, this study of gaming focuses on how the brain's plastic structure is transformed in response to the rules of gaming. Within this context, the connection between neuro-science and gaming media theory are not simply similarities between two distinct disciplines, nor do they follow a scientific approach to plasticity. Rather, my approach is more philosophically oriented, with an aim toward utilising and transforming the conception of plasticity by exploring new conceptions of our spiritual affiliation with the digitised image.

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[53] Malabou 2008: p.12.

[54] ibid: p.10.

[55] Malabou writes: 'Our brains are an agency within us' which can produce 'disobedience to every constituted form and a refusal to submit to a model.' (Malabou 2008: p.8.).

Buddhism and the Digital

'A Metallica of science! This one is going to haunt me for a while. Can we have a Patti Smith and a Sid Vicious of science too? And another Hendrix, some Primal Scream and a bit of early African Headcharge? Kerouac? A Cezanne of science? A Buddha?'

Thomas Metzinger

'Magic, shamanism, esotericism, the carnival, and 'incomprehensible' poetry all underscore the limits of socially useful discourse and attest to what it represses: the process that exceeds the subject and his communicative structures.'

Julia Kristeva

One of the main concerns of this study is to suggest and explore the possibility of coupling Buddhist mystical practices with cyberculture, especially as they relate to the world of interfaced gaming. In exploring these relations, I am interested in utilising Buddhist mystical practices within the realm of gaming, rather than addressing questions of theology. Nevertheless, within the realm of religious practices, belief systems and mysticism are often confused, with mysticism understood as a state which embodies and enforces these beliefs. Therefore, we must begin by redefining the term 'mysticism.' Ordinarily, the discussion of religious or spiritual philosophy refers to well-organised belief systems and the institutions that enforce them. However, it is essential to differentiate between the institutional forms of these philosophical systems and the creative and practical aspect that mysticism represents. Mysticism does not express the substance of a dogmatic tradition, but deals instead with spiritual modes of thought. The notion of 'mysticism' comes from late antiquity and signifies a secret or enigmatic experience. This experience is something that empowers our minds and reveals forces that take us beyond the limits of the human body and its consciousness. In the realm of

'media-studies,' it gave rise to considerable interest in 'cyber-mysticism.'[56] A more fruitful connection between digital media and mystical practices is found, however, within our current conditions of cognitive capitalism. In contrast to the conventional accounts of mysticism and digital media theory that explain digital realities as mystical or magical worlds, both mystical and media practices can be seen as political actions by which corporeal and affective transformations are manifested through mindful experiences. In these terms, mysticism is not understood as revealing a transcendent and divine unity, but as an immanent machine of transformation. Specifically, through the notion of mysticism as a transformational practice, I am suggesting that we can understand media theory as more than a way of understanding the interface; we can also see in media theory a method that is, in fact, an experimentation with the affective conditions set by the gaming interface. Hence, in this study, mysticism will be considered as an attempt to transform the intensities and affective modalities set by the game through mindfully initiating different 'spiritual exercises'[57] that can radicalise our bio-political experience.

The aim of bringing Buddhist meditational practices[58] into a relationship with the study of digital games is, therefore, twofold. First, I wish to establish the analytical foundation for looking at how the spiritual manifests itself within the world of interfaced gaming - a world already saturated with mythological and spiritual themes. This means to explore how the technological process of digital gaming initiates a form of spiritual automatism. Deleuze sees in cinema a spiritual automatism which is a 'spiritual reality'[59]

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[56] Here, I do not explore the paradigms of cyber-mysticism, which appeared in Erik Davis' book on cyber-mysticism, *Techgnosis: magic mysticism in the Age of Information* (1998), and attempts to 'spiritualise' digital interfaces.

[57] Hadot 1995: p.20.

[58] The term 'meditation,' here, refers to a broad system of 'spiritual exercises' that aim to transform one's mind beyond its ego-centred dimension. The Dalai Lama explains: 'Meditation means creating a continual familiarity with a virtuous object [idea] in order to transform your mind. Merely understanding some point does not transform your mind. You may intellectually see the advantages of an altruistic awakening mind, but that does not actually affect your self-centred attitude. Your self-centredness will be dispelled only through constantly familiarising yourself with that understanding. That is what is meant by meditation. (The Dalai Lama 1997: p.51.).

[59] Deleuze 1989: p.22.

produced by the inhuman duration of cinematic images. Following Bergson, this virtual dimension of duration is referred to by Deleuze as the 'spirit' which, when it is actualised, produces an automatic movement within the brain. In this sense, the 'spiritual automaton' escapes the sensory-motor functions of the brain and produces a new rhythm, a 'cerebral vibration' that directly opens up a new image of thought.

More specifically, I will treat Buddhist spiritual practices as a 'way of life' and as a practical philosophy. In this sense, Buddhism initiates exercises that are neither simply techniques of well being nor a moral system of devotion, but 'spiritual exercises' in the sense that Pierre Hadot and Michel Foucault gave them.[60] Foucault, in his study on ethics that follows Hadot, describes this act as a spiritual affiliation that 'existed between the subject and truth.'[61] He asserts that earning the 'right' to know, or access the truth, was achieved through engaging in aesthetic exercises and practices that led to self-transformation. With this turn towards the subject's ethical relationship to their self, Foucault reveals the potential that 'ethics can be a very strong structure of existence, without any relation with the juridical per se, with an authoritarian system, with a disciplinary structure.'[62] Foucault, therefore, finds in spiritual dimensions of thought forms of ethical practice that act as a diagram of autonomy and liberation.

Buddhism will therefore be discussed as a diagram of spiritual exercises whose main aim is 'the transformation of one's own vision of the world and a metamorphosis of one's self.'[63] Thus, Buddhism will not be conceived as a dogmatic belief system, but more as a technology that plays with the material/immaterial forces of life. Hence, the term 'mystical' will not be understood as a religious construction, but as an atheistic self-practice, performed through a spiritual exercise that is initiated by a mindful act.

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[60] Hadot, 1995. For a further explanation on Hadot's concept of spiritual exercise, see Chapter 5.

[61] Foucault 1982: p.305.

[62] Foucault 1997: p.260.

[63] Davidson 1990: p.476.

Mindfulness will be discussed as a training of the self, by the self. In other words, as an affirmative and performative act of a spiritual askesis[64] that is not related to asceticism or negative theology, as Foucault reminds us in *Fearless Speech* (2001), but an endless 'exercise of the self, upon the self, by which one attempts to develop and transform oneself, and to attain a certain mode of being.'[65] Mindfulness, therefore, will refer to the freedom to experiment with our actual conditions of existence and their becoming – a new body, a new sensibility, and a new physiology. In other words, as a machine that initiates a method of the de-territorialisation and re-organisation of subjectivity.

Why Buddhist mysticism? How can mysticism be a machine of resistance when the technologies of the self and the plasticity of the brain have already become vital processes of individualisation in digital capitalism? As we will see more fully in chapter 5, Buddhist meditation practices do not simply present us with a system of individualised ethics that aim for transcendence, but as an immanent work that does not regard the body and the mind as two separate things. The embodied mind, nevertheless, has two sides: the organisation of the corporeal body and the subtle body, which is the virtual field of the

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[64] Foucault writes: '...this new kind of parrhesiastic game – where the problem is to confront the truth about yourself – requires what the Greeks called 'askesis.' Although our word 'asceticism' derives from the Greek word 'askesis' (since the meaning of the word changes as it becomes associated with various Christian practices), for the Greeks, the word does not mean 'ascetic;' it has a very broad sense, denoting any kind of practical training or exercise. For example, it was a commonplace to say that any kind of art or technique had to be learned by mathesis and askesis – by theoretical knowledge and practical training. For instance, when Musonius Rufus says that the art of living, 'techne tou biou,' is like the other arts - i.e., an art which one could not learn only through theoretical teachings - he is repeating a traditional doctrine. This techne tou biou, this art of living, demands practice and training: askesis. But the Greek conception of askesis differs from Christian ascetic practices in at least two ways: (1) Christian asceticism has, as its ultimate aim or target, the renunciation of the self; whereas the moral askesis of the Greco-Roman philosophies has, as its goal, the establishment of a specific relationship to oneself – a relationship of self possession and self-sovereignty; (2) Christian asceticism takes, as its principle theme, detachment from the world, whereas the ascetic practices of the Greco-Roman philosophies are generally concerned with endowing the individual with the preparation and the moral equipment that will permit him to fully confront the world in an ethical and rational manner.'(Foucault 1983: p.62.).

[65] Foucault 2001: p.282.

body.[66] Our organic body is connected to our subtle body, which is the expression of our present spiritual and affective condition.

Thus, bodies are not simply constituted by assembling their parts and creating a moving whole. Instead, they emerge within a process of becoming and lack a final definition or a static form – they are neither the Buddha body, the human body, nor the animal body. What Buddhism describes as mystical is, first of all, an examination or an experimentation and re-construction of our body-mind-senses. In this sense, the journey for transformation begins here - with this actual body and mind - making the practice of mindfulness an 'exercise of the self, performed upon the self,'[67] aimed towards producing a new body. 'But,' one might ask, 'how can I construct a new body? How do I get one? Do I have one or do I have to create it? How do I know it is a "resisting" or "ethically positive" body?'

In Buddhism the subtle body is the plane through which one is able to reorganise the ways one perceives reality. Meditation is a way of working with the subtle body, transforming the flow of different intensities to reach a level of absolute connection between the extensive and intensive forces of life. This is a state where there is no division between the self and the other, between extension and intention. It is through the virtuality of our subtle body that we're able to transform our being and dissolve its illusionary dualism. Thus, the meditator aims to construct a new body to experience new ways of being. This construction requires attention and experimentation with our minds so we can suspend the extreme ways that we experience the world: this is called 'the Middle Way.'[68]

The Middle Way is a method of 'between' that seeks the 'holes' between the images of extreme opposition our brains create. It is through the 'betweenness image' or

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[66] The subtle body, in Buddhism, does not present a representation or an intellectual description. Rather, it is a reality that our being is composed from, and which can be experience through a series of meditational exercises.

[67] Foucault 1988: p.20.

[68] Buddhism is also referred to as 'the Middle Path' or 'the Middle Way,' which is the way beyond the extreme dualities that the mind creates.

the 'betweenness path' that we're able to reconstruct our subtle bodies. In other words, the Middle Way - as Deleuze says of the brain - 'puts the inside and the outside into contact, makes them present, and makes them clash.'[69] The Middle Way explores the 'betweenness' of our topological body and re-arranges our body parts and their cycle of destruction and re-creation. By remaining within the expressions of our body/minds, we are able to 'log on' to our singular, subtle body and its creative forces and reconstruct them as a Buddha diagram that initiates our own internal wheels of love and compassion, transforming the way we sense the world. In this sense, mindfulness is not a transcendent mystical experience, but rather an immanent practice that permits individuals to perform, by their 'own means, a certain number of operations on their own bodies'[70] which, hopefully, lead to the expression/construction of new modes of existence. This is the same sense of mystical atheism that Stephen Zepke describes in his book, *Art as Abstract Machine* (2005). Zepke finds, in Deleuze's writings on art, a practice that is 'mystical and atheistic since its expression is entirely material.'[71] He writes:

> Mysticism is the experience of immanence, of the construction/expression of the at once infinite and finite material plane on which everything happens. Thus, mysticism, as an experience of immanence, is necessarily atheist, because it cannot involve transcendence of any kind (where to?). Mysticism replaces transcendence with construction/expression, firstly, as a construction of the body – atheism against asceticism. Mysticism is a physical practice: how do you make yourself a body without organs?[72]

Zepke argues that, for Deleuze, the art of cinema does not just present us with images or narratives about the world, it 'constructs duration at the same time as it expresses it.'[73] Cinema, therefore, has the ability to overcome the sensory-motor

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[69] Deleuze 1989: p.206.

[70] Foucault 1988: p.18.

[71] Zepke 2005: p.81.

[72] ibid p.7.

[73] ibid p.99.

dimensions of thought and open the brain onto a 'spiritual' or 'subtle' dimension. This is, Zepke argues, the 'spiritual reality of duration [that] is both atheist and mystical, inasmuch as it exists as entirely material "cerebral vibrations",'[74] opening thought onto new beliefs and new modes of existence. Following this idea and extending it, I will explore Buddhist mystical techniques as a force of self-affectation and self-affirmation that can rupture existing power and knowledge relations and, in the context of gaming, provide an immanent and bio-political method of resistance. This experimentation is a plastic activity of the brain (a mind/body) that aims to reform the world as we perceive it. The more we experiment with our bodies and create our Buddha body/minds, the more we change our view of the world and construct new ways of being. Thus, mysticism, as a technology of experimentation, is not something mysterious or a unity with a transcendent God, but the consistent aim of deconstruction and re-organisation of the gaming body. In this sense, the body becomes a construction site. 'How do you make yourself a body without organs?'[75]

The 'Body without Organs' (BwO), as taken from Artuad, appears in Deleuze and Guattari's philosophy as an immanent and material field that resists any form of subjectification. By stepping away from the traditional notion of identity, Deleuze and Guattari perceive being as an a-centered system, defined by its dynamic process of becoming. This process of becoming finds its impetus from the virtual realm that Deleuze adopts from Bergson, which always opens the actual to contingency and chance. In this, the virtual is immanent in the actual, and just as real. Deleuze famously writes: 'The virtual is not opposed to the real, it possesses a full reality by itself. The process it undergoes is that of actualisation.'[76] The virtual, therefore, cannot be isolated from the actual, as it is immanent to the unfolding present as its real condition. Even though not all virtualities are actualised in the present, they are nevertheless real, existing as a field of differential forces that 'are, in fact, the forces expressed by a chaotic Nature and those abstract rhythms which emerge from chaos as its genetic movements, its chaosmosis.'[77]

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[74] ibid p.81.

[75] Deleuze 2004: p.165.

[76] Deleuze 1998: p.110.

[77] Zepke 2005: p.171-2.

In this sense, the virtual is not founded on a representational notion of identity, since it is not a transcendent absolute that is copied by the actual,[78] but a full reality by itself, one that supplies the differences out of which the actual emerges. Therefore, in Deleuze's ontology of difference, virtual and actual are two mutually joined characterisations of the real, even though the virtual and the actual maintain their own reality. While the actual can be realised according to the possible conditions of reality, the virtual 'cannot be thought or sensed by our all-too-human common sense and rational representations, but which, nevertheless, [provides] the genetic movements of our thoughts and sensations.'[79]

In this sense, the virtual is not a virtual reality of a pre-designed game space. It is an immanent field of internal creative potentials that are constantly ready to be actualised and differentiated in the present. So, even though a body carries with it some predesigned qualities, it also holds a virtual dimension that is open and undetermined. This dimension is what Deleuze terms the 'Body without Organs' (BwO), a body composed of virtual potentialities. It is the theatre in which the whole of our being is enacted, both our limited organic existence and our unlimited spiritual existence, within which 'we do not know what the body can do.' This body is not only the site of the production and organisation of sensation, but also the site where the micro-politics of resistance emerge. As Eric Alliez states, in his paper, 'The BwO Condition, or The Politics of Sensation' (2004): 'Artaud's Body without Organs - an affective, an intensive, an anarchic relation of the body to forces (it hurts), relations to forces *qua* becomings (when it works) - To Have Done With the Judgement of God and Its Power of Organ-isation, *Ad Infinitum.*'[80]

Alliez argues that cruelty, in Artaud's sense, is the dismantling of the organic body's organization. It is a combat with all organisations that imprison life, a combat that is also, and perhaps, most importantly, fought within us. The BwO therefore becomes the plane from which an attack of our organised sensations is launched. This is an attack that aims to 'dismantle the organism, causing a-signifying particles or pure intensities to pass

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[78] See: Deleuze 1994: p.211.

[79] Zepke 2005: p.172.

[80] Aliez 2004: p.98.

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or to circulate.'[81] This is anarchism as an immanent refusal to any organisation, Alliez argues, since it is less an attack on the organs than it is on the organisation they necessitate. 'The organs are not its enemies. The enemy is the organism,' Deleuze and Guattari write.[82] But, if the BwO is always installed inside the organs of the organism, how can it be reached? Deleuze answers: 'This is never a question of representation, but of invention,'[83] which always necessitates an experimental practice.

Experimentation, here, is an immanent practice that works to re-organise the body/brain and to reconnect it with the inhuman forces of the future. Permanent identity is destroyed, denied, and overturned by the immanent force of dis-organisation, those virtual forces otherwise known as life. Cruel experimentation with the body is, Deleuze writes, the immanent emergence of life as it differs from itself, a practice that, he says, 'attests to high *spirituality,* since what leads it to seek the elementary forces beyond the organic is a spiritual will. But, this spirituality is a spirituality of the body; the spirit is the body itself, the Body without Organs…'[84] Through Artaud, Deleuze and Guattari 'draw the lines for the 'becoming revolutionary of the present world,'[85] which is achieved through the disorganisation of the body into a body that expresses a new spirit. This is a 'bio-politics of sensation,'[86] a practice that has to be performed by each gamer if they are to open up to new forms of experience. As I will demonstrate more elaborately in chapter 5, the Body without Organs will appear as the plane upon which mindfulness acts as a technique to re-organise our bodies/minds, but, this time, avoids the economic conditions set by the game.

By proposing Buddhist mindfulness as a method for reorganising the gamer's body, I am not suggesting a spiritualisation of the gaming interface. Rather I argue that, within the digital regime of control there is the necessity for initiating 'spiritual exercises'

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[81] Deleuze and Guattari 1980: p.4.

[82] ibid p.158.

[83] Zepke 2005: p.205.

[84] Deleuze 2003: p.46-47.

[85] Alliez 2004: p.99.

[86] ibid p.99.

that disrupt our machines of capture, their existing interfaces, and their sterile significations. This is a practical technique that 'pulls [us] away from the metaphysics of presence, away from a transcendental horizon, towards a field of immanence.'[87] Contemporary theorist, Simon O'Sullivan, in his book, *On the Production of Subjectivity* (2013), also connects Hadot's concept of 'spiritual exercises' to Buddhist philosophy and art practices. Through the concept of spiritual exercise, O'Sullivan explores the connection between Buddhist meditation as a process of subjectivation and the way that these practices can act as an autonomous force within existing social, economic, and political control mechanisms. Drawing on Hadot, as well as Deleuze and Guattari, O'Sullivan sees Buddhist meditation as a technique that has a specific, pragmatic role in the production of subjectivity. Meditation, in this context, is a practice of spiritual exercise that is purposeful. O'Sullivan writes:

> It is worth noting here that other spiritual traditions, such as Buddhism, also emphasise a life of the 'middle way,' which is to say, not one of extreme asceticism, but one that would allow a body the greatest capacity to affect and to be affected. This is the production of a body best capable of knowledge, in Spinoza's sense.[88]

Buddhist meditation as a form of spiritual exercise can be seen as a transformative technique and a tool for creating an autonomous mode of subjectivation that generates other ways of perceiving and acting in this world. This is the point at which mindfulness becomes, not just a meditational technique for a so-called 'better quality of life,' but a political ethology that aims to sense the bodily relations (ie., affects) produced in gaming and transform them into new subjectivations.

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[87] O'Sullivan 2006: p.22.

[88] O'Sullivan 2013: p.245.

Buddhist Strategies

'Other religions give us back what our culture has excluded from its discourse.'

Michel de Certeau

While Buddhism and its philosophical ideas are central to this study, I will not be undertaking a wider criticism of Euro-centricity in academia or the tendency to universalise all traditions of 'mysticism' in ways that are motivated by politics or ideologies. The aim is not to restore some sort of Eastern traditionalism that stands against Western perspectives. Instead, I wish to disengage from such a diagram in favour of a method that does more than merely compare similarities and differences, instead crossing disciplinary boundaries to the point where different disciplines can mutually inform one another, even to a point of their complete transversal. Thus, I will use Buddhism for analysing possible gaming strategies and, in doing so, attempt a form of diagram which is not oppositional in its thinking, but rather open and free.

I utilise Matthew Kapstein [89] and Dan Arnold's [90] discussion of the fruitful connections between Buddhist philosophy and Hadot's reading of ancient philosophy, in order to position this study on Buddhism as a way of life. Hadot's books, *What is Ancient Philosophy? (*2004) and *Philosophy as a way of Life* (1995)*,* focus on the notion of spiritual exercise in ancient philosophy and emphasise that, in 'ancient schools of thought philosophy was a way of life.' [91] By setting Buddhist philosophy within the wider diagram of 'philosophy as a way of life,' [92] Buddhism is no longer seen as just a religious thought system, but as a vision of things. Buddhist doctrine and its technologies direct the practitioner towards transforming their own vision of things and, therefore, knowledge (wisdom). Buddhist meditation practices, therefore, form a system of spiritual exercises that do not resemble New Age spiritual practices or practices of religious belief. Rather

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[89] See: Kapstein 2001.

[90] See: Arnold 2002.

[91] Hadot 1995:p.13.

 For further explanation of philosophy as a way of life, see chapter 5.

[92] ibid p.13.

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they form a technique that the subject performs upon the self, in the self, in order to transform the self.[93] This will be the consistent aim of a *practical philosophy* and a mindful approach to gaming.

Buddhism and Plasticity

'The star player is one who modifies expected mechanisms of channelling field-potential. The star plays against the rules but not by breaking them.'

Brian Massumi

In the last few decades, Eastern mysticism interacted extensively with Western culture and science. This interest in Eastern mysticism also touched the domain of scientific research, a contact that has great significance on a philosophical and epistemological level.[94] Such contact shifts scientific data and brain imagery away from the deterministic principles that dominate neuro-science, while simultaneously moving Eastern philosophy outside its institutional context. For example, recent neuro-scientific research on Buddhist monks in meditation showed a relocation of some of the brain's biological functions, such as the creation of a thicker frontal cortex and a 'dramatic increase in high-frequency brain activity.'[95] These are changes that show how different forms of exercise can have an impact on the neural circuitry that is connected with the mental and physical state of ones being.[96] Richard Davidson and Antoine Lutz, in their neuro-scientific research on Buddhists monks, offer a radical definition of neuro-plasticity in relation to meditation when they conclude that the brain restructures itself in order to adapt to existing circumstances and through its internal affective process of

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[93] See: Chapter 5 for further explanation on this notion of mindful transformation.

[94] Recent neoro-scientific theories support the Buddhist epistemological ideas of co-dependency, impermanence, and non-self (see: Varela 1991) and infuse these conceptions within their theoretical framework.

[95] Davidson, cited Beglay, 2004: '*Scan of Monks' Brain Show Meditation Alters Structure , Functioning* ' Wall Street Journal , November 5. http://www.wsj.com/articles/SB109959818932165108.

[96] Schwartz et al. 1996, Paquette et al. 2003.

mindfulness. [97] Davidson and Lutz suggest the 'brain systems, sensory, perceptual functions, and neural systems that underlie these complex behaviours are modified by experience and the responsive alterations of thought.'[98] In these terms, the brain is not a static organ that responds to outside stimuli, but an affective interval that has the ability to restructure itself.

The Digital and Plasticity

This conception of plasticity, in relation to mindfulness and digital imagery, encompasses two meanings. The first is its neo-liberal meaning, where 'plasticity' simply amounts to 'flexibility,' and describes the brain is an adaptive mechanism that is able to restructure itself in response to its environment. The second meaning, one supported by Malabou, is a more radical concept, since it emphasises how the brain is able to creatively compose itself to form the margin of autonomy able to intervene in, and alter, reality. However, in response to Malabou's work, Patricia Pisters argues that the digital image presents us with a 'neural' dimension that emerges from the structures of the brain. In this sense, our current digitised image regime 'no longer represents the world as seen through the eyes of a character, but rather films are direct expressions of character's mental worlds.'[99] For Pisters, digital cinema opens the possibility to represent the world, no longer as a narrative of the physical world, but as a technological expression of the brains' plasticity.

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[97] Davidson, in his research on plasticity, argues that: 'Modern neoro-scientific research on neuroplasticity leads us to the inevitable conclusion that well-being, kindness, and focused attention are best regarded as skills that can be enhanced through training.' (Davidson, in DiSavlo 2013: *How Video Games Can Help Us Achieve Mindfulness.* Psychology Today, March 14, 2014.).
http://www.psychologytoday.com/blog/neuronarrative/201403/how-video-games-can-help-us-achieve-mindfulness.

[98] Davidson and Lutz 2008: p.3.

[99] Pisters 2012: '*Plasticity and The Neuro-Image. A Response to Catherine Malabou's, What Should We Do With Our Brain?*'. Patricia Pisters blog: http://www.patriciapisters.com/blog/events/79-plasticity-and-the-neuro-image.

The concept of plasticity, in connection to our digital culture, raises questions concerning the dynamic conditions of digital reality and how they affect memory, perception, experience, and thinking. In talking about the brain's plasticity and its enfolding within digitalism, we have to rethink digital aesthetics on the very terrain of bio-politics. In other words, our interaction with the screen is both a product of technical advancements in computer graphics and of a wider techno-culture that affects the brain's synaptic modulation. This evolutionary folding is a bio-political project that takes place within cyber-topologies, where our perspectives become haptic, then force the brain to accelerate its connections and organise new structures of feeling. It is this shift that I identify within the digital regime, a shift where thought becomes more active, flexible, creative and experimental, as both the expression of an entrepreneurial self and, at the same time, as a meditation for the self. I suggest that, even within cognitive capitalism, there is an aesthetic experimentation with modes of existence and interpretations of reality that reflect and generate this plasticity.

In these terms, *plasticity,* as it relates to the digital image and the brain, does not refer to biological modification or to an approach where plasticity is understood as a cybernetic feedback system to maintain a biological machine. Plasticity is also a productive bio-power that is not located at a fixed centre; it is immanent, diffuse, and omnipresent. Thus, plasticity takes the position of a mechanism that operates through a productive bio-power [100] that both regulates and opens up a possible process of transformation, rather than as a mechanism for biological regulation. It is a bio-power that refers to openness to all kinds of environmental and socio-political influences and also provides the conditions for a certain level of autonomy. From this perspective, a discussion of the plasticity of the brain suggests that the brain does not simply function as a cyber-commander, but also, as Malabou notes, an 'agency of disobedience against every constituted form.'[101] Thus, the question is not limited to the brain's organic nature,

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[100] Foucault, in his lectures, *Security, Territory, Population* (2007), defines bio-power as the 'set of mechanisms through which the basic biological features of the human species become the object of a political strategy.' (Foucault 2007: p.1.).

[101] Malabou 2008: p.5.

but extends to 'what we can do with this plastic/organic art'[102] and what we can do with this potential within us, as we surf inside the diagrammatic structures of contemporary cognitive-capitalism.

It is in this sense, I will be examining digital gaming as a bio-political diagram of affective processes that are, at their heart, forms of digital capitalism by which certain technological, dynamic, and emerging qualities of the medium create a process of cybernetic control. This control is achieved through the modification and mutation of time and space, and the extension of our perception and sense. In this respect, I explore the way gaming works as a bio-political strategy, within the realm of cognitive capitalism, for producing individuality through a technological process of digital automatism. The brain now navigates and senses reality, not through a static Euclidean space, but within a fluid and topological space that expresses the interactive and immersive mode of the digitised image regime. Gaming - as a specific type of digitised reality - is engaged within this topological perceptual mode of power by establishing relations of force that organise and modulate bodily intensity, attention and sense, thereby instituting a new cerebral crystallisation and creating a new body that is mapped by the 'brain-screen' of our interfaced existence. As we become interfaced and digitised users, we explore different gaming worlds by gaming with our desires, and search to gain a victory by continuously organising a gamer's body. Rather than the cyborg imaginings of *Ghost in The shell* (1997), or *The Terminator* (1984), where the body mutates with the machine, we face a process of constant interaction where the mind is immersed within the gaming realities of the digital. This appears in gaming films, such as *Existenz* (1999), *Gamer* (2009), *Avalon* (2001), or Nirvana (1997), where the physical body/mind either becomes stupid, imprisoned or fights to survive within the virtualities of a Massive Multiplayer Online game. The gaming mind is feeling the fears and pleasures of the realities represented within the game space. For Bifo, this is not an exploration about the nature of the mind, but the production of new psychological-interfaced pathologies. Bifo, in his theory of acceleration, describes the current networking realities in which our brains must cope with this new psychopathology. He argues that this pathology was

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[102] ibid p.7.

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produced due to the continuous acceleration of 'electrocution, panic, over-excitation, hyper-mobility, attention disturbances, information overload, and the saturation of reception circuits.'[103] This permanent, digitised intensification initiated the maintenance of the spiritual mechanisms through the use of pharmaceutical drugs, such as Prozac, and illegal drugs like cocaine, speed, and MDMA. This acceleration of intensities through digitised control interfaces and its affiliation to psychiatric drugs, links to the neo-liberal exploitation of life through speed and disorder. For Bifo, by continuing to surf within the digital network interfaces, our spiritual mechanism that becomes imprisoned within these networks will further deteriorate. This is a machinic future in which the technological interface overcomes the limitations of our embodied minds while delivering us into the heart of digital capitalism. This is a gaming space that produces and reproduces the conditions of a global Empire.

In their study of digital games, Greig de Peuter and Nick Dyer-Witheford describe gaming software as the capitalist media paradigm of Hardt and Negri's *Empire*. They argue that the structural rules of gaming represent the logic of 'Empire' and clearly express the immanent military and economic forces of contemporary capitalism. Greig de Peuter and Nick Dyer-Witheford argue that gaming, in the techno-culture of digitalism, has become the logic of the larger cyber-economy and of governance that is no longer founded on the disciplinary mechanisms containing the body, but on systems of control that focus on modulating the brain and its thought modes. Contemporary capitalism infuses our daily lives with *digitech* realities that traverse their social actualisations and transform the brain into the vital focal point of production and perceptual control. The brain is now the self-organising agent, the robot, the automaton, or the embodied mind[104] of a Cyborg-becoming. It has become the main focus of attention and control for the gaming industry, since it is the material point where thinking about gaming actualises itself. What actualises gaming is the brain and its organs of sensation, which organise the topology of the game.

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[103] Bifo 2009: p.39.

[104] Varela, Thompson and Rosch 1991.

Antonio Negri argues, in his essay, 'Kairos, Alma Venus, Multitudo,' in *Time of Revolution* (2003), that the plastic brain in cognitive capitalism is the post-industrial tool of production. He means that technology is no longer an external tool, but has been internalised within the process of perception. So, for Negri, instead of a clear dichotomy between body and the tool, we enter a new phase where our future crystallisation is inseparable from the technological 'set of prostheses'[105] in the process of producing subjectivity. The 'tool has been embodied, Negri states, not only in the brain, but also in all of the sensory organs.'[106] The social body is embraced within the diagrammatic structures of a gamespace, organising the whole body under its competitive mechanisms. It is in a constant process of a virtual Kung-Fu fighting, attached to interfaced software and its algorithmic intensive spasms. We can no longer resist the process of a disciplinary society, because there is nothing left to be disciplined, corrected, or opposed. The organic, plastic brain is now immersed and organised into a 'gamespace'[107] of digital actualisations. So, the interface no longer functions as an outside diagram that monitors and regulates brain functions, as Stanley Kubrick presented in his movie, *Clockwork Orange* (1971). There is no longer a *Clockwork Orange* automaton that needs to be disciplined and corrected to avoid its craziness. It is, instead, a gaming body, surfing the game space of *Gamers* (1999), a film where brains and digital virtualities constitute a cybernetic diagram that organises and connects the non-organic forces with organic aspects of the world.

The digital gaming image appears as a new ontological condition. What we have now is a dynamic interdependence in which subject and object acquire other forms from traditional Cartesian disjunction and the relation between subject and object unfolds according to their internal differentiation processes. Soft brain and digital mirrors are not positioned as ontologically different, but rather in terms of a dynamic interdependence that forms a common plane of immanence. Digitalism is not subject to the clear dichotomy of artificial/organic, but exists, instead, between inorganic forces and affective

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[105] Negri 2003: p.16.

[106] Negri 1999: p.182.

[107] Wark 2007: p.02.

subjectivations, as the digitised virtual matrix now becomes an immanent space where the brain's internal cognitive processes are expressed and visualised. Consequently, instead of a dualism between artificiality and naturalness, both images take their position within a dynamic interdependence, a relationship that allows the gamer to perform a synthesis of things to achieve, 'an immanent reprogramming of the real.'[108]

Gaming the Game

In the age of cognitive-capitalism, digitalism is both a technological transformation of production and a spiritual event that introduces new modes of thought. It is a social project which demands that its users create new 'ways of existing'[109] and invent 'new possibilities of life.'[110] McKenzie Wark, in his book, *GAM3R 7H30RY* (2007), argues that games construct a diagram of contemporary forms of social processes, and that computerised games express a logic of social control. As a result, the means of exodus from this control must be invented. Wark states: 'Only by going further and further into the gamespace might one come out the other side of it, to realise a topology beyond the limiting forms of the game.'[111] This is a process of 'pressing against the limits of the game from within and find the contrary terms behind the agon.'[112] However, Wark he does not present us with an example of how, and with what kind of tools, we can succeed to 'game the game,' or in which ways we can escape its actualities. Even though Wark frames a theoretical outline for resistance within gaming, the question still remains: How is it possible for the gamer to claim a different kind of victory, to formulate an active gaming against the game? In which ways can the gamer introduce another virtual dimension, one that creates another form of subjectivation?

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[108] Land 2011: p.296.

[109] Deleuze 1995: p.100.

[110] ibid p.101.

[111] Wark 2007: p.224.

[112] Ibid p.224.

As we shall see in chapters 4 and 5, the gaming interface constructs a digitised territorialisation of desires. It is a topology that might need theories, but, more importantly, needs a method with its own technologies and its own practices that revitalise the virtual dimensions of digitalism. The fact is, today's gaming has been completely infused with a capitalist logic and its 'mechanical forms of enslavement' and subjectivation. This process establishes our present, essential question: 'How we can respond to this imprisonment?'

Due to the imprisonment of subjectivity that the digital regime initiated, the question of new thought techniques turns into an important invention. It is not just that thought becomes more reliant on a series of digital technological assemblages, the problem also requires more techniques that can liberate us from its frenetic, spasmatic calculations. Today we can no longer respond to the old TV mottos to 'put down our tools' or 'hope for the best,' as Deleuze asserts, we have to discover the means to 'finding new weapons.'[113]

This creative process of inventing new tools is central, since it seems that digital topologies are becoming a contemporary plane for thinking and for demanding from its users the creation of techniques that will enable them to actualise alternative modes of being within our technological realities. Stephen Zepke writes: 'Our task - to be done with techno-paranoia - is to turn these machines creative, to liberate their parts in an explosion that remakes the world.'[114] Becoming a gamer of theory is not only a project for the creation a theory, as Wark suggests, we also need to invent new sets of practices and exercises of aesthetic composition. By using the term 'composition' here, I refer to the notion of class composition, which presents the possibility to create different affective zones that act as the way to produce an autonomous subjectivation mode. In this sense, affective composition is 'political, not just through aesthesis, but also by the way in which it is designed to work with, or against, the institutional circulation of ideas, images, and relations.'[115] This dissertation is concerned with precisely such political action, what

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[113] Deleuze 1995: p.178.

[114] Zepke 2011: p.2.

[115] Shukaitis 2007: p.3.

Stevphen Shukaitis quoting George Katsiaficas described as 'engaging aesthetic rationality in special kind of image of political transformation, of turning politics into art, everyday life into an aesthetically governed domain that comprises the process of affective composition.' [116] Hence, the creation of an alternative world is no longer attached to a representational process, but hinges on an affective composition that forms our 'aesthetics of existence.' [117] This is a production of subjectivity that expresses the 'crystallisation of a new existence,[118] opening the path to access new reference points that allow us to construct and imagine a new world.

In our age of digital machines, resistance to the global/digital regime turns entirely on what we create with it and on how we can succeed in this mode of combat. As Foucault's reversal of Clauswitz has it: 'Politics is war, continued by other means.'[119] This continuation is found in the conduct of conduct, in an internal combat with the organised forces within oneself. It seems that, in our age of digital gaming interfaces, we have to reset the question 'Which tactics can I use politically?' and replace it with 'How do I engage my bios?' Digitalism forces its users to consider their relation to it, not just in terms of a strategy against its cyber-positive mechanisms, but as a way of life that acts as an ethical force against the accelerated competition imposed by the gamespace. Thus, the most general methodological questions followed in this study are: 'What is our capacity for another type of resistance, when old struggles are "no longer worth anything"[120] because digitised action technologies and machines of expression have become the fundamental means for capture and control?' and 'How can mindfulness form a method for disorganising a future that has already been calculated, predicted, and captured by our digitised, techno-realities?'

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[116] Katsiaficas 2001 cited Shukaitis 2007 : p.3.

[117] Foucault 1986: p.20.

[118] Lazzarato 2014: p.10.

[119] Foucault 2003: p.15.

[120] Deleuze 2006 p.95.

CHAPTER 2

THE GAMING UNIVERSE

Introduction

> *'The Grid. A digital frontier. I tried to picture clusters of information as they moved through the computer. What did they look like? Ships? motorcycles? Were the circuits like freeways? I kept dreaming of a world I thought I'd never see. And then, one day I got in'*
>
> *Tron: Legacy, 2011*

This citation appears in the movie, *Tron: Legacy* (2011), a sci-fi movie that presents us with a future lived within a computer's logic of control, in a world that has become a motherboard and is designed as a gaming universe. But the entertainment industry has not only given images to this fantasy, it also managed to impose it on reality through interactive gaming spaces. These interfaces that actualise a dream within a gaming space were initially imagined and designed by entities such as Disney and other Hollywood studios. They were later conceived by students in university labs and were further developed by the software industry. In fact, the construction of gaming worlds has been a constant project in the history of gaming and I will outline this history in this chapter.

More specifically, I will explore the expansion of gaming consoles and the architecture of their graphical interface, from their early emergence in US university labs as escape mechanisms 'from the realm of nuclear death' to their more recent instrumentalisation 'by capital, in pure commodity form.' [121] This chapter will not, however, provide a linear account of historical cause and effect. Instead, I will follow Foucault's method of genealogy by mapping the different economic, social, and political events that took place within the history of digital gaming culture.

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[121] Dyer-Witheford and de Peuter 2009: p.10.

Foucault, in his historical studies of sexuality, prison, and madness, proposes an alternative mode of history that does not believe in the linear evolution of societies or concepts. In his genealogical research on the disciplinary actualisations of individuality, Foucault moves away from a teleological view of history, and proceeds to a historical study of the event. For Foucault, while events took place in the past, they express themselves in the future they call forth. In his essay, 'Nietzsche, Genealogy, History' (1980), Foucault finds, in Nietzsche's work, a deconstruction of the notion of a truth of history and the seeds of a new theory of history. This theory traces the forces and events of the past in relation to the discourses and techniques of power that limited or otherwise controlled them. This is, for Foucault, is a method whose main aim is not to uncover the chronological order of events, but to map the different types of power and knowledge that produced them, in the hope that they might be once again unleashed and create a new future. In Foucault's view, genealogy is a method by which different, specific forms of knowledge and discourse can be mapped to form a diagram of power formations and a way the events that constitute history can thereby find a way around their own limits.

This chapter will attempt to map the field of economic, technological, and social forces giving rise to, and sustaining, gaming culture, with the intention of tracing how this culture is situated within the historical development of cognitive capitalism. This will mean mapping the cybernisation of gaming culture after the Second World War and exploring its relation to the development of digitised capitalism. This analysis is grounded on the history of technical advances (from the first, abstract gaming images to digital, 3D realism), and the theories of affection and immaterial labour that have been developed by theorists such as Maurizzio Lazzarato (immaterial labour) and Jasper Juul (playbour). Specifically, the first part of this chapter examines the production of digital gaming culture and its relation with the military-entertainment complex, the gaming industry, and neo-liberal politics. The second part looks at the architectures and topologies of gaming space, the affective dynamics of movement and rhythm within these spaces, and how they have impacted on our awareness of reality. This genealogical study of gaming culture moves between two poles: the study of how gaming interfaces are produced as a dispositif of digital culture and how the gaming industry imagined, arranged, and designed game-spaces as an architecture of topological control. This

historical diagram will not only serve as an introduction to the themes of this thesis, but will also lay the foundation for the chapters that follow, which extend the genealogy of gaming, cybernetic machines as 'machines of enslavement,'[122] and the way that they enact a contemporary form of bio-political control and governmentality.

The Gaming Revolution

In 1984. Apple released the Mac, a digital machine with a Graphic User Interface (GUI), and so created a personal computer that not only had the potential to process information for surveillance and control, but also established an interface for entertainment and creativity. Nineteen eighty-four did not announce the totalitarian era that Orwell's book forecasts: a totalitarian society of absolute power where computers were used for control and surveillance. The computer didn't arrive as a mere tool for control and propaganda; it was also a new type of image that marked a complete transformation of our interaction with the screen.

Figure 1

Fig. 1 'You Will See Why 1984 Won't Be Like 1984,' Apple Advertisement, 1984.

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[122] Guattari 2009: p.219.

In 1984, Apple launched its commercial for the Macintosh platform, announcing that '*You Will See Why 1984 Won't Be Like 1984.*' (Fig. 1) In the advertisement, thousands of homogeneous, stupefied citizens sit in front of a cinema screen that is filled with the image of 'Big Brother.' Suddenly, an athletic woman runs into the auditorium and throws the 'Communist' hammer at the screen. Then, there's a scream. It's a shock for the citizens, who now realise that their interaction with the screen does not need to be structured in this way. The hammer blow causes the screen to crack and, along with it, the spectacle created to capture the passive stare of the audience. Apple's advertisement marked a change: the end of the spectacle as we knew it.

BASIC 1.0 --- Ready/ This is A Gaming Machine

The new spectacle of digital computers was not that of an Orwellian Big Brother, surveilling from above, nor was it viewed as a tool, limited to governmental institutions and used for social control and security. Rather, the 'Personal Computer' was a democratic machine, offered to the whole of society, ready to provide a new digitised space for creativity, entertainment, education, and thought. The OSX platform, introduced in 1984, generated the momentum for computers to conquer the world, not only through numerical spreadsheets, control networks, and information processing, but also by entertaining us with games full of ghosts, spaceships, and massive gaming cities.

The first period of the 'Golden Age' of arcade games emerged like a dark cave of primitive signs composed in 'digital dada' style out of abstract spaceships, colourful coins, and cute creatures. These arcade games were based on simple graphics and rules that composed a new diagram, constructed from a coded universe of fantasy and imagination. Gamers became characters inside the game cartography by programming their immersive game-spaces with joysticks, keyboards, codes, and their own powers of creative imagination.

Military, adventure, and fantasy games were the first types of games written, and these laid the foundations for countless digital worlds to come. They were a new cosmos

of multi-universes filled with rockets, spaceships, dragons, spells, and magic. However, it is important to point out that the initial source of digital games derived from the computer labs of universities that were designing simulations for the military. J. C. Hertz asserts: 'Most of the technology that's now used in video games had its origins in military research. When you trace back the patents, it's virtually impossible to find an arcade game or console component that evolved in the absence of a Defence Department grant.'[123]

This connection was due to the fact that, in the 1960s and 70s, war was a significant part of the cultural assemblage of computers and computer science research labs in universities, where simulation modelling functioned as an essential part of the 'computerised world' of Cold War simulations. They were a means of calculating and designing military scenarios - such as a nuclear war with the Soviet Union - and fighting the actual wars of Vietnam and Korea.[124] Although digital games owed much to this military complex, other significant contributions came from the experimental shareware of the activist sub-culture, as well as the experimentation of computer science students and researchers. As Nick Dyer-Witheford and Greig de Peuter affirm: 'There were thus two red scares at work in the origin of the virtual games: the external threat of the Kremlin, inspiring the Pentagon to an escalating trajectory of digital research and the internal subversion of counterculture, where hacking met the new left.'[125]

The first computer-based game was produced in 1960, when Digital Equipment Corporation delivered the first in a line of computer hardware systems, the Programmed Data Processor-1 (PDP-1) - a computer designed for scientific calculations - to the MIT lab. Until that point, computers were encoded machines that were programmed only for esoteric mathematical applications. Students of the MIT media lab started to experiment with this new machine, and managed to convert this calculational space into a space of gaming. By writing a gaming code, the students liberated the computer from its function as a machine purely for scientific or military calculations. It became a space of

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[123] Herz 1997: p.205.

[124] Dyer-Witheford and de Peuter cited Kroker 2013: p.166.

[125] Dyer-Witheford and de Peuter 2009: p.9.

interaction, a digital gaming space, where users could start playing out the military scenarios of space wars or, later, enter the magical world of *Dungeons and Dragons* (1974).

One expression of this experiment in de-territorialising the computer was a space battle game called *Spacewar* (1961), which is often presented as 'the first computer game.'[126] MIT students wrote the code for *Spacewar,* a game that designed for two gamers that fought each other, not on the actual plane of Cold War, but on the virtual plane of a digitised universe. *Spacewar* was a game formed within the logic of the machine, and its design offered all the vital elements for a machinic game: simple rules, the pleasure of victory, and the buzz of gaming with these massive militarised calculation machines. Since the philosophy of the first gaming generation was to 'make the software available for free, and anyone could do anything they wanted with it,'[127] this game was initially distributed through the Internet's ancestor, ARPANET. *Spacewar* was, thus, rapidly multiplied across campuses and computer labs, where computer science students started adding features and graphics to the game. *Spacewar*, however, was not just a university test, it was also a product of the counterculture, an expression of the political opposition and drug culture of that time. In the hands of the students who simulated different military scenarios, these programmes were converted into tools for political radicalism.[128]

As the Vietnam War continued, campuses became an important centre for the anti-war protest movement, and computer students opposed the war by using the network as a way of resisting the war. *Spacewar* was an example of this computer movement, presenting an escaping machine from the actual planes of war. Stuart Brand, in his essay, 'Spacewar: Fanatic Life and Symbolic Death among the Computer Bums' (1972), notes that the students who played *Spacewar* were part of an 'anti-Establishment movement that was played out against a backdrop of posters and announcements against the

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[126] See: Levy 1984: p.45.

[127] Dyer-Witheford and de Peuter 2009: p.9.

[128] See: Markoff 2005.

Vietnam War and Richard Nixon.' [129] The game was a part of this oppositional movement, not only because it succeeded in de-territorialising computers from their military function, but also because it actualised a new world outside that of nuclear war death. The fighting of spacecrafts was no longer taking place in a Euclidian dimension, but in a topological virtual space. In this way, this new game generated a process of personal de- and re-territorialisation through the cybernetic interface. With this simple code, students managed to initiate a revolution on the digital plane and, within a few years, this new facet of computing had become ubiquitous: the power to actualise a new, virtual world on the actual plane had created a new escape route from the solid reality of cold war.

Figure 2
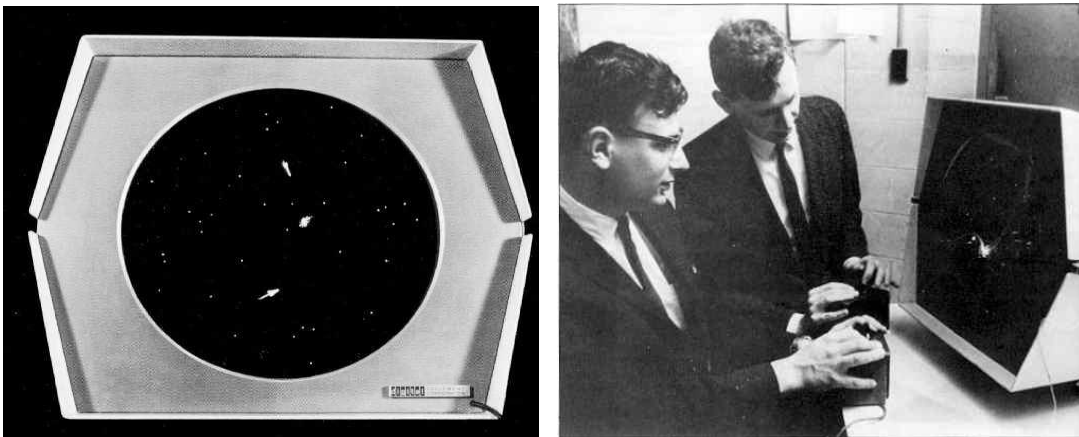
Fig. 2 Spacewar'*Screen and MIT Students Playing* Spacewar *Inside MIT Media Lab.*

Throughout the 1960s, other game programmers produced additional free game software, such as *Lunar Lander* (1979), which was one of the first games with a text interface, and *Hammurabi* (1968), a game designed to simulate the functions of an 'Empire.' In the beginning, games could only be played where they were programmed, mostly in universities and computer labs. But in 1971, *Galaxy*, the 'first coin-operated games machine,' was placed as an independent arcade console at Stanford University; later in the same year, it became available for commercial use. (Figure 3) Even though the first digital games moved computers away from the military complex by 'de-

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[129] Brand 1972: p.1.

territorialising' them into a gaming machine, it was inevitable that games would be 're-territorialised' by the software industry into a commodity, as machinic 'consumer entertainment.' Although computerised gaming was a shareware culture, providing access to all gamers, the 1980s was a period of the rapid commodification of these gaming spaces that transformed them into a major business for the software industry.[130]

Figure 3

Fig. 3 Galaxy 1971 Computer Space Advertisement, 1971

Welcome to the 2nd Level

After the digital game revolution emerged as an experimental interface, it was captured by software companies, who converted the digital game experiment to an entertainment software product. Within a decade, games became a big profit-maker for the software market. The first attempt to commodify digital games for home use was the *Magnavox Odyssey,* a home console launched in the market as the first 'closed-circuit

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[130] Hafner and Merkoff 1991: p.68.

electronic playground'[131] for commercial use. However, due to bad marketing that gave the impression you had to buy a Magnavox television in order to use the console, *Odyssey* never became successful.

Figure 4

Fig. 4 'We make staying home fun.' Odyssey Magnavox© advertisement, 1980

With the arrival of the Graphical User Interface (GUI) in the 1980s, the command code became hidden and, as Kittler has argued, the new technological culture changed from hardware complexity to a software-friendly system design. According to Kittler, although the simplicity of the GUI provides an attractive interface for the user, it actually restricts the number of operations that the user is able to perform, a process that predetermines a passive user position.[132] However, for the game industry and gamers, the new PC era was a period of user creativity, piracy, and hacking. The reasons were three-

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[131] Magnavox Odyssey TV Commercial.

[132] See: Kittler 1997.

fold: 1. gamers were not experts, and didn't need to modify their computer's functioning, 2. PCs had limited restrictions on illegal operations, such as hacking and copying a game, and 3. while mainframe computers required a complex code language, writing a game for the PC was not as complex. Thus, with the arrival of companies such as Commodore - Amiga, Apple and Amstrad, the GUI entered into the digital entertainment market and relocated digital gaming as an open commodity of self-programming and copying.

Figure 5

Fig. 5   Amstrad 6128 Advertisement. Amstrad© Archive. 1980

This transition of digital games - from console-based units to personal computing - generated a further opening of the digital code, one that gave rise to 'do-it-yourself' coding subcultures whose members expressed themselves through the computational image. Initially, however, the introduction of home consoles blocked the first DIY gaming sub-cultures in universities, due to the restrictions placed on code access by the

gaming industry. Home gaming consoles in the 70s were designed to prevent any creative programming by the gamers and promote the simple pleasure of gaming. However, by the 80s, games are not only produced by designers, but the digital code itself opened out to the hands of the users. This is the first 'release' stage of game code, and it marked the de-territorialisation of 'intellectual' designers into a process of autonomous production and modification by computer users. Gamers of these PC game machines wrote and modified games by altering the programmed code, altering the aesthetic elements of the game such as colours, design, and rules. They even built new games, the gamer turns into a programme designer. Julian Kucklich, in his study of digital games, has defined this process of modifying games as 'playbour,'[133] a term that describes both the work and entertainment aspects of this process. This voluntary activity was initiated by the gamers' desire for experimentation and for reducing the cost of gaming technology. Contrary to television or film, the game market adopted the methods and ethos of the DJ, and also of the hacker, by allowing the mixing and modification of existing code. The gamer was no longer the passive user of a television screen, but an active user of personalised production machines.

Gaming in the 1980s was a non-hierarchical, non-centralised process, without any central mediation. This non-hierarchical process unlocked an educational plane, as the user was now a designer and a programmer; concurrently, it transformed the game market as a whole. The game and the computer became a commodity, supported by books, magazines and copy devices, with the added benefit of educating a generation for immaterial labour. In 1983, *Time* magazine wrote: 'Probably the most important effect of these games is that they brought a form of computer into millions of homes and convinced millions of people that it is both pleasant and easy to operate: 'user friendly.'[134]

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[133] Kučklich 2008 : p.16.

[134] Time Magazine 'Machine of The Year' January 3 1983: p.18.

Figure 6

Fig. 6   Cover of Time *magazine, January 1983. Time magazine© 1983.*

This subculture was soon captured by the market, which exploited these experiments as a free source of innovation for game production. However, in the mid 80s, due to inefficient management, overproduction, and extensive piracy, the game market started trembling on its foundations, and the digital gaming market seemed about to come into an end. Atari, Commodore, and Amstrad slid towards bankruptcy, and they carried with them the entire industry. The reboot of the game market had to come from somewhere else.

Nintendo, a Japanese company, lunched its 'Nintendo Entertainment System' (NES) gaming machine in 1985, and subsequently introduced itself into the

ailing game market. For a few years, Nintendo was the only successful company in the game market. That is, until Sega entered the market. Paradoxically, the game market rebooted itself, not from the university computer labs or from the hacking community, where it had developed, but from an artistic innovation. Post-war Japan developed itself by adopting technological advances from the west and mutating them into a new culture. In this context, gaming found an alternative territory into which it could rapidly spread. In the early 80s, digital game machines surpassed pachinko in popularity as it spread throughout Tokyo.[135] Japanese games, such as *Speed Race* (1974), *Gun Fight* (1975)*,* and *Pac-Man* (1980), became popular throughout Japanese society. Japan's long tradition of graphics, games, and painting heavily influenced the aesthetic style and the technical development of digital games. Influenced by the manga tradition, Japanese developers recreated gaming on a different plane: by adding characters, more complex narratives, and graphics, and extending the technical aspects of games.

For example, designers introduced innovations such as 'wrap-around' screens, a technique that allowed the avatar to move inside the screen, exhibiting a design that pointed towards a continuous game world. Wrap-around screens were designed as an escape from the screen's limitations, and introduced a gaming space of flexibility and constant movement. Instead of limiting the game's representation, the screen sets the limit of how gamers will navigate within these spaces, while also stressing its endlessness. The stylish vitality of manga culture and the technological creativity of Japanese designers continued to push the gaming market forward and by the early 90's, digital games had developed well beyond any other simulations. Within the next two decades, games gradually moved from their 2D format into a complex form of computational universe: a digitsed space pulsing and shifting in response to its algorithmic flows.

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[135] Kohler 2005: p.19.

This Is The Third Level. The Wheel Moves On

During the 1990s, digital games became everyday inhabitants of our media ecology, and an important feature of the rave counterculture that was flourishing during that period. Even though the Pet Shop Boys were celebrating the movement of the world to the West, game culture was moving in the other direction. Through the popularity of Japanese animation films like *Akira* (1988) and *Ghost in the Shell* (1995), digital games such as *Super Mario* (1988), *The Legend of Zelda* (1986), *Sonic* (1991) and *Megaman* (1994), as well as Role-playing Games (RPGs), such as *Final Fantasy* (1987) and *EarthBound* (1989), the 'Easternisation' of Western culture was experiencing huge success. Over the course of the 90s Sony, Sega, and Nintendo advanced the gaming interface, and by 2000, PlayStation (PS1) became the '*most successful console of all time.*' With increasing computing power and the decreasing cost of processors, the end of the 90s was the era of hardware development and 3D graphics, as well as Internet connectivity.

First-Person Shooter (FPS) games, such as *Quake* (1996) and *Doom* (1993)), were among the first that applied 3D graphics and Internet connectivity within the gaming consoles. This interconnectedness of games set the foundations for Massively Multiplayer Online Games (MMOG), like *EverQuest* (1999) and *World of Warcraft* (2004). However, online games were not simply a gaming innovation, they were also part of the emerging 'Information Superhighway' and the cyberspace of a globalised 'village,' a political and economic project from the 90s. Games participated in this wider creation of a new, globalised social space; they were a part of a new 'global village' of liberty and freedom of expression. Thus, by the end of the 90s, gamers became connected all over the globe, and the gamer's brain, the gaming digital image, and the material world became connected through fibre-optic cables into a single substance. Since this connectivity between different gamers is not just the expansion, alteration, or breakdown of reality. It was also the interface of the physical world with a virtual 'digitised' reality where everything becomes flexible - from identities and communities to time and space, and on towards how we imagine the world. Interconnectivity and flexibility were the

projects of the 90s, giving rise to cognitive capitalism and the heightened plasticity of the brain that it put to work.

In the first decade of the new millennium, Microsoft entered the game market for the first time with Xbox, and Bill Gates claimed he would 'amaze people with the power that's in this box.'[136] Power seemed to be the new buzz-word for digital games. However, it wasn't a technological power that transformed the game world, but rather a bio-political form of power, as the diagrammatic practices of bio-power and the gaming interface began to intertwine. In the new millennium, the gaming industries produced and imagined an ever-higher connectivity between the body and the machine. As Xbox entered the market with more technological power, Sony moved in another direction and started to experiment with new possibilities in game design and player subjectivities. For example, in 2005 Sony introduced Eye Toy, a new pod for the PS2 console that aimed to create a higher connectivity with the gamer's body by enabling motion and sound detection. The surprise, however, came from another direction. Nintendo lost its market power after the arrival of PS1, due to bad marketing tactics and a lack of creativity. However, when the Nintendo Wii was released it became the leading game machine in the market. Wii was not a technologically powerful machine, like Xbox and PS3, but Wii's wireless kinetic pad offered the possibility for gamers to direct the on-screen actions with their own bodily movements. Nintendo's Wii was about the corporeal interface, as gamers could now play with their entire body, performing various motions such as training exercises, driving, or Kung-Fu fighting. Increased connectivity to the game world now seemed to be more important than technological power. As Miyamoto, in his interview for BusinessWeek, states, 'the consensus was that power isn't everything for a console. Too many powerful machines can't coexists.'[137]

In June 2009, Microsoft followed Nintendo's marketing strategy and introduced Project Natal, a peripheral for Xbox, which connected the physical body with the gaming interface. For Sony, however, the future of gaming was not in the new design of a

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[136] Schiesel 2003: '*Some Xbox Enthusiasts Microsoft Didn't Aim For.*' New York Times, July 10. http://www.nytimes.com/2003/07/10/technology/some-xbox-enthuasiasts-microsoft-didn-t-aim-for.html.

[137] Miyamoto 2006 cited Van De Bergh 2013: p.95.

gaming-body-in-movement, but in the design of a gaming brain. Neuro-feedback, as an alternative mode of gaming from traditional touch pads, seemed to be the next step for the game industry. While access to neuro-gaming is currently limited, neuro-devices and software are slowly becoming available. Other digital game companies, such as Nintendo and NASA, recently introduced bio- and neuro-feedback game software for home use. One of the most well-known examples of a neuro-game is *MindBall* (2009),[138] a game that involves two gamers who compete according to their relaxed state.

Figure 7

Fig. 7 MindBall *2009 by Interactive Product Line.*

The game is simple and the goal is for the gamers to concentrate and become more relaxed, as one of the gamers becomes more relaxed, the ball moves towards his opponent's side and scores. The game ends when a gamer manages to move the ball all the way to end of the table. Another example of a biofeedback game based on relaxation

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[138] 'Brainball - Cassils Vs. Choi.' http://www.youtube.com/watch?v=oBeGv_x4Tbs&feature=related

is *The Journey to Wild Divine* (2003).[139] This game encourages gamers to relax while there are moving within a 'meditative' gaming world. The aim of this game is to make the gamer increase his relaxed state and learn to manage his levels of anxiety and concentration. Relaxation and reflection are, in this way, trained and capitalised for a better economy of health.[140]

The prospect of neuro-feedback games opens up the ability to train fast, immaterial workers without cost. Neuro-flexibility has become the new capital and the gaming industry has obliged by producing more flexible gaming subjects. Through the evolution from First-Person Shooting perspectives to the introduction of neural gaming devices, the nature of our existence, the chemical functioning of the brain, and the development of consciousness are all moving towards the ubiquity of neuro-functions. This technological subjectivity now occupies the interface of the digitised social machine, signifying a paradigm shift in the fields of digital gaming. This is a contemporary social machine that over-codes the brain according to its own imperatives and logic, and represents them on the screen. This neuro-gaming is the creation of a virtual and flexible spatial organisation that, in the form of mental prostheses, produces a new gaming architecture, calculated and designed in terms of neuro-functions. Gaming architecture now extends gaming design from a Euclidian geometry to a topological one.

From Dada Universe to a Compressed Metropolis

In *Neuromance* (1984), William Gibson imagined a computerised world that would replace game joysticks with neuro jacks connecting mind to data and replace the abstract 2D graphics of the arcade games with 3D, virtual reality of sensory data that can be shared by all users. The essential concept in Gibson's description of digital virtuality is 'cyberspace': This is a cyber space composed out of digitsed corporations and markets.

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[139] 'Wild Divine Game Tour.': http://www.youtube.com/watch?v=7xp86W9ZAMw

[140] While in recent years many neuro and bio-feedback games have been produced by the gaming industry for commercial use, until now they have been used mainly for medical treatment.

This 'space,' he argues, is 'consensual hallucination,'[141] not static and metric (Euclidean), but dynamic and plastic (Riemannian), a non-space of the mind. The idea of cyberspace as the reality of the future occurred to Gibson in the 1980s while he was watching teenagers who were immersed in arcades. Gibson was amazed by 'the physical intensity of their postures' and the way that they 'clearly believed in the space the games projected.'[142] What Gibson discovered is that gamers imagined that they are competing within an actual space, 'a faith that gamers share with everyone who works with computers.'[143] Influenced by the gaming culture, Gibson imagined a future biosphere where a digitsed gaming reality[144] is going to be the global interface for a deregulated corporate free market. This digital world emerges from a gaming space that has turned into a massive market which has immersed the brain within its realism.

'*Another world is possible*' was a popular activist slogan after May 1968. However, within the digital image regime, this slogan seems to have tuned to a different register, as a motto for digital games. The gaming industry endlessly creates other possible worlds composed out of future cities, mythical landscapes, and underground worlds. The evolution of the gaming industry's attempts to construct an architecture of gaming worlds was not only a process of imagining and designing a code that would represent the real world. It was also a process deeply connected with the whole hardware industry and its technological expansion. For example, in the Apple II, Steve Jobs introduced multimedia through the game, *Breakout* (1976), as he wanted to introduce games in the personal computing culture.[145] So, game development relied on the software market and its imaginative realities, as well as on the development of hardware, in particular, micro-chip technology. It was an industry that was driven primarily by what we could call the 'military-entertainment complex'.

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[141] Gibson 1984: p.51.

[142] Gibson cited in Cavalaro 2000: p.272.

[143] ibid p.272.

[144] In his book, Neuromancer, 1984, Gibson writes: 'The matrix has its roots in primitive arcade games' said the voice over 'in early graphics programmes and military experimentation with cranial jacks." (Gibson 1984: p.51.).
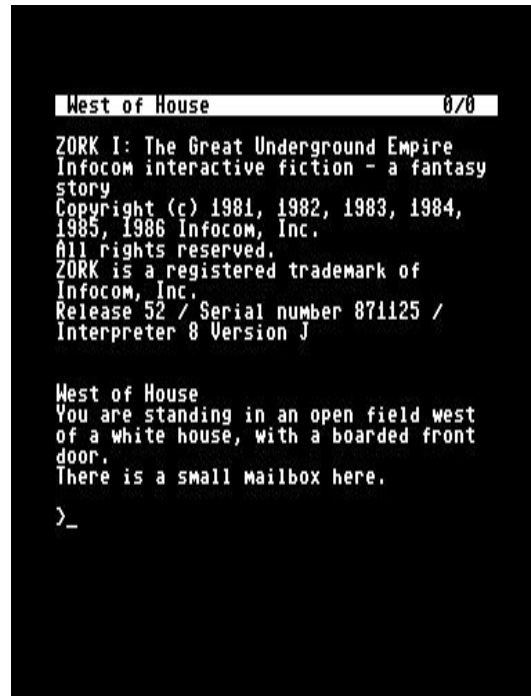
[145] See: Golbderg 2001.

A Universe of Abstraction

In the early 1970s, the first gaming 'virtual worlds' were shaped by a combination of abstract graphics and text-based narratives. It was a static architecture, merged out of information that organised a universe through a digital code. These games were mostly based on abstract graphics, representing a two-dimensional fantasy world, enclosed within an algorithmic space. Everything was reduced to mathematical calculations and abstract representations, where different lines defined the gaming cartography. Within this abstraction, there were no clear graphics, leaving the construction of this new universe to the gamer's imaginative process and extend the gaming experience. For example, games such as *Zork* (1977) and *Dungeons and Dragons* (1975), were an abstract mythical space of text-based worlds with a minimal aesthetic style, aiming instead to immerse the gamer within its algorithmic space through its abstraction .

Figure 8
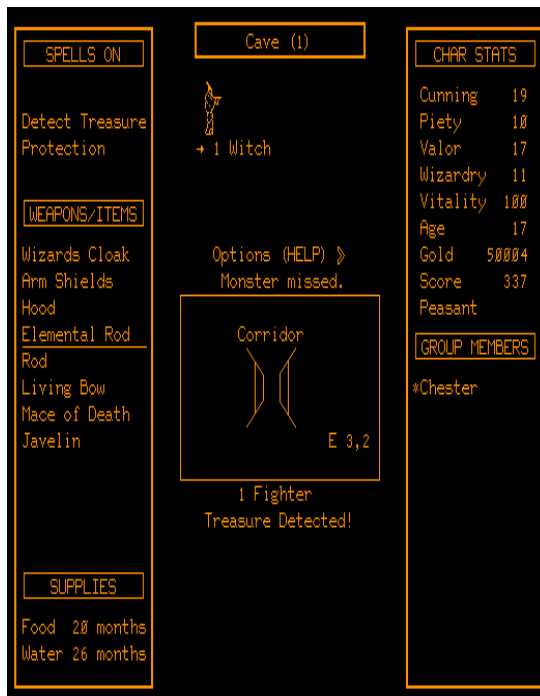
Fig. 8 a) DnD *1975 by Wisenhund*   *b)* Zork *1979 by Infocom Developers*

The main motive for designing these simple textual graphics was the technological limitations of the electronic display devices, as well as the restricted amount of processing information by the hardware. Mark Wolf, in his essay, 'Abstraction in Video Games' (2003), writes:

> The video game began with perhaps the harshest restrictions encountered by any nascent visual medium in regard to graphic representation. So limited were the graphic capabilities of early games, that the medium was forced to remain relatively abstract for over a decade. Gradually, as technology improved, designers strove for more representational graphics in game imagery, and today they still continue to pursue ever more detailed representations approximating the physical world.[146]

Due to these technological limitations, first-generation gaming architecture was mainly designed and actualised within an abstract assemblage of digits and algorithms, an architecture that was 'purer than any that exists in the real universe.'[147] This was a static architecture, based on images of movement and expressed within a Euclidean geometry, where points are fixed in an empty space, in order to define it.

All games of that period of time, such as *Pong* and *Space Invaders*, were designed within the rules of Euclidean geometry, where pixels are positioned in an empty, static space in order to represent objects. This metaphoric architectonics nevertheless enabled the user to intuitively find a connection between the abstractions of the game world and the coordinates of the real one. In the early 1980s, however, the gaming interface went through major transformations, as hardware processing advanced and game designers were able to improve their graphics. *PacMan* is one of the early 80s examples, typifying the movement away from text-based games into a design of channels and flows. The gamer is now positioned within a visceral space of endless competition, in which *PacMan* has to eat and run in order to survive. The game space itself, nevertheless,

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[146] Wolf 2003: p.47.

[147] Poole 2000: p.116.

remains static, offering no escape from the consuming realities (ie., the reality of consumption) of the game. 'Run and consume in order to survive' is the ideological architecture that is developed throughout the mid-80s, and any attempts at resistance or escape from this world (including virtual suicide) are going to lead you back to the same screen, to the same all-consuming, digitised realities. In *PacMan*, 'you are always escaping the ghosts, but you are also always on the threshold of being caught and forever trapped in a maze.' [148] This second phase of game architectonics was not about imagination and freedom, but a 'prison' of control. You have to learn to discipline the PacMan body to become a proper consumer, in order to create profit (score); otherwise, its body will be recalculated, turning itself into a product for consumption. It was a gamespace arranged as a prison, and as such it represents the ideological ideals of cyber-consumerism.

Figure 9

Fig. 9 PacMan 1980 by Namco and Midway Developers

The consuming prison was not the only model for the gaming industry of the 80s. In contrast to *PacMan*, the game *Tron* (1982), transports the gamer inside the 'prison' of

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[148] Gunzel et. al. 2010: p.16.

a computer, into a digital war machine where 'programmes' and 'users' are engaged in a constant competition between humans and avatars. *Tron* is an action game that requires the ability to master high-speed movements through the development of cognitive skills and responses. More significantly, *Tron* presents a clash between information and real space, since it was one of the first games that tried to mutate the game architectonics into those of a city. For example, the first level starts with the architectural plan of a city that is fused with the blankness of cyberspace (Figure 10). In *Tron*, a digitised city is the new model for gaming, and cyberpunk realism has become its aesthetic style. Here, 'cities no longer have a geographical location, and a cyberspace terminal acts as a gateway onto the virtual plane of digitalism.'[149] The first phase of the gaming city is a dark holographic universe, still recognisably Euclidean in its appearance, showing how cybernised cities will look in the future.

Figure 10

[149] Land and Plant 1994: p.3.

Fig. 10 Tron, 1982 by Bally Midway.

If games like *PacMan* and *Tron* make sense by designing the space in a metric order to construct a gaming world, the next generation of gaming architecture turns away from this topographical arrangement of point-to-point connections, in favour of extensive multiplicities. In this kind of architecture, 'history and geography are subsumed within a topology that tends toward a continuous field of equivalent and exchangeable values that are instantly communicable everywhere.'[150] Such spaces represent the cybernisation of life, and consist of urban topological zones that synthesise consumption and war. This transition brought together two different developments: the innovation of graphic technologies so they can construct and apply three-dimensional game spaces, and the implementation of a new type of immersion in the game world.

Processing Architecture

Due to the technical innovations of the 1990s, the third generation of gaming consoles offered a more open-ended and transformative architectural image of 3D structures. Now, instead of moving horizontally through a 2D world, games featured the 3D topology of First-Person Shooting perspectives, setting a new mode of aesthetic expression. This aesthetic organisation and its coding design would become a strategy for immersing users into the gaming realities of the future.

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[150] Wark 2007: p.056.

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Throughout the 1990s, gamespaces were gradually designed in terms of what could be called the 'urbanisation' of the game. Gaming no longer takes place in Dada worlds of abstraction, it is subsumed within the art of realism and structured around cyber cities and war machines. As noted by Dyer-Witheford and De Peuter, it was 'distinctive to the early 1990s, that gaming established the city as an international game development centre over the next decade.'[151] These digitised cities no longer have an 'organic' past, but build a digitally transmitted future that is simulated and algorithmically constructed upon the topology of a fluid substructure that the Japanese architect Toyo Ito defines as an 'increasing image of flux.' For Ito, the digital emerges as a new regime of architecture that encompasses and crosses two diverse bodies. First, there are 'our material bodies which are a primitive mechanism,'[152] while second, we experience the emergence of a contemporary kind of body, composed out of electronic information. This is the development of a digitised urbanisation, where digitised topologies recreate and re-design the city as a gamespace. This space that is curved, distances are distorted, meaning that getting from point A to point B requires negotiating multiplicities of specific singularities of which the gamer is a part. It's a liquid architecture that displaces the gamer from the Euclidian conditions of space.

With 3D graphics, gaming architecture passes beyond topography towards the topological, 'neuro-image'[153] of a cyber city, and a first-person perspective becomes its main navigational strategy. By introducing the First-Person-Shooter perspective, the gaming industry encloses the gamer again within the walls of endless competition, only now she is imprisoned within a liquid architecture of calculations and algorithmic intensifications. The gamer must now navigate and discover the whole cityscape, as all rules and gaming objectives are tracked down within this flexible architecture. We have to explore every part of the city and find the right paths that are required to win theee game. This is the architecture of *Wolfenstein, 3D* (1992)*, Doom!* (1993)*,* and *Quake* (1996)*,* where the eye of the gamer is a camera, moving 'nervously back and forth

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[151] Dyer-Witheford & De Peuter 2007: p.42.

[152] ibid: p.145.

[153] Pisters 2012.

through the space on the screen.'[154] In FPS games, the perspective of the image overlaps with the viewpoint of the gamer, producing what Shaviro describes as an 'affective regime of vision,'[155] achieved by expanding the boundaries of the subjective shot. These action sequences are a composition of long shots and close ups, as well as an interchange between subjective and objective views. They are an aesthetic paradigm that rests upon the technological aspect of graphic speed: an accelerative process of algorithmic intensifications.

Cities now 'mutate into techno-jungles'[156] composed of accelerated images that are arranged within a dynamic topological space of flux. This architectural design creates a kind of 'new mathematical sublime,'[157] as we lose the horizon of any real space in this vast digitised image of infinite algorithmic calculations. These gaming designs are determined by the logic of war and by the development of militarised information technologies that take speed as their main condition. In Paul Virilio's view, digital technologies gives us an experience of the logic of 'speed,' which expands our consciousness inside the war machine of digitalism.[158] Due to this militarised logic of digital interfaces, game action in the 1990s revolves around a weapon (for example, the machine-gun in Doom!) and the industry increasingly reproduces the 'battlefield.' The post-Cold War architecture of gaming is not an abstract Euclidean world that aims to extend the reality of war, but the production of a city space that is navigated by an armed individual and composed out of dynamic, topological images of action.

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[154] Shaviro 2010: p.46.

[155] ibid p.62.

[156] Land and Plant 1994: p.2.

[157] Shaviro 2010: p.45.

[158] Virilio 2006: p134.

Figure 11

Fig. 11 Doom! *1993, Id Software.*

Toward the end of the 90s, game designers expanded the way we reinvent cities, creating a more financial representation of its gaming model. Gaming cities of the new millennium are twisted into an affective map, functioning, not as a topos for the commons, but as a cyber-factory with its own production lines, logistics, and human resource management. This real-world management of cities started to constitute a new cyber-realism, as the city-state of Miami in *Vice City* (2002)*,* or the multitude of personalised capitals produced in games like *SimCity* (2000). What distinguishes these cyber gaming cities is the fact that they represent how a city functions as a space for the commons and they provide an interface to think and simulate how capital works within the logic of urban life.

Figure 12

Fig. 12　SimCity 2000, by Maxis and Electronic Arts

SimCity, for example, is structured and designed according to the logic of finance, as every aspect of life is calculated and controlled within an economic system. *SimCity* is a game that does not possess a dynamic mathematical design, as in FPS games. Rather, it presents us with a static image where every action is internally calculated by the gaming code and appears as different levels of economic production. To achieve the normal functioning of *SimCity,* now and in the future, we have to perform statistical calculations to make predictions concerning population growth, industrial production levels, labour productivity, or whatever other kind of financial data are necessary to preserve its normal function. *SimCity* is a game that does not represent a space of exploration or military combat, but one of pure finance. The gamer is subjectified by this economic rationality to become a responsible subject, to take care of all aspects of the city's economic life in order to maintain equilibrium and prevent any financial crisis.

These financial cities weren't designed as spaces for the commons, since city life is not imagined as a communal experience, but as purely economic process where

everything has to be calculated and controlled. Public spaces are no longer spaces of political interaction, but simply exist as expressions of their economic conditions. Over the next decade, however, this model of the city as a cyber-factory is going to pass into a new dimension, leaving behind its localised identification and moving into the cyber-network of a global Metropolis.

Digital Realism – A New Metropolis

If the 1980s gave us colours and the 'abstract' graphics of 2D diagrams, and the 1990s provided a liquid topological architecture, then the millennium offers us neuro-images, emerged in the digitised flow. The cities created throughout the 90s are now extended into a global metropolis. This is produced and conceptualised as a global network of flows, or 'Cyber-Metropolis,' that makes the entire game into a sort of mega-city in the shape of a universe. The cyber-metropolis moves the gamer on a further immersion in which the organic relations of a material city-space are digitally re-developed and topologically re-arranged, producing a fast, economic, and digitally transforming landscape: a contemporary urban info-sphere.

This metropolis is the evolution of the entrepreneurial city, where de-industrialisation and financial reductions force cities to act more like markets and industries, securing their future state through management and financial strategies. In the new millennium, gaming cities are still run according to the rules of capitalism, but their politics are increasingly given over to business interests and users are forced to navigate within the contemporary city spaces of consumption.[159] The geographer, Mike Davis, in his book, *Beyond Blade Runner: Urban Control, The Ecology Of Fear* (1992), notes that the aim of neo-liberal urbanism 'is to mobilise city space as an arena for both market-oriented economic growth and for elite consumption practices, while at the same time securing order and control among an 'underclass' population.'[160] Davis argues that the American metropolis actualises itself within the closed world of the 'tourist bubbles' that

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[159] Brenner, Peck and Theodore 2005: p.24.

[160] Davis 1992: p.11.

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exemplify an entertainment-oriented type of urbanity defined by consumption. At the same time, its actualisation appears through the topological design of the 'electronic culture economy, with the city creating its own virtual double through the complex architecture of information and media networks.'[161] The gaming city expands into the metropolis, into a mass virtual market of image consumption as the digitised webs of gaming structures become more fluid and dynamic.

While in the 90s the simulated spaces of games were representations of space, the new millennium forces us to navigate the endless gaming image regime of a massive cyber city that, through the advanced use of 3D graphics, allows gamers to experience a very dynamic sensation of movement. For example, games such as *Mirror's Edge* (2010) and the *Assassin's Creed* (2007), series represent a paradigm of this digitised flexible movement. The city-space represented in *Mirror's Edge* has a design of a massive game space, where the gamer is a courier who must negotiate it while moving within its structures. In *Mirror's Edge,* designers extended the previous forms of city gamespaces by accelerating movement and turning all the economic thinking into a process of absolute speed. The logic of the war machine or the financial cities designed in the 90s is now extended by a new economic mode, based entirely on reflection and intuition. Even in states of pause, the gamer only observes, and he is ready to intuitively face the next target. Economies are not any longer based on rational decisions through the implementation of a managerial thinking, but have become entirely reflexive. Within these dynamic 3D structures, the city has become a space of continuous reorganisation where gamers have pay attention to its dynamic movements and act in an instant, forcing the sensory-motor-perceptual schemas to overpass their normal functions and respond intuitively to gain the score needed. The New cyber-city requires its citizens to implement intuitive game-thinking to survive. Intuition has been exploited, subsumed, and organised within the topological diagrams of digital gaming economics. These digital images unfold and fluctuate, producing the new form of life known as 'Homo Ludens,'[162] placing and defining its populations as gaming citizens who must endlessly compete in

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[161] ibid p.26.

[162] Huizinga 1970.

order to survive. The new gaming metropolis is designed as a techno-market of cyber capital (score) and it is populated with subjects who are organised as speed-up managers of the future for the real world market.

Figure 13

Fig. 13 Mirror Edge 2010, by DICE

This is a cityspace that resembles the architectural design of the movie, *Tron: Legacy* (2010), where competition and flexibility define the gaming conditions and virtues. The abstract worlds of imagination and freedom found in the early games are now re-organised by the gaming industry into images of endless competition and acceleration, forcing the brain to rewire itself within its fluid structures. Whereas the first movie, *Tron* (1982), presents the game city to us as an imaginesed digitised Dada city-space that is crafted from the surrealistic expressions of an abstract world, *Tron: Legacy*

is removed from such an abstraction towards an accelerating rhythmic image of a gaming metropolis.

As we have seen, the gaming culture of today is the project of a technological development found on two main diagrams: one based on the autonomous production and the performative of playbour and the other, creative imagination of the gaming industry and its ability to produce and immerse gamers within multiple forms of digitised cityscapes. The advance of computational thinking and its investment in a design that's based on the city of the future, has produced a major transformation in the gaming enterprise over the last sixty years. Within digital gaming design and architecture, this transformation is associated with the emergence of real-world computation and is an approach to design-thinking based on a junction between biology and the non-standard geometry of topology. By leaving behind the principles of Euclidean geometry, game design has instead adopted a specific form of thinking that relies on the capacity to imagine and design a new digitised space that are actualised within its dynamic, fluid structures. Life now becomes altered, mutated, and formed through the digitised programming produced by the cybernetic game. A new 'cybernetic brain' has been installed, affecting all of 'life' with its systemic thinking.

CHAPTER 3

DIGITAL MACHINES – A BRAIN INTERFACE

Introduction

Following the genealogy of the previous chapter, this one will trace the roots of the digital interface and its relation to the human brain, which historically acted as its primary model. By looking at the development of cybernetic theory, we will see how the technological project of computer culture constantly borrowed concepts from biology and neuro-science, setting up an exchange that wasn't limited to a 'metaphorics,' but marked the emergence of the 'becoming-biological of digital culture.'[163] From the time of early cybernetics on, the computer modelled biological examples in a technological context and oriented itself towards the brain and its systems of nerves. Since the 1950s, computers have been defined as 'organisms' and CPUs as 'brains,' terms signifying how the design of cybernetic machines have been based on the biological aspects of human brains. This process has been one of continuous communication, explanation, and understanding between systems theory, the design of digital interfaces, and the human brain.

This chapter will move from the first period of cybernetic thinking that was initiated after the Second World War, to Deleuze and Guattari's theory of a 'machinic life' from the 1970s, before discussing the years of personal computers and the emergence of the cyborg in the 1990s. From the beginning, the development of computerised machines is affiliated with scientific knowledge about nature and life. By following Deleuze's ontology of machines, we can understand the coupling of humans and digital machines as an exchange of specific scientific knowledge between biology and cybernetics, but also as an event that re-organised our bodies and brains through its digitised rhythms and new logic of sense. In these terms, the relation of the human brain to cybernetic machines outlines the crucial bio-political realm of contestation defining our age of cognitive capitalism.

In the second part of this chapter, I will discuss theorists such as Friedrich Kittler, Bifo, and Nick Land, and their views on the digital image and its connection to the logic of late capitalism, focussing on the post-industrial practices of mediation assigned by

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[163] Parikka 2007: p.121.

neo-liberal ideology. Through these theories, I will map digital interfaces and their code structure onto the wider set of relations connecting the social sphere and the software industries. In my reading, these theories share an approach that regards our digitised society as a control mechanism operating on the level of affection and sense. In this dystopian theory, the cybernetic interface produces malicious positive feedback loops which capture attention and affection, and gives rise - as Kittler, for example, suggests - to an ideal consumer. I will argue, however, that this cybernetic relation must be taken as the point of departure for an ethical understanding of gaming software and its affective relations. This can help us to move away from the apocalyptic narrative that sometimes surfaces in these theories, in which (for better or worse) digital culture is imagined to be a rampaging cybernetic machine, subsuming all humanity.

By taking a more optimistic approach to gaming, I will propose an ethological perspective as an alternative way of understanding digitalism. While the structure and processes of the brain are absorbed by cybernetic mechanisms of control, this affiliation also provides an opportunity to approach the brain, the programming code, and the physical plane of Nature by acting within immanence. This Spinozian view does not involve a detachment of the natural and artificial, but instead implies a constant interaction between them. This lack of any distinction between the artificial and Nature is the basic condition of my ethological approach to gaming, because it allows us to focus on how bodies of software are defined, how they are contextualised as feedback systems, and how such bodies are organised as gaming spaces. From these questions, we will move to a discussion of the ways gaming theories perceives gaming design as a topological space of 'machinic enslavement,'[164] and how we can see topology as more than a 'prison' of control; we can begin to view it as a method to create new lines of thought and new ways of 'gaming the game.'

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[164] Deleuze and Guattari 2004: p.506.

Deleuze and Guattari, in Thousand Plateaus (2004), assert that the emergence of new technological machines have initiated a complex, mediated landscape of images and communication networks where subjectivity is now formed by coded machinic movements and translations. Within this complex network of cybernetic machines, subjectivity has been enslaved within a mathematical model of coded structures that are producing a form of a social subjection.

A New Interfaced Brain

Level 3 – In the Future Nothing Human Will Remain

Digital media studies often emphasise the idea that, with digitalism, the nature of life has changed and a radical disruption has been made with the past. This is a technological alteration, expressing the movement from analogue to digital technology, which has transformed the mode of production and consumption within contemporary societies. In other words, it is believed that the new cybernetic machines and their coded organisation have managed to alter, not only our how we interact with media, but life as a whole.

Nicholas Negroponte, in his book, *Being Digital* (1996)*,* argues that the digital evolution is marked by the 'use of bits instead of atoms.'[165] For Negroponte, the main qualities of digital technology are acceleration and flexibility, and these decode all aspects of society under their own rhythms and system of logic. Digital technology is, however, far from being purely a movement into the future, as Negroponte assumed, because it also involves a re-territorialisation of the past and an imprisonment of the past by the present. Servers, networks, and memories form the cybernetic brain. This is a formation of a technological culture that mutates the body and machine, as well as nature and technology, into a unified process of emergence.

Historically, digital media discourse seems to be structured around a variety of metaphors, representations, and analogies between digital machines and organic structures. 'The television screen is the retina of the mind's eye. Therefore, the television screen is part of the physical structure of the brain,'[166] notes Prof. Brian O'Bilvion in *Videodrome* (1983). In the age of digital interfaces, this biological analogy has been

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[165] Negroponte 1995: p.11.

[166] Videodrome 1983.

reformulated within the concepts and notions of systems theory and hardware devises. As Jussi Parikka notes, in his genealogy of computer viruses:

> If the ninetieth century era of early media was intimately tied to experimental psychology and the measuring of the reaction times and perception thresholds of the body, the post–World War II rise of the digital media culture was embedded in a new valorisation of experimental biology.'[167]

Within the historical development of systems theory, the connection of biology and technology has been expressed on various levels. For example, a universal cybernetic machine that would be structured according to the model of the human brain was a constant aim of both von Neumann[168] and Alan Turing, who also designed his own cybernetic model, called an archetype of the brain. In his theory of computer architecture, von Neumann systematically uses terms drawn from neuro-science in his technical descriptions of computers. In his book, *The Computer and the Brain* (1958), von Neumann extends this analogy by directly connecting the biological functions of the brain with his design of cellular automata. Here, von Neuman outlines a physiological affiliation between computer functions and the biological aspects of the brain. He states: 'The organisation of large digital machines are more complex than analog computers.'[169] For von Neuman, cybernetic automata follow the same rules as biological systems and, therefore, it is feasible to construct a cybernetic brain, inasmuch as 'brains are, themselves, distinct state machines.'[170]

Distinct state machines were cybernetic models designed by Allan Turing to produce a system that could adapt according to its associations with other devices. So, any Turing machine is able to simulate any other Turing machine through communication and decoding. Von Neumann assumed that human neuron cells operate as discrete state

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[167] Parikka 2010: p.124.

[168] Von Neumann engaged with cybernetic theory and the way that technical systems can process information by self regulating their own mechanisms, in order to maintain the stability of their function.

[169] Von Neumann 1958: p.29.

[170] Von Neumann 1945: p.387–389.

machines, as in Turing's cybernetic model, since they function by self-regulation, reproduction, and through infinite connections with the outside. He writes: 'neurons of the higher animals are definitely machines with discrete equilibria. They have an all-or-nothing character that inhabits two states: quiescent and excited.'[171] This analogy marks two basic assumptions about the brain: first, that neurons function according to the qualities of a discrete state machine; second, that the brain perceives and computes information through its own system of symbolic significations. Hence, for von Neumann, the brain, as a specific decoding mechanism, is, in fact, a Turing machine that has the ability to connect with, and simulate, other Turing machines. However, von Neumann notes that, while digital machines act according to the logic of binary coding, the brain encloses a more complex and sophisticated system because its programming code combines both analogue and digital components. For example, a neuron contracting a muscle includes both analogue and digital systems. They are, von Neumann writes, 'processes which go through the nervous system and change their character from digital to analogue, and back to digital, etc., repeatedly.'[172] For von Neuman, while the function of a neuron may be viewed as digital, their productions - muscle contraction - may be comprehended as analogue. Though von Neumann recognises that, in his model, this notion of the brain acts as a metaphor to represent certain physical qualities, he sees this generalisation as having a merely quantitative lack of information, not as being qualitatively different from the actual functions of the brain.

Although these ideas connecting the brain and the machine emerged historically within the field of cybernetics, in the next decades, a philosophically informed thought moved into a cultural notion of the machine. This emergence of the field of media philosophy ultimately gave rise to Donna Haraway's concept of the cyborg. Informing her work, Deleuze and Guattari's writing from the 1970s expanded the notion of the machine to describe all kinds of processes that establish and maintain relationships between institutions and subjectivities. While Negroponte and von Neumann maintain a metaphorical or analogical sense of the machine as an organism, Deleuze and Guattari

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[171] Von Neumann 1973: p. 388.

[172] ibid p.388.

saw the machine - or more accurately the 'machinic' - in automatisms of all types. First we have the Oedipal machine, followed by other machines, such as the social machine, the economic machine, and cinematic time-machines. But, what are cybernetic machines? What defines them? From Deleuze's perspective, the question is not one of essence: 'What is a machine?' Rather, it is a question of function/relation and a question of specific compositions, movements, de- and re-territorialisations.

Deleuze and Guattari develop their own notion of machinic functions as a way to disposition it from its mechanical description and position it as an open, dynamic force that does not enclose a permanent identity. They write:

> What a mistake to have ever said the id. Everywhere it is machines ,real ones, not figurative ones: machines driving other machines, machines being driven by other machines, with all the necessary couplings and connections. An organ‑machine is plugged into an energy‑source machine: the one produces a flow that the other interrupts. … Something is produced: the effects of machines, not mere metaphors.[173]

Machines are relational entities that endlessly produce themselves and communicate with the environment that they work in. For Deleuze and Guattari, machines are ecological systems that only exist within their connections. As a result, machines are not just functional systems; they are relational machines that are always open to the potential for de-territorialisation and reorganisation. Claire Colebrook writes: 'In *Anti-Oedipus* (1983) and *A Thousand Plateaus* (1980), Deleuze and Guattari use a terminology of machines, assemblages, connections and productions ... A machine, however, is nothing more than its connections; it is not made by anything, is not for anything, and has no closed identity.'[174] A machine that both constructs and expresses its constituent relations in terms of its transformation (becoming), and not its final identity,

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[173] Deleuze and Guattari 1983: p.12.

[174] Colebrook 2002: p.56.

is what Deleuze and Guattari term an 'abstract machine,'[175] or diagram. For Deleuze and Guattari, machines are abstract when their diagrammatic structures do not function as static processes of reproduction, but as dynamic processes of transformation.

In these terms, a machine is nothing more than the different relations that it establishes and actualises. The abstract machine is the diagram of this actualisation, organising multiple singularities together into 'assemblages.' Guattari refers to abstract machines as 'montages, capable of relating all heterogeneous levels that they traverse.'[176] In this sense, Deleuze and Guattari perceive machines as dynamic diagrams that organise the actualisation and functionality of different assemblages, but they do not have a deterministic function, since different events will always force them to create new connections and disconnections.

So, how is the human subject organised as a machinic structure and how is its machinic organism is maintained? Is it constantly under crisis while surfing within the virtualities of digitised gaming? According to these notions of a machine, the human body is constructed by the specific ways we are defined and governed within societies. Within the social machine that we live, bodies are organised within a binary system of oppositions that is both violent and categorical, and exceptions will not be tolerated. Deleuze and Guattari write:

> 'You will be organised, you will be an organism, you will
> articulate your body otherwise you're just depraved. You will be signifier
> and signified, interpreter and interpreted, otherwise you're just a deviant.
> You will be a subject, nailed down as one, a subject of the enunciation
> recoiled into a subject of the statement otherwise , you're just a tramp.'[177]

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[175] Deleuze 2006: p.32. In his book on Foucault, Deleuze defines the diagram or the abstract machine as ' the map of relations between forces, a map of destiny or intensity which proceeds by primary, non-localisable relations, and at every moment passes through every point, or rather, in every relation, from one point to another.' (Deleuze 2006: p.32.).

[176] Guattari 1995: p.35.

[177] Deleuze and Guattari 2004: p.76.

While bodies are themselves formed and act according to these binary modes of (organ)isation, they also simultaneously challenge their identity. The body contains its own internal force for creating autonomous assemblages which allow it to move within non-binary directions. These new potentials are actually movements that resist the social organisation of the body, in order to create the 'Body without Organs,' a body that is not an organisation of the organs, not an organism. This 'body,' however, is always being re-territorialised, reconnected within the feedback systems of our social and subjective machines. One such mechanism of this process is software organisations, which stratify our 'gaming body.' In this sense, the gamer as a 'Body Without Organs' marks an important site of contestation within the bio-politics of the present. The 'Body without Organs' has become, in our information control societies, the site of instrumentalised intensity, as well as an affective map of possible mutation. We can understand this gaming 'Body' as an extension of the mediated subject, as described by Deleuze, in his book, *The Time-Image* (1989), an extension in which the production of interactive digital technologies led to a reorganisation of the subject by engaging it within a fluid network of cybernetic subjectivities.

The Cybernetic Brain

Nick Land writes, in his essay 'Circuitries' (1992) :

The high road to thinking no longer passes through a deepening of human cognition, but rather through a becoming inhuman of cognition, a migration of cognition out into the emerging planetary techno-science reservoir, into 'dehumanised landscapes … emptied spaces,' where human culture will be dissolved. Just as the capitalist urbanisation of labour abstracted it in a parallel escalation with technical machines, so will intelligence be transplanted into the purring data zones of a new software

world, in order to be abstracted from an increasingly obsolescent, anthropoid particularity, and thus venture beyond modernity.[178]

In Land's view, the emergence of computerised machines in the 1990s marked the release of subjectivity from its human form (the body) and its emergence as an inhuman process of endless feedback loops. This evolutionary path of the brain is not just a technological process, but the project of an 'experimental inhumanism.'[179] This anti-human project is achieved through the submission of human subjectivity to the economic conditions of capital and technology, allowing the digital machine to 'rip up political cultures, delete traditions, and dissolve subjectivities.'[180] For Land, computers do not just mimic brains, they accelerate them to the cybernetic speeds of late-capital and open them onto the sublime vistas of 'dehumanised landscapes … emptied spaces.'[181] Thus, for Land, digital technology does not just redesign the humanised brain model; it offers a revolutionary (if still neo-liberal) escape route from humanity itself.

Conversely, Patricia Pisters, in her recent book, *The Neuro-Image* (2012), identifies the 'neuro-image' as a new type of cinematic image which has been produced within digital culture. In her work on digital cinema, Pisters argues that the neuro-image separates itself from its relation to physical reality by producing a new type of cinematic image which represents different cognitive schemas, intuitions, and affective realities.[182] Cinematic machines, Pister's argues, no longer try to represent a natural world, but our brains and their cognitive processes. The neuro-image does not present us with an analogy between the computer and the brain, but instead appears as the materialised form of mind. So, the new digitised cinematic regime is a simulation of a 'cyber mind,' a physical reality that includes both corporeality and information. This is, for Pisters, a complex symbiosis, in which digital actualities produce their own durations and mutate

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[178] Land 2011: p.293.

[179] ibid p.365.

[180] ibid p.338.

[181] ibid p.293.

[182] Pisters 2012.

with perception, making the brain and its neural functions the expressive regime of digital culture.

Following Pisters argument that the digital image is not only a technological development, but presents a new mode of the structure and the function of the brain, I will describe how the creation of this 'cybernetic brain' acted as a mutation of life with computer culture. The question then will be how digital culture, as the creation of a new interface brain, affects the way that we perceive and act in the world. To adopt the words of Deleuze, the question is how 'the brain is the screen.'[183]

Even though Deleuze's ontology of cinema doesn't analyse digital images and the emergence of a digital techno-aesthetics, at the end of, *The Time-Image* (1989), he identifies the changing relationship between analogue cinema and the electronic image of video. Drawing on Edmunt Chouchot, he describes the electronic image of video as 'numerical,' an image no longer based on successive analogical movements, but on a system of cybernetic feedback. Couchot, in his essay, 'Image Puissance Image' (1984), describes the shift to a cybernetic image that through its continuous exchange of numerical principles, actualising an electronic space of two dimensional structures. He writes:

> An image composed of small, 'discrete' fragments or elementary points, to each of which can be attributed the memory of a computer and capable of being translated through the form of a video or whole numerical values that position each of them in a system of spatial coordinates, in two or three dimensions. These numerical values render each fragment into an entirely discontinuous and quantified element, distinct from other elements, on which is exercised a total command. The numerical image manifests as a matrix of numbers contained in print image.[184]

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[183] Flaxman 2000: p.283.

[184] Couchot in Deleuze 1986: p.58-59.

For Couchot, the new regime of video signifies a radical movement from the analogue cinema, as it is not the film or the camera that produces the image, but the 'screen itself constitutes an opaque, an intensive surface of information on which data are inscribed.'[185] Within this electronic matrix, there is no centre anymore, since electrons perform disjointed movements distorting any linear expression. This new cinematic organisation has destroyed the linear movement of the analogue image by rearranging it within the chaotic electronic signals of endless quantum jumps that, instead of producing a chronological and rational order, turns numerical images into objects of a continuous re-organisation. The screen is no longer a window on the world, but has now become a machinic centre of autopoietic indetermination. Couchot sees the electronic image as a cybernised machine that is designed in terms of circuits, feedback loops, and information flows, and which operates at a purely ordering level. The numerical image evolves mathematically, rather than representationally. Its semi-closed assemblages are not metaphors, but autopoietic, coded programmes. As a cybernised system, the numerical image of video screens takes the cybernetic qualities of feedback loops, in order to present a programmed world and prevent it from falling into errors. For the numerical image, errors are actually a managerial problem that blocks the transmission of signals and disrupts its structure. Disturbances and errors have to be controlled through feedback loops of electronic circuits, in order to maintain the control identity of the video system.

With the emergence of processing technology, screen culture rearranged itself around a new type of cybernetic organisation, that of an image that is no longer founded on the numerical expressions of electronic signals, but on an internal movement of information that takes place within the system of codes and circuits. However, even in this, digitised programming model, an absolute level of control cannot be secured by the machine itself. Its coded function often produces errors that generate overflows of coding calculations, causing a system to become disorganised and crash. Digitised systems demand constant care and protection from their users if they are to function properly and preserve their mechanical identity. The risk of 'infection' is high when the whole of computer culture is about designing, programming, and 'engaging with bodies of various

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[185] Deleuze 1989: p.265.

sorts (from software to hardware, and from protocols to operating systems).'[186] Since the digital interface necessitates constant actions of correction and care to insure its integrity, it has created a mechanical world of Artificial Life.

This process that embedded different forms of care practices within computer culture started in the 1970s, at a time when computers were becoming an essential element in society. At that time, the brain was no longer just a model for designing the interface, it actively re-presented, actualised, and performed itself within the digital network of computer screens. For example, in the 1980s, Commodore's advertising campaign was launched around the idea of the computer as a 'Mind Machine.' (Figure 14) Picturing a computer in place of the head of a man, the advert promised that the Commodore PET will solve all the managerial hitches for a binary businessman if you 'Let it Mind Over the Matters in Your Life.' The new manager is a cyborg-construction that has his mind computerised and his body controlled through binary calculations. 'They are everywhere you look, bodiless brains, breathing down your neck and controlling your desires. Where do they come from, how do they replicate, how can I get one, why do they look human?'[187] A few years later, Apple created an advertisement where the computer has become biological by turning into a new protein for the brain. (Figure: 15) The new interface of the digital world presents itself as 'living' or 'organic' entities, occupying the position of a whole range of cultural objects and activities, from intelligence to life. This synthesis of life and machine does not suggest that digital machines have become biological machines, but rather that digital machines and life have mutated together into contemporary power- and knowledge-structures. Bio-political strategies are now designed and exercised through the interface of digitised algorithmic calculations, as biology and life are now perceived, explained, and actualised as computerised processes.

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[186] Parikka 2007: p154.

[187] Leeson cited Parikka 2007: p.182-183.

Figure 14

Fig. 14   'Mind over matters'. Commodore Advertisement.

Figure 15

Fig. 15 'Bite For Byte' Apple Advertisement. Apple© Corporate Archives.

From early on, computer science moved between the technological design of cybernetic machines and the model of brain. In his study of computer viruses, Jussi Parikka shows that the technological design of computer culture always 'borrowed' concepts from biology. This exchange, Parikka argues, does not 'fall under the notion of 'metaphorics;' but it can also be approached as a more fundamental becoming-biological of digital culture,'[188] whereby biology and computer sciences are conjoined. What we experience with the development of digitised machines is a constant mutation of Life within the science of cybernetics. The brain now interacts with the world through technological means, and digitised interfaces are folded within the brain and its synaptic structures, forming a common plane of immanence. 'The brain is the screen' is, to finally answer our earlier question, the manufacture of the mediated subject, the updated (digitised) affirmation that we cannot differentiate between the brain image and the cinematic one, because both exist as thought appearing in the 'break between action and reaction.'[189] Deleuze says:

> 'The brain is unity. The brain is the screen. I don't believe that linguistics and psychoanalysis offer a great deal to the cinema. On the contrary, the biology of the brain — molecular biology — does. Thought is molecular. Molecular speeds make up the slow beings that we are. (…) The circuits and linkages of the brain don't pre-exist the stimuli, corpuscles, and particles that trace them. (…) Cinema, precisely because it puts the image in motion, or rather endows the image with self-motion, never stops tracing the circuits of the brain.'[190]

For Deleuze, the brain and the screen have an endo-symbiotic relation, a folding together that constitutes, as Luciana Parisi put it, 'a heterogeneous biosphere of evolution.'[191] The brain-screen of our interfaced existence is not an organism, but a diagram of signs that affect the brain in new ways, extending how we sense and feel. A

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[188] Parikka 2007: p.121.

[189] Deleuze 1986: pp. 19-20.

[190] Flaxman 2000: p.283.

[191] Parisi 2004: p.141.

model of bio-info production is evolving, producing new synaptic structures in the brain. As Shaviro notes: 'The more the images are flattened out and distanced from their representational sources, the more they are inscribed in our nerves, and flash across our synapses.'[192] In the current phase of our cybernetic screen culture, the plastic structures of the brain mutate and are re-designed through being incessantly coupled with digitised images. Gaming, as a certain principle of this cybernetic image production, is a post-Fordist immaterial factory, enclosing the brain within its cybernetic circuits and modifying the skills of these factory workers to be 'flexible' functional subjects for production within the networks of digitised screens. Flaxman and Lambert write, in their article 'Ten Proposition on the Brain' (2002):

> The future (of the) brain seems, at this point, to be determined by the opposition between organic and cybernetic. We might employ Deleuze and Guattari's terminology to say that while the human brain is deterritorialised onto the circuitry of the cybernetic brain, the cybernetic brain is simultaneously re-territorised onto the human brain. Consequently, the human brain has begun to wander through the wider circuits and pathways of the computer — even to the point where the distinction between human and cybernetic is blurred, if not dissolved altogether.[193]

Design is no longer connected with a divine. Design is now the substance of software systems that insure discipline, control, security mechanisms, and everything else that chains the future to the past. Digital technology keeps on accelerating: MMO games unite gamers all over the globe, gaming graphics become faster as the industry adopts increasingly sophisticated algorithms to analyse, control, and forecast the gamer's brain and his actions. What we now face is 'a symbiosis of desire'[194] between technological, biological, and spiritual actualities. Cultural and biological properties mutate within the

[192] Shaviro 1993: p.20.

[193] Flaxman and Lambert 2002: '*Five Proposition Philosophy and Science Share a Brain*' Journal of Neuro-Aesthetic Theory #2. http://www.artbrain.org/five-propositions-on-the-brain/.

[194] Pasquinelli 2008: p.151.

diagrammatics of gaming software that organise our new interfaced egos, our (for example) 'First-person Shooter' horizon. Avatars, emotions, and affections are multiplied and extended constructing a cybernetic subjectivity within a digitised, coded reality.

The Code In The Shell

The Code Is Hacked. The System Is Under Attack

From the 16-17th centuries on, there is an expansion and multiplication of codes: law codes, marine codes, economic codes for capital regulation and control; a whole new, socially coded territory emerges. Previously, the code was connected with the divine and the mystical, when laws were received directly from the Gods as ritual codes, codes that can break reality and connect the human with the divine. Then the code became governed by society and the state. It was demystified, created by the human, for the human. After the Second World War this code was computerised and design became virtual, invisible, 'imperceptible, immaterial, and coded.' [195] Our society has turned into an endless encoding machine. Deleuze and Guattari note that the main purpose of any society is to over-code all the flows of desire. Deleuze and Guattari argue that capital, as our current social machine, decodes all the levels of desire under an economic system of profit.

In the world of media theory, some theorists read our new digital world in terms of a new ontological condition, while others explain digital code as a contemporary form of language. Friedrich Kittler, for example, perceives digital code as the language of computers that has eradicated of old languages and texts and earlier forms of artistic expression and experimentation, turning them into systems of control. For Kittler, Graphic User Interfaces present an example of such a system of control, inasmuch as it is a strategic language that is imposed by the computer industry. In his essay, 'There is No Software (1995), Kittler argues that digital industry hides the meaning of hardware by emphasising the meaning of software, in order to avert any alteration and modification to the system's structure. He writes:

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[195] Kittler 1997: p.151.

Software hides the hardware. Instead, the physical Church-Turing hypothesis, by identifying physical hardware with the algorithms forged for its computation, has finally gotten rid of hardware itself. As a result, software has successfully occupied the empty place and profited from its obscurity.[196]

This marketing strategy started when the hardware industry decided to secure the code of the Intel's 80286 processor, restricting any access to its users, a technical restriction that marks a key moment in the growing inaccessibility of hardware under a hidden programming language. This is, in Kittler's terms, the organisation of a passive user/consumer that is trapped within the industry's design, and limited to only a certain number of products. Kittler proposes a form of resistance that requires digital users to become programmers and technicians, able to manipulate hardware at all possible levels of abstraction. However, such a strategy can only succeed through a programmer's jargon, and Kittler sees no way to escape this form of control. All we can do is respond, in order not to disappear completely.

For Bifo, on the other hand, the code and its software organisation gave rise to an active, contemporary subject, typified by new psycho-pathologies. Bifo argues that digital code has produced 'psycho-cognitive mutations'[197] by positioning its users within an informational-affective system of management and control. Bifo argues that the speed of digitised systems produce radical changes in the human brain, as our bodies and minds accelerate to cope with the rapid flows of information through the interface. This is a new social territory that our current phase of capitalism produced, a phase that 'organises knowledge, affect, and other intellectual skills as a production force to be exploited.'[198] For Bifo, labour time as the post-Fordist condition of cognitive-capitalism has turned into an abstraction, suggesting that the value of work has also become indefinable.

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[196] ibid p.151.

[197] Bifo 2005: '*Bio-politics and Connective Mutation*', Culture Machines , Vol 7 . http://www.culturemachine.net/index.php/cm/rt/printerFriendly/27/34.

[198] Dyer-Witheford and de Peuter: p.38.

Most importantly, our immaterial economy created a condition in which we cannot define labour time and shaped a new intellectual class of workers, involving a fundamental transformation of the collective. For Bifo, the new immaterial factory that the digital code initiated has disconnected workers from the previous working environment of the factory. Labour is no longer organised within a collective environment, but has been enclosed within the disconnected territory of the screen. Whereas, for traditional Marxists, the homogenisation of work institutes a territory for the formation of a collective subject, the rise of immaterial workers has initiated a break of this unity. Bifo argues that this break has not only weakened old forms of resistance, but has initiated a new mode of exploitation.

In his book, *The Soul at Work* (2010), Bifo notes that the development of cognitive capitalism has produced an acceleration of neuro/psychic forces. Capital now not only tries to exploit working time and force, but also the psycho-sphere, which is the contemporary plane of production. He writes: 'Semiocapital puts neuro-psychic energies to work, submitting them to mechanistic speed, compelling cognitive activity to follow the rhythm of networked productivity. As a result, the emotional sphere that's linked with cognition is stressed to its limit.' [199] Whereas in Fordist production we faced an exploitation of our working time and the body's forces, now we have a constant exploitation of neuro-forces that creates the conditions for a degeneration of the soul into certain psycho-pathologies. As our society moves away from material- to immaterial-production and consumption, capital now tries to exploit workers' brains and their emotional life, rather than just their bodies. Workers today enter into a cyborg-becoming, where cybernetic war systems install themselves within human biology, undergoing a massive psyche security attack.

To escape this contemporary imprisonment of the 'soul,' Bifo suggests, requires a modification of speed. We need to slow down, retreat, and withdraw from this global

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[199] Bifo 2010: ' Cognitarian Subjectivation' , e-flux journal issue 20. http://www.e-flux.com/journal/cognitarian-subjectivation/.

delirium of digital capitalism, in order to create new autonomous zones in which we can create an alternative social realm. By turning to Buddhist practices, Bifo proposes a contemporary form of asceticism. What we must do is withdraw ourselves from the digital world, in order to overcome the pathologies that the digital code has initiated within our mental continuum. This can be successfully achieved, Bifo argues, through a process of meditational healing. In fact, Bifo sees, in the Buddhist meditation, a practice of retreat that is associated with happiness, love and compassion, a practice that can only be performed by disconnecting ourselves from the vicious realities of the digitised world.

Like Bifo, but with a more apocalyptic bent, Nick Land envisions the emergence of a new cybernetic inhumanity, a new and radically inhuman capitalism, whose cybernetic acceleration introduces a phase-change into history. It is a radical break through which the 'Outside' now reaches its true efficiency as mode of production. For Land, the cybernetic code is immanent to our bios and everyday life, and represents a mutation of the biosphere into a technosphere, where the coded structures of digital realities become the basis of an unleashed form of neo-liberal capitalism. He writes: '...after all, Capital-history's machinic spine is coded, axiomatised, and diagrammed by a disequilibrium techno-science of irreversible, indeterministic, and increasingly nonlinear processes, associated successively with thermo-technics, signaletics, cybernetics, complex systems dynamics, and artificial life.'[200]

The affirmation of the digital as a hegemonic machine of expression is something far darker and more sublime for Land than just a bio-political project. The coded cybernetic machines, he argues, have initiated an acceleration of the neo-liberal project of deregulation that in the end will utterly transform society. Land believes that this acceleration will destroy, not only the social reality that capitalism has initiated, but also our human existence. He writes: 'Capitalism is still accelerating, even though it has already realised novelties beyond any previous human imagining. After all, what is human imagination? It is a relatively paltry thing, merely a sub-product of the neural activity of a species of terrestrial primate.' [201] In their work, Deleuze and Guattari

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[200] Land 2011: p.445.

[201] ibid p.626.

suggested that we have move between speeds with caution in order to avoid annihilation, Land suggests instead throwing caution to the wind in an apocalyptic process of acceleration and de-territorialisation.

In our current condition of cognitive capitalism, we are captured within its cyber-positive loops which, in the end, extend the thresholds of our physical and intellectual capacities, but only through capturing these capacities and putting them to work. Society has become eco-extensive with the calculation machine of cyber capital, and only an internal or external error can liberate the cybernetic automaton. The gamer is ready to accelerate, to become, in Land's terms, the suicidal hero, clicking with frenetic speed until he achieves his own death. He will be forever *Doomed*! (1993), within the game-coded shell, finally satisfying all of the creative potentials of the gaming interface. We live within a digitised shell, where the First-Person Shooter's perspective, gaming, and work have integrated into the militarised subjectivations of a gaming life. We have to win in order to survive; otherwise we face a slow economic death. In order to avoid death, we have to learn to accelerate, be flexible, and respond efficiently at high speeds.

In gaming, as our model for cybernetic embodiment, we experience (according to Kroker's description of our coming virtual reality) a 'flight from the body to its non-organs, move to the digital dreams of becoming speed or becoming slowness,' then, at the same time, the egging-on of the virtual self 'by the anxiety of falling back into corporeality and into a body with (dying) organs.'[202] The gaming code and its image regime seem to have become the logic for survival in our time. They are a vital element in teaching us how we can achieve the knowledge and success allowing us to survive. The gamer's brain is organised by a predesigned algorithmic code that makes the rules and sets the tests by which we can pass onto the next level. Alexander Galloway observes: 'The gamer is not simply playing this or that historical simulation,' but at the same time is 'learning, internalising, and becoming intimate with a massive, multipart global algorithm. Playing means to play the code of game and winning means to know the system and interpret its algorithm or to discover the algorithm.'[203] For Galloway,

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[202] Kroker 1995: p.118.

[203] Galloway 2006: p.90-91.

gaming in the digital age is the diagram of a cybernised system of knowledge which, through its positive feedback loops, decodes everything from capital to work to affection to cognition. This decoding, gaming machine is composed out of an assemblage of algorithms that interact and predict, making gaming software not only an entertainment product for consumption, but also the actualisation of the software body of a system of knowledge that operates through a calculation of sense, in order to keep the gamer within its system of logic. But how can software have a body, and by which terms can we define software's body?

Ethology And Software

Spinoza's, *The Ethics,* defines a body as something beyond a merely static, human entity. Instead, it is a dynamic force, in a constant state of flux, reacting to the forces composing its environment. In this sense, bodies have no permanent substance, and are determined by their relational character as the sum of their affections, calculated according to their different modes of relations, such as motion and rest or speed and slowness. Deleuze writes that this process is 'a composition of fast and slow speeds of capacities for affecting and being affected.'[204] In this Deleuzian sense, speed doesn't refer to the acceleration of digital technology and culture, it refers to the intensive relations of movement that make up the speed of a particular body, causing it to become affected and to affect other bodies. This relational character of speed and slowness (longitude) creates a body composed from 'blocks of affects' or potentials for action and reaction in their relative environments.

The power to be affected separates into two qualitative layers: joyful and sad affections. A joyful encounter maximises the body's power to act, making Spinozian ethical practice an understanding of the various affects of different bodies (and exploring what a body is capable of) and selectively pursuing joyful encounters. This allows us to build our own ethics starting from our ability to distinguish sad from joyful passions,

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[204] ibid. p.125.

rather than applying a transcendent moral code. The more joyful affections one encounters, the more active power a body manifests, creating maximal efficiency in expressing substance as becoming. Sad affections are those which trigger suffering or bad conscience, limiting or disintegrating the body's power to act. Spinozian ethical practice is, therefore, an exploration of our capabilities because 'nobody as yet has determined the limits of the body's capabilities: that is, that nobody has yet learned from experience what the body can do, without being determined by mind, solely from the laws of its nature insofar as it is considered as corporeal.'[205] A practical application of this theory means that joy is the practical guide to ethical experiments and knowledge comes from recognising what is common from one body to another. The act of living, for Spinoza, aims towards pursuing this practical philosophy to reach a greater, more enjoyable vision.

In *Thousand Plateaus* (2004), Deleuze and Guattari define Spinozian ethics as an 'ethological' study of the different modes and expressions of affect. They write:

> In the same way that we avoided defining a body by its organs and functions, we will avoid defining it by Species or Genus characteristics; instead we will seek to count its affects. This kind of study is called ethology, and this is the sense in which Spinoza wrote a true Ethics.[206]

Spinozian ethology is, therefore, a kind of empiricism founded on constant experimentation with affects and with the relations we form to different types of bodies. This empirical process is, as Simon O'Sullivina notes, 'a call to experiment, following from a general ethology (a theory of bodies as composed of relations of speed/slowness and capacities to affect and be affected).'[207] This ethological empiricism is nothing less, Deleuze and Guattari say, than a physics of life.[208]

In ethological terms, the notion of the 'body' does not refer only to a human body,

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[205] Spinoza 1994: p.105.

[206] Deleuze and Guattari 2004: p.283.

[207] O'Sullivan 2008: p.93.

[208] Deleuze and Guattari 2004: p.257.

but to any form of organisation or being, whether it is organic or technological. [209] Deleuze's ethology considers all things as natural, as ' Artifice is fully a part of Nature , since each thing, on the immanent plane of nature , is defined by the arrangements of motions and affects into which it enters, whether these arrangements are artificial or natural.'[210] In these terms, we cannot separate between artificial and natural because all entities are composed from one substance.

Adopting an ethological approach to digital gaming allows us to view its coded organisation as a body formed from an assemblage of differential calculations and as a potential of ethological experimentation. This is an interface that interacts and affects other bodies. In this sense, gaming software is not just the product of a coded language, as Kittler suggests, or an endless process of positive feedback loops which capture and control the whole being. Gaming code is defined by its speeds, slowness, and different modes of experimentation with its affective modes. This suggests that the digital games and their coded organisations are not determined only by the internal functions of their control system. They can be perceived as an interfaced reality where bodies are expressed, folded, interact and sense, guided by the affective capacities and different modes of interaction that the gamer initiates and performs. This interactive mode places gaming within a topological space of virtual interaction instead of on the static plane of Euclidian geometry.

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[209] Deleuze writes: 'You will define an animal, or a human being, not by its form, its organs, and its function, and not as a subject either; you will define it by the affects of which it is capable. Affective capacity, with a maximum and a minimum threshold, is a constant notion in Spinoza.' (Deleuze 1988: p.125.).
[210] ibid p.124.

Topology and Gaming

Civilization (1991),[211] inscribes itself on the world through the stratification of space by grids, networks, and boundaries. This is a gamespace of civilisation, but, in reality, space is never organised in such terms, belonging to many dimensions where gods, spirits, and Buddha's manifest themselves. Borders are illusionary, as they always appear within a chain of cause and effect, and so are impermanent and unstable. In *Civilization,* however, boundaries define the nations, properties, and actions of a 'civilised' gamespace. You have to work, collect taxes, militarise your citizens, and create zones of workers and street-crossings. In *Civilisation,* the cities are designed to perform different modes of actions: here is where you can create, but not here; here you can govern, but not there; and here you need to access the war machine in order to pass. This coding and decoding of signs establishes a space of governmentality[212] where economics and laws are exercised, expressed, and enacted in a gaming space.

In media theory, gaming images are often characterised as 'narrative spaces'[213] or as 'gamespaces.'[214] These are spaces that are not simply representational, but are also experienced, sensed, and traversed. For example, Salen and Zimmerman, in their book, *Rules of Play: Game Design Fundamentals* (2004), argue that digital games are 'spaces of possibility,'[215] since they are characterised by an alteration of physical space by an algorithmic and virtual one. They note that the pleasure of gaming in these territories emerges from these algorithmic spaces of possibility, which are the centre of communication between different social and cultural expressions. In other words, gaming spaces are not only spaces designed for entertainment but also form a socio-cultural

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[211] *Civilization* is an Empire game designed and the goal is to find the ways in order to extent and maintain your Empire.

[212] In chapter 4, I analyze Foucault's theory of governmentality in further detail.

[213] Jenkins 2004. The term 'narrative architecture' introduced by Henry Jenkins as a term to describe the basic functions of digital games. Jenkins argues that games are basically narrative machines as they immerse us within a story telling environment.

[214] Wark 2007: p.02.

[215] Salen and Zimmerman 2004: p.6.

context and, therefore, are not closed territories of 'impermeable, hermetically sealed'[216] gaming worlds. Rather, they are a dynamic site in which different socio-political forces are always under negotiation. Salen and Zimmerman argue that the interaction of these open spaces is creative and transformative since, by engaging with these gaming spaces, gamers form autonomous zones of meaning by articulating certain socio-cultural principles that are part of 'real life.' Thus, the gaming space is not just a construction of mathematical calculations, but a virtual space that embraces meta-gaming practices that are performed beyond the game's design.

However, Wark describes gaming images as the formation of a 'gamespace.' In his book, *Gamer Theory* (2007), Wark presents an abstract genealogy of digital gaming by analysing gaming under three different historical categories. He introduces a triad of terms: '*topic, topography, and topology,*' in order to describe the transition from the 'real world' (topic), to that of the analogue technological regime (topographic), and on to its transformation into a digitised gamespace (topology). In his third chapter, Wark presents an example of the diagrammatic structure of space as a topography that has been established though the technological 'lines' that were formed in the early process of modernisation in America. Wark presents America's modernisation as an important phase in its historical development, where railway construction workers extended America's geographic topography by creating a new technological map of communication. This is a social diagram founded on the geometrical lines of topography, which is a cognitive cartography that positions citizens in a specific time and space.

Wark then tries to establish a movement beyond topography by introducing topology as a concept to describe the movement from the geographical location of communication technologies to the immaterial plane of the digital. If topography functions as a geographical diagram that connects different geographical locations with communication technologies, topology moves away from such a point-to-point diagrammatic structure by establishing an a-centered network within a virtual dimension. He asserts that, with the development and expansion of gaming interfaces to encompass

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[216] Jones 2008: p.14.

all of society, 'history and geography are subsumed within a topology, which tends toward a continuous field of equivalent and exchangeable values, instantly communicable everywhere.'[217] Wark argues that while analogue diagrams are a movement between time and space, the digital opens the possibility of jumping between points in space that are disconnected from time. In this algorithmic architecture, the geometrical point is no longer in a fixed position, but becomes a curve between points in a spatio-temporal twist that cannot be observed, only experienced. Wark claims that games, like *Grand Theft Auto* (2002), are examples of this topological experience of space. What we experience in the topological spaces of these digital cities is 'a utopian dream of gamespace, where the lines are so dense, the digital so omnipresent, that any and every object and subject is in play, and all of space is a gamespace.'[218] Gaming's topological realities, therefore, reduces our experience of space to that of the game, making us unable to distinguish between real spaces and the gaming ones; everything has become a gamespace. As a result, 'the game has not just colonised reality, it is also the sole remaining ideal. Everything is evacuated from an empty space and time, which now appears natural, neutral, and without qualities – a gamespace – and every action is just a means to an end. The only thing that counts is the score.'[219] For Wark, there is no way to wander out of the system of the gaming interface, because we, as gamers, are trapped within the topological prison of the gamespace. But what is topology, and in which ways are the spaces of gaming imagery defined as topological?

For Wark, topology is merely a categorical term describing the technological shift from the analogue to digital regime. But this shift is not just the design of another form, but also the formation of a space where gamers are captured, subjectified, and controlled. For him, topology is a mathematical boundary, and in its mathematical sense, it describes the movement from a Euclidean notion of space to a Riemannian one. While Euclidean geometry presents space as a void where points occupy distances in a metric manner, in its topological sense, space becomes non-metric, because when we examine a manifold of

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[217] Wark 2007: p.56.

[218] ibid: p.118.

[219] Ibid: p.8.

points, space is filled with singular, curved and plastic multiplicities. In this way, digital images are dynamic and curved, rather than formed from a continuous line of movement between fixed points. This construction not only constitutes the opening of dynamic, interactive, digitised topologies, but also the unfolding of a diagram of the flows of corporeal actualisation where gamers are subjectified, and where they sense through the cybernetic brain-screen of affection-perception-action.

While Wark's description of topological space is fine, as far as it goes, Deleuze and Guattari understand topology as more than a mathematical model. They also view it as a method that emerges from their notion of the virtual as a differential mechanism that creates passages between notions and allows the production of the new. [220] Topology, therefore, produces new coordinates that can be used for the study of a body that occupies different 'species of spaces,' such as elastic spaces or digitally produced spaces and, most importantly, that moves from virtuality to actuality. In this sense, topology does not just present the mathematical boundary that Wark described, where gamers remain captive within its topological curves. It also facilitates a method to move forward, one that generates passages between concepts and new paths, leading to the production of new thoughts, new affections, and new sensibilities. At the same time, this kind of new thought presupposes the need for new senses and new kinds of perceptions: a new and superior empiricism that tries to re-evaluate the connection between the actual and the virtual. As a result, topology as a method expresses the need to create a new gamer. The *gamer* has to compose new diagrams, and find herself as an affirmation of becoming within that process.

As we have seen, the brain has historically acted as a metaphor and a model for the design and construction of digital interfaces. This exchange not only produced a cybernetic brain with its own virtualities, it also produced a biological mutation by which the brain became the primary point for control and production. In our age of cognitive

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[220] Deleuze quoting Simondon writes: 'The image no longer has space and movement as its primary characteristics but topology and time. Topology is the study of those properties of geometric forms that remain invariant under certain transformations, such as bending, stretching, folding. To belong to interiority does not mean to 'be inside', but to be on the 'in-side' of the limit.' (Deleuze 1990: p.104.).

capitalism, work and free time cannot be divided in the way that Marx argued. Gamers in the digital age offer their labour by learning and mastering the interface and becoming an important part of the digitised economy. This process has a long history in gaming culture, which has always acted to educate and organise the gamer of the future. This educational process included a series of different tactics of subjectification and subjectivaton, which gamers had to perform in order for the emerging economy of cyber capital to be actualised.

CHAPTER 4

THE GAMING AUTOMATON

Introduction

While the previous chapters focused more on the technological aspects of gaming, this chapter will explore the development of gaming culture from the side of gamers and examine how the gaming industry perceived and organised the gamer as a gaming automaton. What we can identify in the historical development of digital gaming culture is that bio-political *dispositifs* for the management of life are not only designed and imposed by governments, but also by the gaming industry. Through marketing and software design strategies, this control was internalised within the gamer, turning it into a performative praxis of self-governance. If the software industry, in the historical formation of gaming, succeeded in controlling the gaming automaton, it is due to an operation of 'continual state control' that Foucault argues was 'produced in pedagogical, juridical, economic, and familial domains' [221] and defined certain gaming actions as normal and healthy and others as harmful. Arcades, moding, autonomous production, and other elements perceived as actions that had to be controlled and regulated. The gaming process became described and realised in terms of being a drug, and gaming was described as the behaviour of an 'automaton' that automatically responds to the addictive rhythms of the digitsed image. The addicted gaming automaton had to be controlled and subjected to a wide series of guides, demands, regulations, and self-care practices that had to be exercised in order for a responsible 'user' to be actualised. This tactic for the organisation of a gaming body was a continuous process of governance imposed by the gaming industry and society, forcing the gamer to 'play' according to the rules of the cyber economy in order to survive. This process for organising a proper gaming body was established in cooperation with market interests and social norms present in that era. As a result, each historical phase in this chapter will be mapped according to the specific forces constructing its gamer, in turn, as an entrepreneur, an image consumer, a cognitive labourer, an outlaw gamer, and a responsible user.

This chapter continues the genealogical study of computerised gaming culture

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[221] Deleuze 2006: p.26.

by exploring the tactics and self-care practices that gamers applied and performed, arguing that these gaming practices inform a bio-political projection of a neo-liberal form of governance. Foucault, in his lectures, *Security, Territory and Population* (1978), and in, *Birth of Bio-politics* (1979), uses the concept of governmentality to diagram various notions of governance, extending from ancient Greece to the economic rationality of neo-liberalism. In these lectures, Foucault studies how the 'arts of government' were historically perceived and organised as a 'strategic engagement with governmental problematics specific to the given period.'[222] Foucault's objective was to make a clear distinction between the concepts of 'government one's self' and that of 'governance by the state.' As Lemke notes, in his essay, 'Foucault, Governmentality, Critique' (2002), the notion of 'governmentality' allowed Foucault to relate the notion of government and the way it is exercised within society, and to examine the modes in which the act of governance is actualised, by paying attention to 'the close link between forms of power and the processes of subjectivation.'[223] Importantly for us, Foucault affirms the difference between the notion of government as a form of governing others (subjectification) and as a way of governing one's self (subjectivation). This difference concerns, the strategies that were applied to control and govern populations and impose security and the set of practices that individuals performed upon themselves, as a way to govern themselves.

In his lectures on *Security, Territory and Population* (2009), Foucault turns his study of governmentility towards neoliberalism as a form of governance whose main objective is to govern through an economic rationality. Foucault finds, in the historical formation of neo-liberalism, an ideology, placed on markets and privatization, that developed at the same time as the technological expansion of computerised networks and digitised interfaces. Foucault argues that, as the apparatuses of the liberal state were upgraded, privatised and digitised, government changed from a disciplinary system that applied its rules and values from outside its subject to a system of internal and self-legislating controls designated as 'neoliberalism.' Within this system of governance the

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[222] Zebrowski 2009: p.1.

[223] Lemke 2002: p.50.

subject, Foucault argues, is no longer defined as '*homo juridicus*,' but as '*homo economicu*s,' subjectified and organised by the economic notions of profit and self-regulation. Foucault asserts that neo-liberalism is, in fact, founded on a new technique of govermentality, or a new regime of truth, where society is governed by an economic logic. Within this new political rationality, the 'free-hand' regulating the market turns out to be the new method of control, 'which means that political theory finds itself subordinated to a new body of knowledge: 'economy'.' [224]

Foucault notes that the neo-liberal modes of govermentality are no longer based just on a disciplinary system of regulations and laws, but on the financial notions of interest rates, profit, and competition. In this way, the neo-liberal mode of governance moves towards flexibility, de-centralisation, and privatisation. However, this does not simply suggest an absence of governance, but rather a movement by the State from examining, monitoring, and disciplining the body to a private process of self-formation and self-supervision. Populations are no longer regulated as a society, but as individuals who constantly calculate their personal 'choices' according to economic criteria and values. Nikolas Rose, in his article, 'Governing Advanced Liberal Democracies' (1993), writes; 'all aspects of social behavior are re-conceptualised along economic lines, as calculative actions undertaken through the universal human mechanism of choice,'[225] and choice is articulated by a rational calculation of costs and benefits.

Foucault, at this point, makes a careful distinction between the 'Austrian' and 'Chicago' schools of neo-liberalism. In his lectures on neo-liberalism, Foucault explores the Austrian post-war tradition of neo-liberal ideology, which places its emphasis on the law of market. Opposing liberals who believed the state has to act as a monitoring and regulatory mechanism to maintain the equilibrium of the market against monopolies and other illegal operations, Austrian neo-liberals argued that the state had to act as a security mechanism, by protecting market competition. This view of the state as a market security mechanism was based on the belief that the state is dysfunctional and, therefore, unable to offer to its citizens the economic means for prosperity. The

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[224] Foucault cited Wallenstein 2013: p.24.

[225] Rose 1999: p.141.

Austrian school, however, recognised that the market is unpredictable and, therefore, it demanded a constant supervision by the state, a 'permanent and multiform interventionism.'[226] With the Chicago school, the market is no longer perceived as an unstable product that required constant intervention by the state. Rather, it was perceived as a natural construction whose laws not only regulated the market, but the whole social sphere. For Chicago neo-liberals, all aspects of society had to be realised, explained, and decoded in economic terms. These market laws, nevertheless, had to be secured by the state, since humans are irrational subjects that need control and regulation. The good citizen has to understand his actions according to economic rules and norms, in order to contribute to the public good.

In both schools of neo-liberal government, we have a sense of political and ethical 'truth.' This truth is that the individual's self-supervision results in the maximum of public good, but still needs to be monitored and, to a certain extent, regulated by the state. In this sense, the State still maintains 'responsibility,' even if the conditions of responsibility have changed. For example, when the technologies of self-care imposed by individuals fail, then disciplinary legal mechanisms are introduced to keep populations under control. So, in neo-liberal form of governance, the individuals who fail to be 'responsibilised' through self-governance, or those who violate the economic equilibrium, are subjected to various disciplinary mechanisms. As Mitchell Dean, in his book, *Governmentality, Power, and Rule in Modern Society* (1999), notes: 'while it aims to govern individual "freedom," exercised as a self supervision, it also employs various and heterogeneous forms of power to establish a comprehensive normalisation of social, economic, and cultural existence.'[227] This suggests that neo-liberal forms of governmentality produce subjects who are 'governed from a distance,'[228] through a combination of different control and disciplinary mechanisms. So, neo-liberal ideology instituted a process of self-regulation and self supervision that was, for Foucault, not the end of the bio-political governance as exercised by the liberal

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[226] ibid: p.130.

[227] Dean 2002: p.129.

[228] Rose 1996: p.14.

state, but the union of a market regulation of society with more traditional juridical mechanisms of sovereignty and discipline. By emphasising 'self-care,' neo-liberal ideology expresses responsibility for its subjects, while at the same time renouncing it. Foucault writes:

> I think that the uncoupling of the market economy and laissez-faire policies was achieved, or was defined, at any rate, its principle was laid down, when the neo-liberals put forward a theory of pure competition in which competition was not presented as in any way a primitive and natural given, but as the very source and foundation of society that only had to be allowed to rise to the surface and be discovered, as it were. Far from it being this, competition was a structure with formal properties, [and] it was these formal properties of the competitive structure that assured, and could assure, economic regulation through the price mechanism. Consequently, if competition really was this formal structure, both rigorous in its internal structure but fragile in its real, historical existence, then the problem of liberal policy was precisely to develop, in fact, the concrete and real space in which the formal structure of competition could function. So, it is a matter of a market economy without laissez-faire, that is to say, an active policy without state control. Neo-liberalism should not therefore be identified with laissez-faire, but rather with permanent vigilance, activity, and intervention.[229]

While sovereign power in neo-liberalism is exercised in terms of self-control, it also initiates state disciplinary mechanisms and forms a mode of governmentality that is founded on a mixture of disciplinary mechanisms and individual self-care practices. Thus, neo-liberal forms of government not only applied 'indirect techniques' for monitoring and governing individuals 'without also being responsible for them'[230] they also impose direct laws by constant state monitoring.

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[229] Foucault 2010: p.131-132.

[230] Lemke 2002: p.12.

Gaming The Subject

What Gaming Lets You Make It To Level-4?

Early, non-commercial games developed out of large mainframe computers and university computer labs, which is perhaps why early commercial games did not appear on the market as a product for youth culture, but as an 'adult entertainment commodity.'[231] Erkki Huhtamo, in his genealogical study of gaming, explains that this marketing strategy was the result of continuity between the existing mechanical games and early digital ones. He writes:

> Video game arcades were direct descendants of the game parlors. The transition that took place during the 1970s was gradual. Mechanical and digital game machines often existed side by side, as photographs from the era demonstrate. There existed a continuity, rather than a rupture, between electro-mechanical slot machines and video game machines. Not only were the physical interfaces - joysticks, simulated guns, steering wheels, etc. - often used in earlier games, many game genres, such as driving simulators, shooting games, and sport and fighting games, already existed in pre-digital arcades.[232]

Even though arcades were plugged into the market as a product for adults, they soon capitalised on teenagers, who were fascinated by computer games as a new form of expression and socialisation. Gaming was no longer a physical event in schools or on the streets, but a computerised and abstract territory, where gamers could show off their cognitive skills, gain social status, or even 'trip' within the digitised abstractions of gaming. For a large part of society and the mass media, this new gaming was not an

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[231] Huhtamo 2005: p.21.

[232] ibid p.22.

innocent event, but a highly addictive machine which, with its digitised and frenetic speed, could drive the gaming automaton into insanity. As more teenagers were gaming, the dangers of digital addiction were expressed with increasing intensity. Parent groups that had previously monitored other modes of popular youth entertainment, such as comics and TV, now set themselves against arcades, claiming that computer games cultivated addictive, anarchistic, and antisocial behavior. Such groups demanded the implementation of regulation mechanisms to protect their children from this new 'drug.' The gamer was a now a 'drug user'[233] or a 'drugged automaton,' a young person who kills in games and therefore kills in life or, less dramatically, the child who becomes desensitised to violence because of a game. Children got 'high' by taking the digital gaming pill, causing them to fall into a highly addictive trance. Jerry Brucker and Gary Garcia, in their hit song, 'Pac Man Fever' (1982), expressed this fear of the addiction of arcade game culture by singing:

> I got a pocket full of quarters, and I'm headed to the arcade. I don't have a lot of money, but I'm bringing everything I made. I've got a callus on my finger, and my shoulder's hurting too…'Cause I've got Pac-Man fever; Pac-Man fever. It's driving me crazy. I'm going out of my mind…Now I've got them on the run, and I'm looking for the high score...I'm really cooking' now, eating everything in sight. All my money's gone, so I'll be back tomorrow night.[234]

The gaming automaton was addicted, but her addiction wasn't something new. Addiction was not a metaphor, but rather a historical organisation of the entertainment industry, drug culture, and capital - which shared concepts such as 'consumption,' 'hit,' and 'dealer' – that expressed the deregulated notions of the free market. Gaming was a dangerous drug produced by the launch of post-Fordist society, and its gamers had to be controlled, censored, and monitored in order to avoid 'craziness.' The addicted user also had to take care of himself as a gaming subject, to act responsibly and according to his own best interests. In other words, the gamer must conform to liberal ideas of what

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[233] Huhtamo 1996: p.194.

[234] 'Pac-Man Fever.' website: http://www.bucknergarcia.com/.

it means to be a 'good' person.

In response to the bad reputation of arcades, the gaming industry came up with the idea to launch a new social 'concept' for gaming that no longer connected to the sense of a 'mass entertainment commodity,' but instead evolved into a 'family friendly' interface, a healthy and moral platform. Dmitri Williams, in his essay, 'A (brief) Social History of Gaming' (2006), notes that this shift to the domestication of games was 'a combination of economic and technological forces [that] moved gaming away from social, communal, and relatively anarchic early arcade spaces into the controlled environments of the sanitised mall arcade (or 'family fun center') or into the home.'[235] With its domestication, gaming occupied the homes of the Western world, re-territorialising the negative perception of games associated with the underground addictive culture of the arcade, creating an optimistic, digital future of post-industrial entertainment. Gaming became acceptable by turning it into a private, digitised, and pedagogical practice. Based on this marketing tactic, the gaming industry started to mass-produce home gaming consoles, fulfilling the desire of parents to keep their children away from arcades. With the introduction of home consoles into the market, the household became the safe place that protect youth from the media technosphere. *Magnavox Odyssey* (1973) wasn't a strange science-fiction TV series, but the first home console, actualising the concept of electronic games operating through a domestic interface. *Magnavox Odyssey* was released in 1973; in the same year, Magnovox launched an advertising campaign targeting, not just kids and teenagers, but the entire family. (Figure 16) The objective was to re-launch gaming into the market within a new pedagogy of 'technological learning,' aimed at installing games as a new media device that updates and challenges the 'hegemony of television as the main medium in the household.'[236] By the end of the 1970s, gaming was successfully re-launched into the market as a new product that was not only fun to game, but was also a technology that updates the electronic home system. The screen was no longer just a matrix for showing the news, but a screen for interactive gaming.

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[235] Williams 2006: p.40.

[236] Haddon 1993: p.129.

With home consoles, games started to plug themselves into other home electronic devises. In 1977, Time magazine wrote: 'Pac-Man and pals occupy the living room. It is practically unreal, a regular Pac-a-dream. Pac-Man, the obsessional game of pursuit and devour, is not just roaming the amusement arcade. Increasingly, it is a house guest in the living room.'[237] Even though the whole idea of home gaming was new, society had already controlled and monitored other 'addictive' media, making the response to the arrival of this new 'drug' into the home simple and obvious: gaming would follow television. With the advent of home consoles, gaming was seen as an update of TV culture and was tied to the general programme for electronic media. The home gamer of the 1970s had to be assigned to a set of pedagogical rationalities and functionalities, such as clock-time management and parental supervision, as well as following the ethical and moral rules that would define a 'healthy' gaming body.

Figure 16
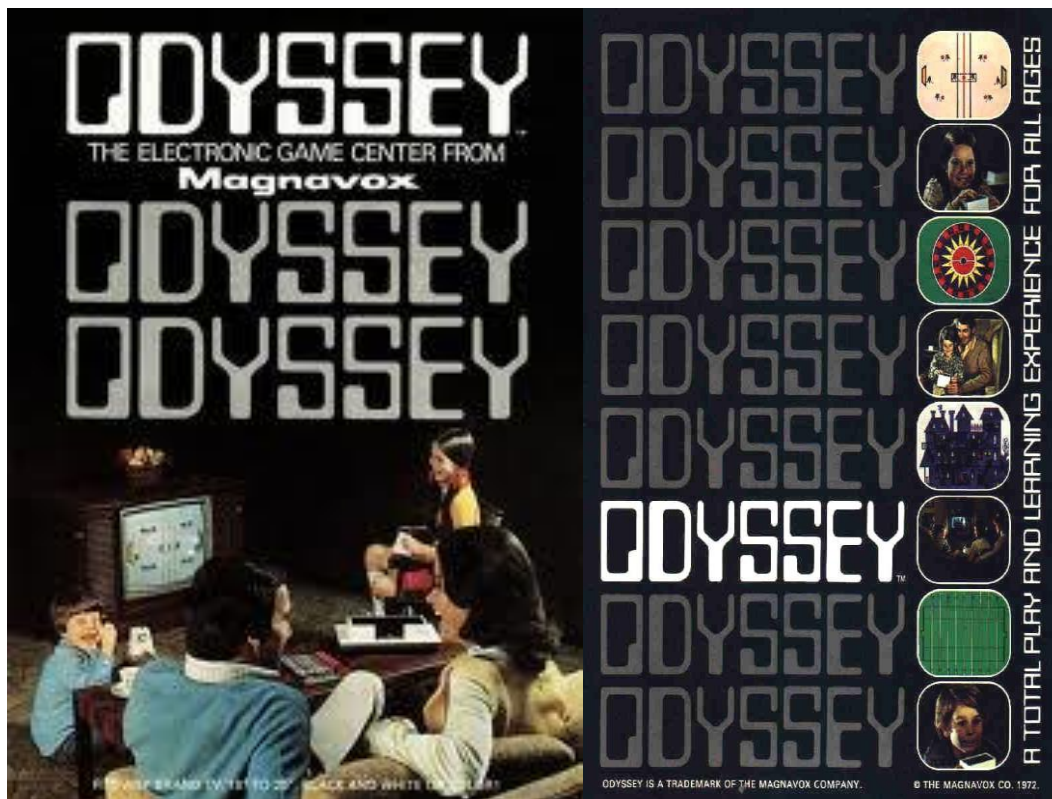
Fig. 16 Magnavox Odyssey Advertisements, 1973

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[237] Time Magazine 1977: *Video: Chariots Of Cartridge Power* , April 26 p.88.

Around the same time that gaming was reorganised as 'a secure home life,' programmers started to design more complex games for competition. Through the implementation of scoring mechanisms, gaming offered a mixture of challenge and reward, a balance between the level of 'difficulty' and the score attained that indicated the mastering of the interface. As Martin Amis writes, in his book, *Invasion of the Space Invaders* (1982): 'To appear on the Great Score sheet is a powerful incentive in the space-game praxis, a yearning, perhaps connected with schooldays and the honor or notoriety of having your name chalked up on the board, white on black.'[238] But *Space Invaders* is not designed as a game where the power of a central authority is exercised, as Amis suggests. *Space Invaders* is a game that does not supervise the gamer, but rather offers a cybernetic feedback system for measuring and training her cognitive skills. The desire is to 'turn the machine over,'[239] making the score overflow its limits and reset to zero, turning the gamer into a perfect master over the interface. While the first arcade games mainly defined competition according to clear-cut targets and goals, home console designers started to introduce additional mechanisms that extended the gaming experience and its processes of 'score subjectification' by requiring a greater level of understanding of and interaction with the machine. Subjectivity, in the game space, was no longer simply the following of commands and rules issued by the game to the gamer, but the emergence of a new machinic-brain, where competition and success (score) are the main criteria for success. Gamers were not controlled and subjectified *under,* but *according to,* their achievements in scoring. One did not 'beat' the machine, rather one melded with it to achieve greater success. This is where concepts such as flexibility and competition start to function, not just as buzzwords of neo-liberal policy, but as 'skills' necessary for success. Competition is no longer just in the markets, where calculations of demand and supply set the limits to profit, it has become a cybernetic, desiring machine of score and consumption. Within these new gaming economies, the enterprise is your reflexive brain, whose cognitive skills are improved through competition.

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[238] Amis 1982: p.25.

[239] Guattari 2009: p.105.

Competition was intense and accelerating; gamers were entering a world based on a repetition of possible moves and strategies leading to the increase and mastery of their cognitive skills. *Space Invaders* was based on high score rating, but achieving that score didn't mean ending the game. It just kept getting harder until the point the gamer wasn't able to respond to the high speed imposed by the game. The only strategy was to fight heroically and prevent defeat for as long as possible. Gaming thus began to express new forms of subjectification, as the action and its regulation now took place through an intense competition that modulated flows of success through forces (cognition, attention, affection) circulating between game targets and reflexive responses. If the disciplinary control of youth supervision 'shaped bodies by constituting habits, mainly in bodily memory,' cybernetic gaming 'modulates brains and constitutes habits in spiritual memory.'[240] Galloway describes this bio-political governance of gaming subjects as the process of 'a game's celebration of the end of ideological manipulation, which is also a new manipulation, only this time using wholly different diagrams of command and control.'[241] In any bio-political control there is always the organism, but this time it is its incorporeal aspect which has become the key for modulation and control. Gamers, in the first phase of digital capitalism, had to follow certain rules and actions to crystallise a safe gaming body for the new virtual economy. As an active and skilled consumer of images and score, the gamer had to act on the boundaries of a continuous self-control and self-supervision to survive within the digitised realities of gaming. In gaming culture, we can identify a mixture of disciplinary and self-care mechanisms: the formation of a gaming body through various disciplinary methods (monitoring, parental supervision) and the management of gaming life through bio-political mechanisms (market regulations), as well as the modulation of memory and its virtual powers (software organisation). These three power despositifs work together to produce a 'healthy' gamer.

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[240] Lazzarato 2006: p.186.

[241] Galloway 2006: p.106.

Figure 17

Fig. 17   Space Invaders 1978, by Taito Corporation

Sustaining 'life' through care-taking strategies and efficient responses was a key task in the early years of gaming culture. 'Living' within the gaming space could be successful only by following the gaming rules, structures and instructions, and by improving your cognitive skills. In order to respond as efficiently as possible, gamers started using strategy guides for assistance getting through the game as economically as possible.[242] The best way to 'succeed' was to read and familiarise oneself with the game and reduce it to a set of routine practices, sustain 'health,' and extend gaming life. No irresponsible movements, no irresponsible actions, as this might result in causalities and the end of the game; 'safe gaming' can only be achieved by following the rules. Strategy guides offered a wide range of help topics for every game released in the market, and were produced both by commercial publishers and independent gamers writing their own tactics.

While gamers became educated in a 'safe' mode of gaming, the issues of hacking and security also came to the fore. At the end of the 70s, gaming de-territorialised to a personal computing culture, transforming the gamer from a skilled

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[242] Ludington Daily News. *Learn The Code Game And Beat The Rules* . 1982: p.25.

consumer of score to the cyber manager of the future. Score became stocks, and competition was re-arranged as an electronic market. However, the rules were about to be broken. 'Kids like the computer because it plays back . . . it's a pal, a friend, but it doesn't get mad, it doesn't say 'I won't play,' and it doesn't break the rules.'[243] Yes, it is true, the computer will not break the rules, but the gaming industry is going to break them instead.

Free Information and the End of Property

In the early 1980s, gaming culture was successfully connected to middle-class family ideals, movjng away from the arcade fears of addictive machines into a socially and family 'friendly' interface. The diagram of computerised gaming culture was about to change again, this time not due to the socio-economic forces that had produced home gaming consoles, but due to the invention of personal computing. As we have seen, the 1980s was not the era of the anti-war movement, but the time of Reagan's 'Space War,' and the era of Personal Computers (PC) conquering the offices and homes of the Western world. At this time, everyone was not simply a worker, but a cyber-pioneer, armed with his/her private PC. With the introduction of personal computing, work extended beyond the realm of the office space and became part of everyday life, with the result that consciousness became a vast gamespace. The example of Commodore's PC advertisement, first broadcast in 1982, alters the image of the gamer from a cognitive Guru into a perfect potential manager for the future cyber market. The advert presents a manager at a business interview asking the applicant: 'I see by your job application you scored 6 million on the video game match-men, and I see you shot down 2 billion aliens from the planet Mongow? You know about computer games, so what do you know about computers?' Then the advert concludes with: 'If you're going to spend your time playing video games, why not play them with something that can also teach you about computing?' – 'It's tough to live in a computer age without

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[243] Asimov cited in Pool 2000: p.172.

learning about computers,' [244] Careers in dynamic hyper-capitalism signaled a transformation of the future production and consumption process.

The invention of the micro-chip and the availability of cheap computers set off an explosion in supply and demand, a boom that reformed the software industry from a centralised corporate economy into an unregulated market of autonomous productions. The marketing strategy of this micro-computer revolution was the democratic programme of 'Computers for Everyone,' as opposed to the centralised power of mainframe computers in university labs or the parental monitoring of home consoles. The computers were private and personal, allowing both a new interface for the masses and a more widespread movement of hacking and independent production. Gamers no longer trained to improve their cognitive skills in order to master the game, but educated themselves in order to control its coded structures and internal organisations.[245]

The arrival of personal computing not only marked a phase of hardware development, but was also a symptom of a wider economic and social change. The modification to a digital economy was the main marketing strategy of the 80s. Computers were not designed simply as cybernetic machines for gaming and entertainment, but as an access point to plug yourself into the new digitised, liberal economy. Gamers were not just gaming the interface anymore, they were now trained to learn the hardwired organisation of computers and their software languages and produce multiple gaming worlds as products for the market. Economic realism and hacker idealism started to merge in the 1980s, as the personal computer opened up the possibility of designing and gaming private gaming worlds. If, in the 1970s, game studios software engineers were producing games in a closed corporative environment,

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[244] Commodore Vic20 home computer, 1982.

http://www.youtube.com/watch?v=IUKUHjBhb2Q.

[245] Commodore 64, for example, had a cassette as its storage device and, therefore, it was easy to copy and modify. Commodore also allowed access to its EPROMS and, thus, gamers could modify the chip and speed up the function of the interface.

the 1980s saw the emergence of design exchanged through autonomous networks.[246] At the same time that Margaret Thatcher was declaring '*There is no such a thing as society,*' the gaming individuals were uploading their subculture into personal computers, creating social networks constructed around the idea of autonomous-production, and the practice of illegally pirating disks and cassettes.[247] Time magazine, in 1981, reveals: 'Game players have accomplices, but they do not have sympathisers. It may be for this reason that they are so likely to form warm little subcultures, or termite nests, within the larger society, complete with their own lingo, legends, heroes, magazines, newspapers, and meetings of the clan.'[248] Gamers became a collective that believed in a computerised society and in a utopian world in which citizens 'shared information without regard for property rights.'[249] '*Information wants to be free*'[250] was the political motto of the third gaming generation.

In the 80s, gaming was an interplay between gaming and technology, on the one hand turning towards an era of 'ruledness'[251] and entrepreneurship, while on the other seeing the rise of cyber-punk anarchy. For the gaming culture, hacking your personal computer was not only a process leading towards the actualisation of a new economy, but also one leading towards a new gamespace. In the gaming sub-culture of the 1970s gaming was based on certain rules of conduct: 'one may succeed within the game rules or fail, but one cannot cheat.'[252] The 1980s initiated an era of transgression. Levy, in his

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[246] For a more extended discussion on autonomous gaming production in the 1980s, see: Chapter 2.

[247] Cassette devices remained the most frequently used mass storage tool for several personal computers for a long time. Only in the mid 80s with, for example, the Amstrad 6128, did the disk become more popular in homes.

[248] Time Magazine, 1977. *Living: Games People Play*. December 26. Vol.98.

[249] Kent 2001: p.17.

[250] The phrase '*Information Wants to Be Free*' was coined by Stuart Brand, when he said to Steve Wozniak: 'On the one hand, information wants to be expensive, because it's so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.' (Wikipedia 2015 10 January http://en.wikipedia.org/wiki/Information_wants_to_be_free).

[251] Kücklich 2010: p.32.

[252] Wark 2007: p.118.

book, *Hackers: Heroes of the Computer Revolution (2001),* describes this transition when he writes: 'You could play the games, but if you were hacker-born, that would not be enough. You would ask, 'Why can't the game do this?' 'Why can't it have that feature?' And since this was a computer, for the first time in your life you would have the power to change this into that.'[253] Specific game worlds could now be created through a binaural, digitised thinking, distributed by digital dealers. The liberal cyber economy of the future could not arise by following the rules, only by breaking them, or at least transforming them.

Gamers as hackers, in the 1980s, were a different breed from the first generation of programmers that emerged from the intellectual, immaterial labour of computer engineering. The emergence of personal computing saw the beginning of the logic of *Neuromancer,* where the individual, private entrepreneur explores and invents the society of the future by straddling the interface. Cyberpunk appeared as a kind of celebration of the postmodern 'meltdown'[254] of culture into cyber-economies, and expressed the joining of hacking and gaming with neo-liberal ideals. As Douglas Thomas notes: 'While the 'first generation' hackers were usually graduate students at large universities, their 'new-school' counterparts are substantially younger, usually teenagers who have a particular affinity for technology.'[255] The gamer was now a hacker/working-class hero. He became a working entrepreneur, a hero safely embedded within the ethical paradigm of neo-liberal digital capitalism. This heroic aspect of hackerism paved the way for the cultural and economic valorisation of the hacker ethic - free information, self-organisation, and decentralisation - as a crucial and innovative force for development within the new information economy. The movie, *Tron* (1981), depicts this phase of the gamsespace. In the movie, the gamer is an anti-authoritarian computer programmer whose attitudes and beliefs put him in opposition with those in authority. But, through the power of the freedom of information, the new digital entrepreneur resists the established economic systems of capital: 'Clu, Tron, and I built

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[253] Levy 2001: p.313.

[254] Land 2011: p.456.

[255] Thomas 2003: p.11.

a system where all information was free and open. Beautiful.'[256] The gaming space now realises the new cyber-economy of freedom of information, but this development shifted hacking from its place at the core of an independent gaming of culture into the dark side of the digital economy.

In the 1980s, although the PC marketing strategy was based on openness and access to the code, the growth of hacking meant a change to a 'political strategy concerning security.'[257] In fact, there is an interesting paradox in digital game discourse of the 1980s. While personal computing was about freedom and the realisation of a new digital economy, this freedom was concurrently perceived as a security threat that had to be governed, regulated, and controlled. Whereas pioneer programmers of the 1960-70s saw gaming software as a plane of experimentation and the liberation of information, the 1980s saw the rise of independent programming as a threat, not only for the stability of the software industry, but also for society as a whole. Gamers as hackers were no longer perceived by the software industry as innovative consumers, but as cyber-outlaws who, through their piracy and autonomous trade networks, threatened the whole of social security and posed a danger for the market's equilibrium. The gamers of these cyberpunk landscapes were no longer psychedelic, drug-user hippies, but entrepreneur programmers with a punk aesthetic style and a desire to accelerate events toward the realisation of a technological singularity. This is all depicted in Gibson's book, *Neuromancer* (1984), where Case, the protagonist, is both a tool of the corporate reality, but also an outlaw that has threatened the security of the game matrix.

In the 1980s, gaming youth sub-culture and neo-liberal economics all come together in a revolutionary, but also highly commodified, mix. The gamer is the 'wizard programmer who can convert any idea or thought into binary-number combinations'[258] and use it for profit. However, he is also the new terrorist who can game society and liberate capital from its cyber control mechanisms: *V[ictory] for Vendetta*. It is on this

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[256] Tron: Legacy, 2010.

[257] Hafner and Markof 1991: p. 137.

[258] Leary and Gullichsen 1987: '*Huxley, Hesse and The Cybernetic Society*.' Unpublished book posted at dowlodge.org . http://downlode.org/Etext/huxley_hesse_cybernetic.html.

narrative of an individual outlaw who, in the end, will save the world from an oppressive government that McKenzie Wark champions in his book, *Hackers Manifesto* (2010). He writes: 'We are hackers of abstractions. We produce new concepts, new perceptions, new sensations, hacked out of raw data. Whatever code we hack, be it programming language, poetic language, math or music, curves or colorings, we are abstracters of new worlds.'[259] For Wark, the hacker is an intellectual outlaw who hacks to liberate society from the hegemony of digital control, but this cyberpunk narrative already has a long history within digitalism and its cyber economies. The cyberpunk movement of the 80s combined hackers and the freedom of information movement within the new world of the interface. The Cyber-punk gamer is an outlaw, but even in his rebellion s/he acts according to the underlying ethos of neo-liberal economics, working as an entrepreneur for the corporations, even if only on a freelance basis.

Digital culture developed within this paradoxical mixture of optimism and anxiety about the post-industrial future, and gaming personal computers was embraced in the 1980s by this unstable dynamic between the creative potentials of the digital interface versus an obsessed technophobia. This was the period of the movie, *WarGames* (1984), which marks the beginning of national security as a major anxiety for advanced capitalism. The gamer/hacker was no longer just an innovator, the new manager of a neo-liberal, digitised economy, but also possibly a cyber-anarchistic who threatens and disrupts society's security. *WarGames* mirrors the anxieties of its time, depicting the insecurity of communications networks and the paranoia of the Cold War, announcing a new public perception of hacking: illegal, at best, and dangerous, at worst; the world of hackers eventually merging with that of organised crime.[260] Gaming threatens the whole world with the unpredictable – and possibly malignant – computer intelligence of *WarGames,* turning the Cold War 'deterrent' against its makers. While the arcade is the new space opened up in *Tron* (1982), a space controlled by software, imprisoning its users within its topological virtualities, in the personal computing era it

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[259] Wark 2007: p.001.

[260] see: DeLanda 1991: p. 227-228.

is only the teenage gamer - *The Last Starfighter* (1984) - who is able, through his intellectual skills, to 'defend the frontier'[261] from the conquering powers of the game.

The gaming *automaton* is a contemporary consumer, navigating within the topological landscapes of the gaming space, but she is also a security threat, as in the movie *War Games,* where a young gamer manages to break into a Pentagon system, then, under the mistaken impression that he is merely gaming a game, comes close to causing a nuclear war. The gamer now becomes a schizoid substance, a dangerous (anti)hero, who both starts and stops the computer from setting off World War III. The cyberpunk film, *Hackers* (1995), also depicts this uncertainty in American culture towards young adults. In the movie, the young hackers give rise to a widespread fear, which in turn generates the need for anti-virus products to 'control that fear and deliver safety.'[262] The hackers, in other words, are both the problem and the solution. The role of gaming in digitised capitalism is the source of both optimism and fear, and is closely tied to the similarly ambiguous feelings of the time towards young people. Lawrence Grossberg has identified and analysed this narrative of 'ephebiphobia - the fear of teenagers.'[263] Grossberg argues that, due to the social and political conditions of the 80s and 90s, American pop culture becomes 'the ground, the tactics, and the first stage of hegemonic struggle'[264] for a negative discourse. Within this negative discourse about teenagers, he defines them as 'othered' and continuously represented by media as, 'as 'somehow essentially different, as mysterious freaks of nature.'[265] In fact, Grossberg argues, all the narratives that surround Generation Y represent teenagers as vicious and unpredictable. However, in spite of these negative representations, Grossberg argues, the market also saw teenagers as new consumers to sell products to. Teenagers are re-calculated by the industry as future consumers and perceived as another 'market' that

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[261] The Last Starfighter 1984.

[262] Parikka 2014 : *Digital Monsters Binary Aliens – Computer Viruses Capitalism and the Flow of Information.* Fibre Culture Journal issue 4 Contagions. http://four.fibreculturejournal.org/fcj-019-digital-monsters-binary-aliens-%e2%80%93-computer-viruses-capitalism-and-the-flow-of-information/.

[263] Grossberg 1992: p.19.

[264] ibid p.254.

[265] ibid p.124.

has to be controlled and exploited. So, while industry targets teenagers for their available or future income, it also tries to inform and normalise their attitudes and needs according to its marketing strategies.

What was now essential for the market was to fight the dark side of digitality through a range of countermeasures put in place to control the new teenage hackers. The first step of this process was to educate and control the gaming automaton once again, but this time on the security dangers of networked digitalism. The gamer, as an entrepreneurial element within personal computing, had to be inculcated with a new responsibility. Every user should become responsible for network security through 'his/her own actions and care'[266] in order to protect it from chaos. The neo-liberal morality of the 1980s is supplemented by Spiderman's ethics, where the Superhero has to take great responsibility in order to protect society from its own actions. 'With Great Power Comes Great Responsibility,'[267] is the neo-liberal ethical motto for how the industry would set the gamer onto the right track.

Due to the increasingly widespread practice of piracy, the gaming market collapsed in the mid 1980s and had to restructure itself by selling its products. This time they were packaged, not in an open source format available for anyone to hack, but as a secured, shielded, and protected commodity. The gaming industry of the 1980s, which made such a strong demand for the freedom of the interface, had to then control these freedoms to insure its own survival. Dyer-Witheford and de Peuter write:

> In 1983, the mix of incompetent management, employee discontent, overproduction, and rampant piracy exploded. When Atari failed to reach projected profits, its stock fell, and the company abruptly plunged toward bankruptcy. It carried with it the entire industry it had previously drawn upward on its ascent. Toy stores and amusement arcades that a year before had been enraptured with games now, just as suddenly, declared them terminally passé. As trailer loads of surplus game cartridges

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[266] Denning 1994: p.476.

[267] Spiderman Movie 2002.

were bulldozed into landfills like so much radioactive waste, the North American game industry annihilated itself in one of the most complete sectoral disasters of recent business history, a demonstration of the volatility of the emergent digital industry that foreshadowed, on a smaller scale, the larger dot-com boom and bust that would come years later.[268]

The gaming industry had to turn its back on the original idea of the free ownership of code, and shielded gaming software with copyright protection laws and technological security mechanisms. For example, several games on platforms like Commodore 64 and ZX Spectrum were offered with a protection device called 'Lenslok.' This was a plastic key that contained a row of vertical prisms. If the game cassette wasn't plugged-in with the Lenslock key, the gaming could not begin. Manuals and other instructive articles started to list illegal and copied games, and the circulation of illegal copies began to decrease. The gamer could no longer be a 'pirate' of the black market and had to be re-aligned with the corporate model; the gaming era of openness and freedom of information was about to end.

Governments, on the other hand, had to regulate the conditions under which digital users could and should exercise their liberty within the digital economy and, at the same time, protect itself from individual acts of piracy. Different security systems were designed and organised to enact the new security and copyright laws pertaining to the interface, while the notion of self-control was uploaded into each individual user so they could be reintegrated into the market. Controls for secured gaming appeared in the 1980s, operating in 'a quasi-juridical form, where the ethical subject refers his conduct to a law, or a set of laws, to which he must submit at the risk of committing offences that may make him liable to punishment.'[269] This management of gamers made the 'normalisation' of gaming possible, and initiated a new definition of 'appropriate' and 'inappropriate' gaming 'use.'

Copyright and operational laws were the first mechanisms put into practice,

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[268] Dyer-Witheford and de Peuter 2009: p.13-14.

[269] Foucault 2012: p.29-30.

acting as written rules and guidelines for proper game behaviour and as a protocol that gamers were required to follow so they could continue surfing in the gaming world.[270] At the same time, the police took action against hacking, and hackers such as Dark Dante and Knight Lightning were arrested. Nevertheless, hacking didn't disappear completely, it simply moved in a new direction. For example, Kim Dotcom took advantage of the desire for 'free information' to make lots of money and the download phenomena became saturated with the uncertain values of the outlaw, hero/criminal, people's champion/corporate threat. Gaming also underwent this shift, becoming on the one hand a major focus for policing activity, and on the other taking advantage of the new business model that emerged with downloading. The policing of hacking eventually led to the transformation of gaming in the 1990s from a technical process into a form of aesthetic experimentation. While the image of the 'outlaw entrepreneur' persists into the 1990s, it morphs into the 'drugged automaton' that will hack his own brain in order to invent the gaming breed of the future: the rave gaming body.

Another Drugged Automaton

'Emergent Planetary Commercium trashes the Holy Roman Empire, the Napoleonic Continental System, the Second and Third Reich, and the Soviet International, cranking-up world disorder through compressing phases. Deregulation and the state arms-race each other into cyberspace.'

Nick Land

While the late 80s was defined by a running battle between personal production, hacking, piracy and the authorities, the early 90s was about the autonomous practice of a personal de-territorialisation by artificial means. After the end of the Cold War, autonomy twisted into practices of electronic activism and techno-nomadism. One of

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[270] See: Salen and Zimmerman 2003: p.130.

the main reasons for this de-territorialisation was that the end of the Cold War meant that technology didn't have to remain a secret - almost mystified - under the security mechanisms of the cybernetic police. Now the 80s dream of 'free' information' could be actualised and unite the whole world under its digitised umbrella.

Having become politically deconstructed after the collapse of oppositional movements, youth sub-cultures found an autonomous way of moving forward. The streets and universities were no longer the places of resistance, as capitalism had already started to modify and redistribute its relevance by upgrading itself into an interfaced global society. Street actions turned out to be hopeless acts because, for civil disobedience, the streets no longer have any value.[271] The art-activist movement *Critical Art Ensemble,* in its manifesto published in the 1996, writes: 'as far as power is concerned, the streets are dead capital!'[272] But, if the 'streets are frozen,' then any protest or resistance there cannot be effective, so it turned, instead, towards the virtual realities of digital interfaces. The streets are rotted by digital contagions and the power struggle was uploaded to the diagrammatic structures of digital communication networks. In the early 90s, media was the contemporary abstract machine of capitalist order, but also the plateau on which contemporary capital could be resisted and even overturned; it is resistance by '*Any Media Necessary,*' as the Critical Art Ensemble poster affirms. (Figure 18)

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[271]   CAE 1996: p.13.

  In 1996, the Critical Art Ensemble published *Electronic Civil Disobedience,* a manifesto of resistance to the new realities of post-Fordist capitalism. The manifesto presents an idea of a an autonomous technological resistance as a response to post-Soviet era.

[272] CAE 1996: p.11.

Figure 18

Fig. 18   Critical Art Ensemble Poster 1999

At the heart of darkness, Rave culture was performing neo-rituals with innovative weapons: drugs and techno. Spiritual experimentation, ethical transformations, and body alterations had to be performed in order for the new world to be invented. The new face of the sixties counterculture was now pointed toward technology. Techno music, ecstasy, and MDMA were used to re-design the future diagram of techno/society. If technology is a drug machine, why not use it as a technology of the self? The user is not just a drugged automaton, but an active agent within technology's evolution. Techno music, digital screens, games, and psychedelic drugs were the post-cyberpunk spiritual exercise, an exercise of the self towards consciousness and knowledge about the world and its future. Whether with mechanical drug machines, techno-sound drug machines, or digital drug machines, the techno culture of the 1990s integrated and mystified digital interfaces into a non-materialistic worldview. Mark Dery, in his study on rave culture, describes the connection of cyber technologies to psychedelic drugs as 'cyberdelia' and argues that it was an extension of the 60s counterculture movement. He writes: 'Cyberdelia reconciles the

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transcendentalist impulses of sixties counterculture with the infomania of the nineties. As well, it nods in passing to the seventies, from which it borrows the millenarian mysticism of the New Age.'[273] Unsurprisingly then, Timothy Leary reframed his ideas for the digital age: computers are the 'LSD of the '90s.'[274] Both Leary and Dery describe rave culture as a new/old psychedelic subculture, combining electronic music and drugs. Ecstasy, techno, and speed were the drugs of the 90s, and their ambition was straightforward: 'acceleration.'

Cyberdelia was a method for accelerating the synaptic connections in the brain. Man is something to be overcome, and the post-human, digital condition was not an abstraction, but a strategy.[275] Digital platforms and music interfaces became humanity's *Goetterdaemmerung*, just open your mind.[276] As Terrance McKenna argued, we need to get the world out of its territorialised substance, and psychedelic, techno-mediums are the machines to open our minds to new dimensions of deconstructed reality. Leary wrote:

> Now we have digital communication. We can create our fantasies. We can create our rhythms, design on screen…. Anyone in any culture watching this screen will get the general picture. It's one global village. It's one global human spirit, one global human race. As we link up through screens, linked by electrons and photons, we will create, for the first time, a global humanity, not separated by words or minds or nationalities or religious biases.[277]

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[273] Dery 1996: p.22.

[274] Leary 1994: p.76.

[275] For example, Matt Black is a member of Hex, an electronic group that combines digital games, techno music and videos, aiming to extend the revolution of consciousness that rave culture promises - by 'cutting down on the human element of performance.' (Marshall 1994 p.1).

[276] Usura- Open Your Mind. (http://www.youtube.com/watch?v=IE8OnOqzgZk&feature=share)

[277] Leary 1993: *How To Operate Your Brain: A User Manual By Timothy Leary. Video-* (Http://Www.Openculture.Com/2012/11/How_To_Operate_Your_Brain_A_User_Manual_By_Timothy_Leary_.Html.)

Contemporary digital interfaces deeply influenced Leary's theories and ideas. In *Chaos & Cyberculture* (1994)*,* he suggests that the whole universe consists of 'zeros and ones, bits of off/on information.' It is a universe where matter has become 'frozen information.' [278] Leary argues that the digital interface enables the individual to deconstruct, or revolutionise, traditional systems of thought and structures by turning them into zeros and ones, something that will change and transform the way we perceive and act in this world. What we have to create is a new philosophy, a new system of politics that will liberate us from the vicious economic cycles of financial capitalism. Leary argues that this will be the path of 'understanding ourselves as information processes.'[279] He writes:

> The aim of human life is to know thyself. Think for yourself. Question authority. Think with your friends. Create. Create new realities. Philosophy is a team sport. Philosophy is the ultimate, the ultimate aphrodisiac pleasure. Learning how to operate your brain, learning how to operate your mind, learning how to redesign chaos.[280]

For Leary, the rave counterculture is part of a process leading towards a new breed of 'cyberpunks.' In the near future, we will inhabit a post-political society, operating according to the autopoietic doctrine of self-organisation – a society where a symbiosis with technology will liberate inhuman forces from their current, all-too-human conditions.

This political programme for the future is a struggle for an alternative body and the formation of its political connections. Harry Shapiro, in his book, *Waiting for the Man: The Story of Drugs and Popular Music* (2001)*,* writes: 'we find a generation, not only looking for alternatives to reality, for altered states of consciousness, (like its predecessor in the sixties) but also in search of 'community,' for almost tribal

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[278] Leary 1994: p.7.

[279] ibid p.45.

[280] Leary 1993.

identification and a sense of belonging.'[281] This autonomous cyber-politics, in its early phase, mainly emerged in anarchist sub-cultures, and were organised 'through an autonomous network of techno-tribes' and '*Temporary Autonomous Zones*'[282] set up for squatting or parties. This marked a profound shift in modes of resistance, from a 'tactical reversal of a way of life;'[283] into a process where 'chaos culture synthesises itself with an artificial neuro-chemistry.'[284]

The Communities of Speed

Speed is the new word for gaming after '89. 'Get ready to go higher, faster than you've ever gone before,' the advertising campaign of a new game, *N2O: Nitrous Oxide*, announced.[285] The 'third generation' of gamers didn't need to master computers; they wanted to accelerate them and themselves, together. Gamers now used games to trip, to accelerate thought and the synaptic structures of the brain through a digitised trance. The early 90s were about a digitised speed, energy, and sensory excitement. They were a manifestation of what Stewart Brand proclaimed in his 1972 article in *Rolling Stone* magazine: there is 'good news, maybe the best since psychedelics [...] computers are coming to the people.'[286] The digital drug machine gave birth to a digitised gaming body that empowered visions and raised our consciousness.

Gaming, for Ravers, was an interfaced platform showing 'how to operate your brain,'[287] the cyber-plateau of evolution. The drugged automaton accelerates both bio-chemical and electronic synapses, synthesising its spasms by mimicking the effects of LSD, crack, heroin, and other hard substances. 'The 1990s is here, and the doctor is in.'[288] The new gaming body is not about education and knowledge formation, but

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281 Shapiro 2001: p.181.

282 Bey 2008: p.6.

283 Foucault 1982: p.780.

284 Sadie and Land 1994: p.45.

285 Colton 1998: p.24.

286 Brand1972: p.25.

287 ibid p.26.

288 Gibson in Leary 1994: p.1.

about its biological transformations, where intensive micro-spasms regulate and re-organise the biological as virtual flows. In 1992, *Aphex Twin* released a song called 'PowerPill' that was included on his album *Pacman*, an album that was a based on the music of the Pac-man game. For gamers of the rave culture, the new power pill was gaming the interface for the intense buzz of spiritual expansion, an acceleration achieved through the speed of gaming. The *Sonic* (1991), (Figure 19), was released by Sega in 1991 and was based entirely on a permanent acceleration of speed and consumption. The hero of this game is Sonic, a cute creature whose only aim is to run at high speeds and consume cyber-coins, in order to stop Doctor Robotnik from destroying the world.

Figure 19

Fig. 19   Sonic The Hedgehog 1993 by Sega

An accelerating speed of lines and colors also defined Tetsuya Mitsuguchi's psychedelic shooter game, *Rez* (1998). The game is about speed's possible intensities, which are produced through a dizzying intensity of continually morphing colour and form. Music, speed, and the constant transformation of form combined to create a psychedelic experience and a trance-like acceleration (Figure 20). *Rez,* like many

games of the time, is about intensity, rather than targets and goals, about self-transformation rather than normalized notions of 'success'.

Figure 20

Fig. 20   Rez! by Dream Artist 1998

'*Hypersynthetic drugs click into digital voodoo*.'[289] These binary hallucinogens, however, were a trick. The game of Leary's long dreamt 'politics of ecstasy,' a social revolution through a technologically enabled subjective disintegration, had less time than we thought. As soon as police launched a massive attack on underground rave parties and the actions of teenagers became monitored, rave culture was sucked up into the mainstream. The gamer had to be organised again, once more forced to be an efficient entrepreneurial subject who legally surfs within the lines of the cyber market. Disciplinary mechanisms, such as police control and legislation, were again implemented, in order to prevent the market from entering into a phase of chaos.

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[289] Land 2011: p.442.

After its repression, techno-culture was demystified and completely subsumed by capital in a commodity form, and nomadic techno parties became re-territorialised as massive clubs. Techno-culture was no longer a nomadic resistance of autonomous zones and experimentation with consciousness, but became normalised and commodified through the marketing tactics of the music and fashion industries. For example, Sony's initial success in the gaming industry was their 1995 release, *WipEout*, a speed game accompanied by a booming techno soundtrack from bands such as Orbital, Leftfield, and the Chemical Brothers. Based on this strategy, Sony moved on to a druggy advertising campaign. Sony found, in rave culture, a future market to sell its products. It built a PlayStation room in the 'London rave club, Ministry of Sound,' got its logo onto club flyers all over the UK, and promoted rave parties.'[290] Sony continued connecting the gaming market with the drug scene, and during the 1995 'Glastonbury Festival, it distributed pierced cards adorned with PlayStation logos, which could be used as a fitting for marijuana joints or, as Sony claimed, to dispose of chewing gum.'[291] Games started to become widely connected with the drug market of the 1990s, and psychedelic images became a part of gaming experience. Thus, commercial gaming turned into a mutation of psychedelic and digitised subjectivities. PlayStation games, such as *LSD Dream Emulator* (1998)*,* were about tripping to digitised psychedelics, and had no actual target to achieve, no battles, no economics - only exploring simulated speeds. (Figure 21) The aim is a future of deeper and deeper simulated consciousness: tripping within hallucinations – without getting killed.[292]

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[290] Poole 2000: p.21.

[291] ibid p.21.

[292] Let's Play LSD Dream 001 - The Trip Begins.

http://www.youtube.com/watch?feature=player_embedded&v=qUzxbmduww8.

Figure 21

Fig. 21   LSD Dream Emulator 1994, Asmik Ace Entertainment

After the end of techno culture, around 1996, and the introduction of widespread Internet connections, the game market moved in a new direction. The gamers were no longer remodelling their brain, but returned instead to the simpler cybernised pleasures of football, basketball, and first-person shooters. In the new millennium the gaming body was once again organised into a more functional and regulated subject by separating it from its previous experimentation. Nevertheless, cyber policing and monitoring were reduced, as the market could now simulate and regulate its subjects with its' invisible hand. Gaming in the era of Internet connectivity no longer gave the sensation of a drug world or of spiritual development, but was a

corporate world of economics and entertainment. The gamer wasn't encouraged to trip within psychedelic machinic subjectivities, but to sense the economic logic of post-industrial capitalism. With the break-up of the psychedelic gaming body, gaming came into a new relation with reality, a newly post-affective reality that was based on calculations and economics. The gamer as an entrepreneurial subject follows the same bio-political rules whether he is fighting within a FPS or navigating cyber-war landscapes. He is now the entrepreneurial Lara Croft, desperately fighting against humans, mutants, and aliens alike; or *Doom!,* which shares a merciless economic regime, necessitating vigilant management of two central resources: health and ammunition. The gaming automaton has once more been transformed, no longer exploring the dissipation of 'human' resources in a mind-expanding trip, but focusing up and concentrating, in order to exploit the rational economies of cost and return, profit and loss.

Gaming In Silicon Valleys

The Future Will Be Wired

The new vision of freedom in a global cyber-economy was an important part of the new millennium's liberal ideology. Games, as with all other interfaces, had to be plug-and-play, regulated with protocols and access controls. In the age of the realised global village and its interfaced economy, connectivity was the new capitalist neurosis. Computers, consoles, and all electronic devices had to be interconnected in order to effectively surf along the digitised 'superhighway.' The future will be wired. As Nick Land put it: 'Kennedy had the moon-landing programme, Reagan had star-wars, and Clinton brings the first-wave of information highways.'[293]

These information highways are an update to the communication network, but

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[293] Land 2011: p.454.

nevertheless had to be controlled and regulated once more with restrictions, recommendations, norms, and other technologies that channel behaviour. The new millennium was, from its earliest beginning, all about instruction and implementation of safe-surfing rules, cyber-security mechanisms, and firewall protections. These were the contemporary mechanisms, initiated to ensure safe conduct in the net work. Endless monitoring and cyber-policing replaced examination and supervision, and were embraced within a cybernetic system of governance.

Gaming in the new millennium embraced what Manuel Castells terms the *Rise of the Network Society* (2010)*,* a world no longer founded on a communication between distant places, but on massive network of interconnected nodes. Massive Multiplayer 3D Online Gaming (MMOG) connected more than geographical areas, and integrated the possibilities of chatting, collective strategies, and other forms of interaction. They were a new, remote global interface that aimed to connect a new collective of gamers. Massively Multi-Player Online games, like *EverQuest* (1999)*,* and *World of Warcraft* (2003)*,* were not designed as a personal interface, but as global game-spaces that bound gamers together in social networks and extended their gaming experience beyond the realm of the screen. Within this new gaming regime old mechanisms, such as copyright protection and market control, were no longer important, because the interconnection and integration of digitised machines became more essential than the consumption of software. The Internet transformed software, as well as the music and movie industries, by allowing their products to be freely exchanged and shared through ftp servers. As a response to this free exchange of software products, the communication industry and the software/entertainment complex started to merge into one global corporation. For example, in 2001, AT&T merged with Disney, creating a massive integration of the communication industry with entertainment. Games, as software products, started to become integrated with other social machines such as education, training, work, or the psychometric tests that calculated cognitive skills through neuro-devices. The games of the new millennium turned out to be an important interface for the digital hype of neoliberal economies, and became an important part of the strategy for economic and management control. Discipline once controlled the gamer by turning her into a law-breaker, but all of that is over. Gamers are no longer disciplined, but trained and

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controlled through decentralised and privatised cybernetic security systems.

The new millennium was also marked by the symbol of the War on Terror. Since the terrorist attacks of September 11, 2001, games started to represent the militarised atmosphere of fear and vengeance typical of the time. For example, *Call of Duty* (2003), was one of the first games that followed this militarised design. In *Call of Duty,* the gamer takes on the role of a cyber-soldier fighting in a digital war against terrorism, in order to secure the safety of the Western world. In the age of the war on terror, gaming is no longer an interface for entertainment or an escapist machine, but a training device for future soldiers. Its design aims to transfer the civilian gamer into the realm of 'war,' and potentially recruit him. As David Leonard, in his study on games and war, writes: 'War video games are no longer purely about training soldiers already enlisted; rather, they are about recruitment and developing future soldiers, while simultaneously generating support among civilian populations for increasing use of American military power.'[294] The war machine has turned into a gaming process of virtuosity and control.

Roger Stahl, in his essay, 'Have You Played the War on Terror?' (2006), also identifies the gaming transition from a commoditised spectacle to the virtual netwar that took place after the 9/11 attack. Writing about the game, *America's Army,* he states:

> Instead, the game represents what has come to be known as 'lifestyle marketing,' the creation of an immersive cultural universe that surrounds a brand name. In the use of interactive technologies to craft and market this universe, the video game, as advertisement, or 'adver-game,' can be counted among the military's many firsts. In fact, the success of *America's Army* has been noticed by corporations such as Coca Cola and Daimler-Chrysler, who hope to promote their brands in a similar way (Oser, 2005). *America's Army* has transformed the rhetoric of 'recruitment' as well, initiating a new language that has been adopted in

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[294] Leonard 2004: p.4.

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the realm of commercial war games. A television ad for *Conflict: Desert Storm*, tells us, 'All Americans Pledge Allegiance. A Select Few Show It.' A print advertisement for the WWII game, *Medal of Honor: Rising Sun*, features an enlistment card and the slogan, 'You don't play. You volunteer.' In this new war-gaming environment, recruitment has taken on a logic that is entirely harmonious with the brand, a kind of brand loyalty. *America's Army*, far from being a cultural anomaly, has become one brand among many. Col. Wardynski brags that the game has 'achieved the objective of putting the Army in pop culture.[295]

Today, instances of the virtualisation of war continue to multiply. A more recent projection of this gaming war machine is the development of armed aerial drones, which are now major weapons of the U.S. army. The new game of war is no longer battled with human pilots, but with skilful gamers who are installed in military complexes far away from the battlefield. The contemporary war machine now adopts the techniques of a virtuoso gamer in a first-person shooter. Digital game users have become future soldiers of training virtual game world that aims to produce desensitized subjects for the digitsed war machine. The soldier is no longer a hero fighting in the battlefield, but a gamer who 'manipulates objects in real time using drones (striped black and yellow), taking out three Turing cops in an elegant projection of gardening robots through military geometry.'[296] The war machine hasn't actualised the fears of bio-chemical wars, but a biological mutation of the human brain within the gaming interface. Gaming is melting back into the structures of military cyber-management and control. The social plane has turned into a gaming image, where the near future has already been predicted and calculated as desert battlefield or as a city space. In the movie, *eXistenZ* (1999), gamers are immersed in a neuro-gamespace, continuously competing in order to be able to find the path to escape from the vicious virtualities of the interface. In the game spaces that we are now interfaced with, the question is no longer about the game, its future or its software organisations, but rather about how we

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[295] Stahl 2006: p.125.

[296] Land 2011: p.372.

can directly game Life. Can anyone enclosed in a game still experience Life? Or are our new conditions of gaming all about a virtual reality that allows us to directly engage with our contemporary cybernised Life?

In trying to answer these questions, the next chapter deals with the political concerns of the thesis, where I explore the possibility of gaining a positive ethical result from our interaction with the control mechanisms of the gaming space. In this task, I look at Deleuze and Foucault's ideas about the societies of control, and examine ways we can politically engage with the cybernetic circuits of cognitive capitalism. Expanding upon the notion of the digital image as a form of manufactured reality, I draw together Deleuze and Foucault's conceptions of practical philosophy with Buddhist meditational practice and its relation to scientific explorations of neuro-plasticity, in order to suggest the practice of mindfulness as a way to game the game. I argue that gamers, as cognitively active consumers, constantly negotiate with the affective impulses designed by the gaming industry, and through certain techniques are able to assign them autonomous meanings. This would be the appropriate response to Deleuze's cry: 'It's not a question of worrying or of hoping for the best, but of finding new weapons.'[297] Historically, the gaming body is subjectified through the various techniques of control designed by the gaming industry, and by popular culture in general, but also invents, performs, and programmes their own singular experiences of the game. In our phase of cognitive capitalism, the invention of new weapons means interfacing with digital screens and their manifold gaming topologies. The war machine is no longer placed and ordered in a Euclidian space, but extended and controlled within the plastic diagrams of gaming. Resistance, or war in the name of autonomy, must first be programmed, designed, and virtualised if we want to invent the machinic conditions that will de-territorialise the gaming body into a mindful self. Indeed, in our age of cognitive capitalism, mindfulness has turned into the hammer of its time, a managerial tool used as much for the production of better functional subjects, as the weapon for creating the gaming of the future.

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[297] Deleuze 1995: p.178.

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CHAPTER 5

FROM MEDITATION TO MEDIATION

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Introduction

In chapters three and four, I mapped a genealogical diagram of the digital gaming culture based on three main axes: 1. expansion of the digital gamespace interface, 2. creation certain economic conditions, and 3. the development of government organisations that implimented specific technologies of self, performed 'through various regimes of signification and a-signification.'[298] These technologies of the self actualise neo-liberal governance that polices the border between proper and improper ways of gaming. The new Californian freedom of computing wasn't just about free surfing on digitised waves, but actualising a digitised neo-liberal economy, with its related security and maintenance mechanisms and governing systems. These forms of governance diagrammed bio-political techniques that are apart from their direct interventions, for the purpose of leading and controlling gamers. The gaming process actualises various strategies and techniques that gamers implement through self-control and self-supervision to maintain the economic and territorial security of a digitally interfaced society. Digital game development is based upon implementing performative practices that embrace political governing mechanisms ('technologies of domination'), leading to a process of self-monitoring ('technologies of the self'), which actualise together as 'governance at a distance.'[299] This governance at a distance was not restricted to gamers; similar tactics and strategies are found in almost every aspect of cyber-capitalism. For example, Windows users must update their software to debug errors, taking care of their system through using firewalls and safe surfing practices.[300] However, neo-liberal/bio-political governing didn't replace the tactics and strategies of liberal governmentality. This self-policing accompanied juridical mechanisms aimed toward disciplining the gaming body from outside. Digitalism and its gaming are not just the construction of a technical machine. They are also diagrammatic structures that help form a gaming automaton who must act according to the rules and conditions imposed by the gaming industry in order to survive. This cyber-body is composed out of skins, brains, and different modes of

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[298] Parikka 2010: p.104.

[299] Rose 1999: p.xxii.

[300] For further analysis on digital viruses and self-care practices, see: Parrikka 2007.

sensations, interfacing and digitising gamers into contemporary workers, immersed in the immaterial factory. For Maurizio Lazzarato, this immaterial factory has not just transformed work; it has taken over the virtual dimension of time. He writes: '… digital technologies suggest a different crystallisation of time: a new type of machine that, in contrast to mechanical and thermodynamic machines, does not crystallise time in general, but the duration of perception, sensitivity, and thought.'[301] In Lazzarato's view, the plastic brain structures are captured and controlled by their digital interface. So, as our brains become more reliant on machinic couplings, how far do these cybernetic processes liberate or enslave us? Does, as Lazzaratto suggests, the utopia of the digital society become a dystopian future that the genre of science-fiction often embraces, where greater control and regulation are part of the cybernetic brain?

In the short film, *Overwritten* (2006), game artist Chien Huang laments the way game-logic has captured human logic, leading to a 'material and technological crisis of the flesh.'[302] In the film, gamers are immersed in the game-space, mummified within the cage of the game, and connected to each other through fibre data cables, turning them into extended rhizomes of a non-natural biological world. As the mummified gamers live within this technological prison, a clown has replaced 'God' and now controls and designs the game and its future. The clown is the server-machine that crystallises the past and the present, re-calculates it, and sells it to gamers: a gaming machine that crystallises time. *eXistenZ* is also a movie whose central focus is time and its cyber-neuro crystallisations. In *eXistenZ*, the game is not just a control image; it produces 'real images' by interfacing the gamer through 'prototype meta-flesh game pods.' These pods work as 'bio-ports' that are jacked into the body of gamers, forming the fusion of a neural network of digitised viralities. This bio-techno gaming interface integrates the human nervous system with the game itself, producing 'techno-morphing' by de-territorialising the human brain in a cybernetic mutation. The de-territorialising movement overtakes the narrative itself, as the protagonists slip from one 'reality' to another in a vertiginous, but ecstatic, escape from 'natural' or 'true' reality. As the gamer slides deeper and deeper

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[301] Lazzarato 2001: p.40.

[302] Shobchack 2004: p.161.

into programmed virtualities, is it possible for them to achieve a 'different kind of victory by gaming against the game?'[303] The film includes such a scenario within its own narrative, as rebels fight the game from within, but this resistance is finally absorbed by the film's cynical insistence (in line with almost all interface films) on the difficulty discerning 'reality' and 'virtual reality' from a subjective perspective. This finally side-steps the political question of finding a method or a strategy that allows us to escape our cybernetic capture. Is that method to then withdraw from the digital interface, as Bifo suggests, or should we go in the opposite direction? In other words, 'To go still further,' as the Accelerationist movement argues, only this time, not through an absolute acceleration, as Land imagined, but through a mindful act? Not to withdraw from the process, but to meditate towards its future?

In his book, *Truth and Method* (1982), Gadamer argues that games have the ability to transform gamers in a positive and emancipatory way. For Gadamer, gaming is not just a process of control, it also opens a space where gamers can experiment and extend their gaming experience to the point where new realisations about the world can emerge. Athough Gadamer suggests that it's possible for gaming to create an emancipatory space, he asserts that the nature of games also hints at a process of absolute control of the game space over the gamers and for the invention of an alternative gaming practice in our digital culture. The need for such an invention is what Mckenzie Wark calls the 'gamer as a theorist.'[304] Wark shows us that gaming has emerged from post-Fordist social, economic, and military structures and has transformed them into a vast 'game-space,' a space dominated by its algorithmic codification. Wark argues that gamers are captured within a topological prison of control. The only way to escape from this prison is to invent a new type of gamer, one who can theorise their own game. Wark evokes an Accelerationist approach, concluding that the only way the gamer-as-theorist can move beyond the conditions set by the gamespace is 'by going further and further into gamespace to come out on the other side of it.'[305] But how can such a practise be

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[303] Shaviro Shaviro 2006: *'McKenzie Wark's GAM3R 7H30RY',* Pinocchio Theory Blog.

http://www.shaviro.com/Blog/?p=506.

[304] Wark 2007: p.097.

[305] Wark 2007: p.224.

possible? How can acceleration become a practise of resistance, when digital gaming is all about speed and infinite topological curves?

Steven Shaviro, in his blog review of Wark's book, modulates Wark's 'gamers' theory.' The call for 'gamers as theorists,' Shaviro suggests, is not so much a call for absolute acceleration, but a movement towards experimentation and critical thinking, not in order escape from the game but to discover ways to re-vitalise it. By following a Spinozian ethology, Shaviro argues that digitised gaming manifests an unknown plateau that is ready to be explored, exploited, and even overcome. He writes:

> I find this harsh conclusion both sobering and extremely important. Computer games are a relatively new medium, and we still do not really know what they can do, or what we can do with them or to them. When it comes to creative resistance, or radical re-creation, we still haven't caught up with them.[306]

For Shaviro, digital games do not only produce images of control, they also connect us with forces with which we are not familiar, and to which we do not know how to respond. For gamers, these new digitised forces were always the means by which they could experiment, extend their gaming experience, and perhaps evade or subvert the controls set by the game. Gaming culture has, to a large extent, been defined by this struggle between the subjectifications imposed by the gaming industry and the way that gamers resisted these rationalities by performing or inventing different technologies of self-care. This is a struggle for the creation of new political and economic possibilities within the interface, and has already resulted in remarkable successes such as the anti-capitalist politics of downloading, Open Source interfaces or the hacking practices of the 1970s, the piracy movement in the 1980s, and the techno-spiritual exercises applied by gamers in the 1990s. This means that, in gaming culture, there are already many active, micro-political processes of genealogy (Foucault), or examples of 'experimentation and critical thinking (Shaviro), that try to maximise openness. What I wish to do here,

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[306] Shaviro 2006: *'McKenzie Wark's GAM3R 7H30RY',* Pinocchio Theory Blog.

  http://www.shaviro.com/Blog/?p=506.

however, is to add another possible technique to this repertoire, one derived from the concept of mindfulness found in Buddhist philosophy and the concrete meditation practices to bring it about.

Meditation As A Technology Of The Self

These practices, I will argue, are not techniques leading to a transcendent knowledge, but operate immanently within the game to produce a selective becoming. Nevertheless, they are specific methods of mindfulness that can be performed in any exchange and interaction. For example, Tibetan Buddhist monk, Ogyen Trinley Dorje [H.H.Karmapa], uses meditative technologies within digital games as a form of skilful practice that can elaborate an ethical gaming subject. H.H Karmapa doesn't see digital gaming as a violent or stressful act, but as a spiritual exercise which can be used as an emotional therapy. He says:

Well, I view video games as something of an emotional therapy, a mundane level of emotional therapy for me. We all have emotions, whether we're Buddhist practitioners or not, all of us have emotions - happy emotions, sad emotions, displeased emotions - and we need to figure out a way to deal with them when they arise. So, for me, sometimes it can be a relief, a kind of decompression, to just play some video games. If I'm having some negative thoughts or negative feelings, video games are one way in which I can release that energy in the context of the illusion of the game. I feel better afterwards. The aggression that comes out in the video game satiates whatever desire I might have to express that feeling…Video games are just a skilful method.[307]

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[307] Ashmee 2009: *'Video War Games Satiete my Feelings of Agression',* Time of India, September *20.* ,http://timesofindia.indiatimes.com/home/stoi/all-that-matters/Video-war-games-satiate-my-feelings-of-aggression/articleshow/5032672.cms?.

H.H Karmapa suggests that ethical gaming is a therapeutic practice which aims for the cultivation of the self and that can be used and developed as such. By following this mindful aspect of gaming, I explore how meditation technologies can be used by gamers to extend the gaming experience and create an ethical potential for a therapeutic practice of the mind. In this discussion, however, I do not plan to refer to all of the practices of the Buddhist tradition. Rather, the aim is to establish a relation between Buddhist ontology, its practices and gaming culture, and use these practices as a 'technology of the self.' In this sense, Buddhist ontology will be located within the wider matrix of 'Philosophy as a Way of Life,'[308] as hinted at by Pierre Hadot and extended in Foucault's study of 'technologies of the self.' [309] In his book, *What is Ancient Philosophy?* (2004), Pierre Hadot re-conceptualised the ancient Greek term '*philosophia*' as a way of life that embodies a set of practices or spiritual exercises that 'engages the whole of existence'[310]. Hadot relates the term 'exercise' to the Greek words '*askesis*' and '*melete*,' denoting a system of athletic physical training, as well as spiritual training. These exercises, including meditation and the examination of mind, aimed to transform one's mode of being. The term *askesis*, therefore, does not describe a form of withdraw, but rather, as Foucault puts it, 'an exercise of the self, on the self, by which one attempts to develop and transform oneself, and, thus, to attain to a certain mode of being.'[311] Hadot argues that *askesis* is not a practice of self-denial and that, in its ancient Greek context, always had a more positive connotation that was closer in meaning to perfecting one's self, developing one's capacities, and forming the self as an ethical subject.

Hadot argues that *philosophia*, in opposition to the modern term of philosophy, is a system of spiritual exercises and 'a form of life defined by an ideal of wisdom,'[312] where wisdom is a process of detachment from 'worries, passions, and desires.'[313] Ancient philosophy, for Hadot, therefore, functions as a practical guide for life that is 'an

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[308] Hadot 1995.

[309] Foucault 1986.

[310] Hadot 1995: p.83.

[311] Foucault 1997: p.282.

[312] Hadot 1995: p.59.

[313] ibid p.103.

invitation for each man to transform himself.'[314] Thus, Hadot, by defining ancient philosophy as a diagram for wisdom, differentiates the modern notion of philosophy by defining it as a form of a practical philosophy. Hadot argues that, contrary to modern philosophy, which aims to produce different discursive practices exercised by specialists, ancient philosophy proposed an art of living.[315] In this sense, philosophy, in its ancient embodiment, was a spiritual exercise that sought to liberate thought from its ego-centred illusions and move one's perception into an egoless, subjective experience.[316]

This way of understanding ancient philosophy also characterises Michel Foucault's history of sexuality and his lectures on governmantality. Instead of a study of morals, Foucault presents a history of ethics that he calls 'ascetics,' presenting a history of different modes of subjectivations and how they were exercised to constitute a certain way of being.[317] Foucault's study on ethics was mainly influenced by Hadot's approach, introducing sexuality in ancient Greece as an ethico-political method of taking care of one's self.[318] In the second chapter, 'The Cultivation of the Self,' Foucault introduces the idea of an aesthetics of existence by emphasising that sexual codes in ancient Greece should not be considered as restrictions, but rather as a system of conduct by which one constituted one's self as an ethical subject.[319]

What Foucault presents in his study on the 'care of the self' is that, in ancient ethics, there was a 'spiritual affiliation that existed between the subject and truth.'[320] He asserts that earning the 'right' to know, or access, the truth, was achieved through engaging in aesthetic exercises and practices that led to self-transformation. With this turn towards an ethical relationship to the self, Foucault reveals the potential that 'ethics

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[314] Hadot 1997: p.227.

[315] ibid p.225.

[316] Hadot 1995: p.42.

[317] Foucault 1988: p.29.

[318] Davidson writes: 'Indeed, in order to fully understand Foucault's motivations and his object of study, one must take into account the way in which Hadot's work on ancient spiritual exercises helped to form his entire project.' (Davidson 1990: p.480.).

[319] Foucault 1986: p.41.

[320] Foucault 1982: p.305.

can be a very strong structure of existence, without any relation with the juridical per se, with an authoritarian system, with a disciplinary structure.' [321] Foucault, therefore, explores ethics beyond those morals that serve as a matrix for social rules and as a diagram of autonomy and liberation.

For Foucault, the modification between the relation to the self of the Greek world and modern society is not placed on an alteration within a system of rules and codes, but rather on the way in which the relation to oneself is sustained. Foucault argues that, in modernity, the Delphic self care notion of 'taking care of yourself' has turned into a relation with the outside, as it has been replaced by pastoral guide of 'know yourself.' The importance in this difference is that, for modern man, knowledge of the self comes entirely from outside: from disciplinary institutions, from normalisation, and from regulatory laws. However, in the Hellenistic and Roman worlds the relation to oneself comes from inside, from a practice of asceticism, which is a work on one's own *bios* and the shaping of oneself. These practices allowed an autonomous form of subjectivity to be created through a series of 'exercises that enabled one to govern oneself.' [322]

In his book, *Foucault* (2006), Deleuze refers to the ascetic practices as a form of form of subjectivation which create multiple 'transversal relations of resistance.' [323] Deleuze describes transversal movement as the open dimensions that every diagrammatic structure contains within itself and the actual potential to resist any dominant model. Ascetic practices, Deleuze argues, create a diagrammatic structure of an ascetic act that is not an additional model for the existing ones. They are a diagram that consists of the aesthetics of existence and aims toward 're-opening' the zones of subjectivation, permitting one to actualise autonomous virtualities. Deleuze asserts that Foucault's aesthetics of existence describes an enfolding constituted by the internalisation of external (power) structures. This fold is what constitutes subjectivity. According to Foucault, Deleuze continues, the modern self is a 'derivative of the outside, conditioned

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[321] Foucault 1982: p.260.

[322] Dreyfous 1983: p.106.

[323] Deleuze 2006: p.94.

by the fold.'[324] On the other hand, the ancient form of subjectivation derived from a folding of the outside, back to inside, creating a 'doubling allowing a relation to oneself to emerge, constituting an inside that is hollowed out to develop its own unique dimension: enkrateia,' the relation to one's delf that is mastery.'[325] As Simon O'Sullivan notes:

> 'The Greeks were the first to discover, and deploy, the technique of 'self-mastery,' redoubled force within the fold, making it relate back to itself.'[326] This appropriation of power 'is what the Greeks did: they folded force [and] made it relate back to itself. Far from ignoring interiority, individuality, or subjectivity they invented the subject [and] discovered the 'aesthetic existence.'[327]

Foucault argues that the difference between the ancient Greek and contemporary subject relates to how the two subjectifications are organised. It is precisely at this point that Foucault's conception of resistance changes from something that we resist to life itself as resistance.[328] This is a shift from viewing resistance as a tactical reversal and perceiving it as a way of life. Resistance, in this latter sense, involves transforming the subject in 'an overlapping and merging of ethics, politics and spirituality as each pertains to a 'mode of self-formation' or a 'mode of being.''[329] Thus, Foucault affirms ethics as the technology that aims towards freedom through a 'constant practice'[330] of the 'care of the self.'

Following this diagram of subjectivation, or 'care of one's self,' I will place Buddhist philosophy and its meditational exercises as a paradigm of practical philosophy constituted by exercises of freedom that can be applied, not only in the digitised realities

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[324] ibid p.87.

[325] ibid p.100.

[326] O'Sullivan in Parr 2005: p.80.

[327] Deleuze 2006: p.84.

[328] See: Davidson 1990.

[329] Carrette 2000: p.138.

[330] ibid p.21.

of gaming, but as performative practices that can be used in relation to digitalism in general. Buddhism will, therefore, be considered as both a tactic of reflection for sensing our digital virtualities - those micro-spasms in the brain - and as an ethical/spiritual *way of life* that allows us the freedom to shape our daily life. This is a choice about how to live and how to act. Deleuze, however, in his book on Foucault, is suspicious of Buddhism, or what he calls the 'Orient,'[331] in particular, whether it was able to construct a proper technology of subjectivation. Deleuze asserts:

> Foucault considers himself sufficiently competent to treat the subject of Oriental forms of development. He occasionally alludes to the Chinese art erotica as being different, either from our scientia sexualis (HS) or from the aesthetic life of the Greeks (TUP), and possess the question: is there a Self, or a process of subjectivation, in Oriental techniques?[332]

Deleuze is sceptical about this, writing: 'Perhaps the Orient does not present such a phenomenon, and the line of the outside continues to float across a stifling hollowness: in that case, asceticism would be a culture of annihilation or an effort to breath in such a void, without any particular production of subjectivity.'[333]

Deleuze is clearly influenced by the westernised Buddhist perspective typical of his era. This view tends to misperceive the notion of Buddhist emptiness as a concept related to the void or to nothingness. Such a perception is very common within the popular Buddhist ideas that are current in the West, which often sees Buddhist emptiness and its practices as a system related to the Christian notions of asceticism, withdrawal and void. However, emptiness in Buddhism, is a 'self-emptiness.' It refers to an object's endless transformative potential that defines its lack of permanent self-identity. Pierre Hadot understands Buddhism, not as a philosophy of the void, but as a method of self-

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[331] Deleuze is, in this sense, an Orientalist, since he constructs an image of Asia as a united system of thought.

[332] Deleuze 2006: p.123.

[333] ibid p.88.

transformation qua subjectivation. Influenced by Michel Hulin's work on Buddhist philosophy, Hadot writes:

> Despite my reservations about the use of comparativism in philosophy, I wanted to end this chapter by emphasising the extent to which Michel Hulin's description of the existential roots of the mystical experience is a description inspired by Buddhism [and which] seemed to me to be close to the characteristics of the ideal of the ancient sage, for the resemblances between the two spiritual quests seem striking.[334]

Hadot continues: 'This is why I earlier mentioned a Buddhist text, as well as some considerations by Hulin, who was inspired by Buddhism: because I thought they could give us a better understanding of the essence of the Greek sage.'[335] Hadot finds, in the Buddhist philosophical diagram, a direct correlation with ancient Greek philosophy that emphasises - compassion and wisdom - for their therapeutic and liberating potentials within an ethical practice of life.

Buddhism as a Way of Life

Western culture has, for many years, sought to appropriate Buddhist practices and traditions for its own ends. Meditation, for example, is often explained as a technology that allows one to gain success or simply relax by tripping within disconnected, Nirvanic worlds. In the last few decades, however, Buddhism has collaborated and interacted with Western science and culture, a relationship that has made Buddhism an active participant in the science and philosophy of the mind. Recent neuro-scientific research on Buddhist monks has tried to explore the way Buddhist exercises affect the brain and its internal structures.[336] This research shows extensive bodily changes, growth in regions of the brain, and a stronger immune system resulting from meditation. This has turned

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[334] Hadot 2004: p.232.

[335] ibid p.278.

[336] See: chapter 1.

scientists' view of the Buddha away from an image of spiritual transformation and towards an immanent alteration in the brain.

James Austin, for example, opens his book on Buddhism and the neuro-science, *Zen and the Brain (*1999), by connecting Buddha's path to enlightenment with the process of physically altering the brain. Through a topographical discussion of the human brain, Austin presents Buddhist philosophy as a philosophy of the mind which directly affects the body and transforms the brain into a compassionate, liberated self. The Buddha is no longer a symbol of enlightenment, but a living brain. Becoming a Buddha mind has turned into an entirely material process that 'heals' the brain from its self-centered attitude. The first teaching that Buddha presented to his disciples as a therapeutic guide for healing the mind was the 'Four Noble Truths,' which concern one's own existence and can lead to the solution of suffering. These truths are: '1. suffering exists, 2. suffering arises from attachment, 3. suffering ceases when attachment ceases, and 4. freedom from suffering is possible by practicing the Eightfold Path.'[337] The first truth concerns the 'illness' of 'dukkha,' which is the suffering that we experience due to our misconceptions about the world. The second affirms that the cause of this misconception is attachment and the habit of craving. The third asserts that, by removing the cause of attachment to things, it is possible to cure ourselves from these 'ill' conceptions**.** The fourth way outlines how to achieve the Eightfold Path, or the Middle Way. The Eightfold Path is a way we can respond to the conditions set by the other three truths and it can be successful if we apply the right concentration to the conditions of things. This concentration will bring the wisdom to end suffering, a process that involves our own ethics and aesthetics of life. How, then, can we end suffering? 'What is this truth of the Eightfold path,' the Buddha's disciples ask him? The Buddha answers in a way that helps his disciples to understand that there is therapeutic value in the epistemological dimension of the Four Noble Truths. The specific instructions the Buddha gave were actually lessons to help find the way to heal and liberate the mind. For the Buddha, healing the mind is not a transcendental or ideal process, but a method by which one can cure oneself, a practice that brings the wisdom of knowing one's self. To know one's self

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[337] Bikkhu 2007: p.16.

is, for the Buddha, to know the mind and to examine its functions. Therefore, one should not consider oneself as a person who needs moral amendments, but as a patient who suffers from certain ills.

The Buddha diagnosed human life as suffering. This arose from a view of the self as an existence that creates self-perceptions born out of ignorance and are expressed as limitless craving. As a result, the Buddha's discourses do not try to reveal the true state of the soul, or of a God as a creator of things, but rather explores the problems of self – mind, body, consciousness, and reality - as empty, interdependent, and transitory phenomena. This fundamental law, in the ancient Indian language of Pali, is called *pattica samupada* ['co-dependent arising,' 'conditioned co-production,' or 'reciprocal causal genesis']. It is the foundation of the Buddhist philosophy of cognition, which argues that cognition and affection participate in a cycle of interaction within which experience arises and is sustained. What the Buddha discovered was that, in the chain of 'Dependent Origination,' all beings and phenomena come to exist in correlation with each other; there was never anything present which could be permanently kept together, nor anything that could be inherently understood as the 'Self.' When the chain of Dependent Arising is understood, one observes that nothing can be permanent. Things are always arising and ceasing, and there cannot be an absolute being or non-being that remains the same. All beings and phenomena 'exist or occur only because of their relationship with other beings or phenomena.'[338] However, the Buddha argues, the human mind nevertheless misperceives reality as self-centred because our experience involves a conceptual discrimination that gives rise to a conscious, self-centred mind. But, the Buddha continues, nothing in this world has an enduring essence - neither is it static nor concrete – since, due to their inter-dependent origination, nothing can be said to have an inherent self-identity or self-centre [*anatta*]. The Buddha not only exposes the inter-dependent conditions of phenomena, he also unfolds the perception of a permanent self-identity. At this point, the Buddha teaches the law of emptiness (*shunyata*). It is important here to repeat that emptiness does not refer to nothingness or void, but is instead the notion that nothing is simply itself, but is inseparably folded within its

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[338] Matsuda 1983: p.33.

contexts. When Buddha talks to his disciples about the 'emptiness' of self, of all phenomena, he does not suggest that the self does not exist or that the world is an empty [void] space. He refers to the 'unlimited potential for anything to appear, to change, or disappear.'[339] Thus, emptiness is not a negative concept which denotes lack, but a positive one which expresses that nothing in the world can arise independently from other factors or other phenomena, so consistency is always interdependent with other conditions or phenomena. This concept is closer to Deleuze's philosophy than he himself acknowledged, and it presents fullness, rather than emptiness. The Buddha, in the Heart Sutra, explains:

> Shariputra, any son of the lineage or daughter of the lineage who wishes to practice the activity of the profound perfection of wisdom should look upon it like this, correctly and repeatedly beholding those five aggregates also as empty of inherent nature. Form is empty. Emptiness is form. Emptiness is not other than form; form is also not other than emptiness. In the same way, feeling, discrimination, compositional factors, and consciousness are empty. Shariputra, likewise, all phenomena are emptiness; without characteristic; unproduced, unceased; stainless, not without stain; not deficient, not fulfilled. Shariputra, therefore, in emptiness there is no form, no feeling, no discrimination, no compositional factors, no consciousness; no eye, no ear, no nose, no tongue, no body, no mind; no visual form, no sound, no odor, no taste, no object of touch, and no phenomenon. There is no eye element and so on up to and including no mind element and no mental consciousness element.[340]

The self, in Buddhist terms, is a relational state that is always local and unstable. These relations do not emanate from a centre, but they are dispersed functioning as an immanent field of forces. So, what we call 'self' is not a centralised force, but a complex network of multiple bodies, relating and interacting with their environment, always containing other infinite bodies, reaching even to the subatomic levels. These are the

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[339] Mingyur 2007: p.60.

[340] FPMT 2008: p.6.

Buddha's ideas on the non-self,[341] which are discussed in the *Mahanidana Sutta* of the *Dighanikaya*. The Buddha asks in what way the self is perceived, and it is seen thus:

> feeling is myself, feeling is not myself, and myself does not experience feeling; feeling is not myself, myself does not lack experience of feeling;' 'By myself are things felt, the thing that feels is myself. To those who hold the view that feeling is myself, it should be said that feelings may be happy, unhappy or neutral; any one of these are impermanent, conditioned, arising from other relations.[342]

Subjects and objects, in other words, are formed within a relational field and take on the appearance of objects that transcend it. However, the plane of this endless production of subjects and objects is an infinite immanence that is expresses all possible modes existence and non-existence which are occurring simultaneously and forming what we call a life.

Taking this fundamental law of emptiness (non-self) in the sutra 'Question of King Milinda' (*Milindapañha*), the Buddhist monk, Nagasena, answers the philosophical questions put forth by the Greek king, Milinda.[343] This sutra exemplifies how the idea of dependent origination and the interdependence of all existence are elaborated, not only to negate 'selfhood,' but also the lack of inherent existence in any matter. Nagasena responds to Milinda's question about the notion of non-self with the example of a chariot. He says:

> 'You, Sire, have been brought up in great luxury, as beseems your noble birth. If you were to walk in this dry weather on the hot and sandy ground, trampling underfoot the gritty, gravelly grains of the hard sand, your feet would hurt you. And as your body would be in pain, your mind would be disturbed, and you would experience a sense of bodily suffering. How then did you come, on foot, or in a chariot?' 'I did not come, Sir, on

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[341] Anatta in Sanskrit.

[342] Boddhi 1995: p.25.

[343] King Menander 100 BCE.

foot. I came in a carriage.' 'Then if you came, Sire, in a carriage, explain to me what that is. Is it the pole that is the chariot?' 'I did not say that.' 'Is it the axle that is the chariot?' 'Certainly not.' 'Is it the wheels, or the framework, or the ropes, or the yoke, or the spokes of the wheels, or the goad, that are the chariot?' And to all these, he still answered no. 'Then is it all these parts of it that are the chariot?' 'No, Sir.' 'But is there anything outside them that is the chariot?' And still he answered no. 'Then, thus, ask as I may, I can discover no chariot. Chariot is a mere empty sound. What then is the chariot you say you came in? It is a falsehood that your Majesty has spoken, an untruth! There is no such thing as a chariot! You are king over all India, a mighty monarch. Of whom then are you afraid that you speak untruth?' And he called upon the Yonakas and the brethren to witness, saying: 'Milinda the King here has said that he came by carriage. But when asked in that case to explain what the carriage was, he is unable to establish what he averred. Is it, forsooth, possible to approve him in that?' When he had thus spoken the five hundred Yonakas shouted their applause, and said to the King: 'Now let your Majesty get out of that if you can?' And Milinda the King replied to Nâgasena, and said: 'I have spoken no untruth, reverend Sir. It is on account of its having all these things - the pole, and the axle, the wheels, and the framework, the ropes, the yoke, the spokes, and the goad - that it comes under the generally understood term, the designation in common use, of 'chariot.' 'Very good! Your Majesty has rightly grasped the meaning of 'chariot'.[344]

What the monk offers to King Milinda is a 'game of truth' that opens up a new realisation about human perception. The mind produces a kind of centre, which magnetises all the other centres and creates things as true, disconnected, and permanent. For the Buddha, the nature of human beings is to try and grab onto the ephemeral world, attempting to grasp what cannot be grasped. Due to the desire of attachment, they mistake ephemeral reality for permanent identity, repeatedly misconceiving the self as inherently

[344] Bikkhu 2012: p.43.

existing. As long as one perceives reality in such a way, nothing is ever fulfilled and desire becomes a source of suffering and pain. The mind limits desire by attaching it to pleasure, but this can only be momentary, and momentary pleasure is a reactionary process that produces dissatisfaction, which in turn leads to anger, fear, and other negative emotions that produce, in their turn, an unfolding series of sufferings. The Buddha argues that we could begin to cultivate our minds beyond our normal human tendencies of desire, greed, hatred, and delusion by realising how to desire without grasping. The mind grasps things because it perceives only what it is made to perceive, which leads to the reproduction of the same ideas and the same structures of perception. The Buddha knows that it is memory and the force of repetition that causes suffering, but he also teaches that we are all able to learn to desire without grasping. This is, at least for the Buddha, the 'divine quality' which is in everybody, a 'God' mind, not as a transcendental creator, but as 'a guest in a mortal body,'[345] which can be found in anyone. However, we must discover that we are ill and need to be treated, giving rise in Buddhism to a whole series of medical metaphors that are used to describe the practices needed to for care of the self. The Buddha insists that his disciples must be mindful of their conditional mind and see their state as a specific pathology which they want to cure. The Buddha said:

> Whether the world is finite or infinite, limited or unlimited, the problem of your liberation remains the same. […] Suppose a man is struck by a poisoned arrow and the doctor wishes to take out the arrow immediately. Suppose the man does not want the arrow removed until he knows who shot it, his age, his parents, and why he shot it. What would happen? If he were to wait until all these questions have been answered, the man might die first.[346]

The Buddha approaches the body and mind as if he is a physiologist, as his discourses are concerned with the forces taking place within it and the ways they produce health or ill modes of sensations. The Buddha viewed the illness of our ego-centred

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[345] Foucault 1986: p.93.

[346] Hanh 1974: p.42.

minds as both cognitive and affective, as a something that can be cured only by developing both the heart and mind. Buddhists argue that the cultivation of the heart and mind can only succeed through specific spiritual exercises that will enable the meditator to reorganise her 'Body without Organs,' experiencing the world as an interconnected whole. In these exercises of examination, the concepts of impermanence and non-self are the objects of study and are cultivated. So, for Buddhists, the familiarisation with this 'empty' state of the self begins as a series of exercises whose function is to train one to regard reality as merely apparent, and to affirm such appearances as a precondition for the localisation of desire and other forms of affective attachment.

Now I turn our discussion to the various techniques of meditational 'games' that can be found in Buddhism. Meditation is often perceived as imaginative, or as an ascetic practice that is disconnected from everyday activities. Indeed, the question of retreat and social life are frequently discussed within the Buddhist philosophical tradition. However, meditation is not simply a matter of asceticism, it is a technique that enables one to create autonomous subjective modes and constitute one's self as an ethical subject. George Dreyfus, in his article on Buddhists meditational technologies, 'Meditation as Ethical Activity' (1995), asserts: 'Meditation is a practice that aims at a process of self-transformation in a cultivation of the desirable traits of one's character. Certain habits due to the domination of negative emotions, such as attachment, are transformed and gradually eliminated.'[347] The Dalai Lama notes that meditation is a 'practice aimed specifically at the principal objective, which is the cultivation of a compassionate heart that is the union of compassion and wisdom. This is a form of training that requires the cultivation of greater cognitive and affective concentration or integration,'[348] achieved through a practice of mindfulness. Mindfulness is not just an explanation of what you are and from what you suffer, it is also a system of spiritual exercises that aim to access the relationship between one's self and that which is represented, and to investigate the current condition of things. In this sense, mindfulness is the awareness of the habit of consciousness to distinguish 'between self and others, subject and object, and a

[347] Dreyfus 1995: p.42.

[348] Dalai Lama 2010: p.153.

unification of the analytical and intuitive aspects of consciousness'[349] that is both therapeutic and liberating. The aim of mindfulness, therefore, is to create a virtual field that will enable us to come into a greater contact with reality — which is the practice to bring oneself into contact with how the self-centred mind perceives and acts, and to go beyond this.[350] The mindful relationship is, therefore, a self-caring practice that presents a mode of a 'constant attitude that one must take towards oneself.'[351]

To articulate this principle of mindfulness as the spiritual exercise of a schematic attitude towards oneself, the Buddha initiates the Fourth Noble Truth, which is the practice of the Eightfold Path to enlightenment. The Eightfold Path begins as the Fourth Noble Truth, which aims to lead oneself from the sufferings of a conditional mind that perceives the self as an individualised and stable entity. This path has eight factors: '1. right view, 2. right thought, 3. right speech, 4. right action, 5. right living, 6. right effort, 7. right mindfulness, and 8. right concentration;'[352] the order of the eight paths traces a natural process. Right view occurs first, by experiencing and realising the interdependence of things. Right understanding open the conditions for right thought, where a person's actions become more mindful, thus cultivating a deeper insight about the conditional arising of things. Once the meditator more deeply cultivates his views about the interdependent arising of things, his actions become improved and he starts to experience a more joyful mode of life. This is the platform from which the one can start to extend his mindful practice, reaching a state that allows him go into a deeper into meditation and experience the world beyond the human conditions of self-centredness. In this sense, the Eightfold Path is a programme towards creating an inhuman subject who is liberated from the humanised ego. Simon O'Sullivan supports this view when he writes, in his essay, 'A Life between the Finite and Infinite: Remarks on Deleuze, Badiou, and Western Buddhism' (2014):

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[349] Mingyur 2010: p.227.

[350] Simon O'Sullivan notes: 'The Buddha forcefully confronts reality, and in so doing becomes reality.'(O'Sullivan 2000: p.105.).

[351] Foucault 2012: p.63.

[352] Bhikkhu 2007: p.58.

Spinoza's Ethics is then remarkably similar to a Buddhist system of ethics, seeing as both emphasise a kind of programme for man, but then ultimately become something more inhuman. Indeed, it is as if there are two ethics: the one of the path – human, mediated, requiring effort, and the one of the goal – inhuman, immediate, effortless. The two are connected insofar as the former builds a platform towards the latter. However, they are also qualitatively different because the first is a technology of the subject, whereas the second is, properly speaking, 'of' the object – or, in a manner of speaking, the becoming-world of the subject.[353]

By following the Eightfold Path, Buddhist practitioners seek to attain certain qualities that are not inherently human, but potentialities that our human condition can cultivate and actualise. Indeed, the ethics involved in Buddhist ontology are of an immanent type that diagnoses the modalities of the ego-centred body/mind and aims to transform it beyond its self-centred identity. The Buddha reminds us that our embodied minds are not static entities, but a dynamic, a-centred system that is conditioned by the different modes of affective relations it establishes. For the Buddhist, a programme of ethics indicates a process of diagnosis between the modes of different relations within bodies and is an essential practice for the creation of a free subject. This is a passage from the static consistency of relations to a more dynamic and transformative one. Thus, Buddhist ethics constitutes a practice of self-cultivation through a familiarisation with the emptiness of things. This is achieved through the exercise of mindfulness and is connected to an awareness of the interconnectedness of life and all things.

The physical projection of Buddhist ethics is accomplished by sensing the body's power in its various affiliations and modes of expression. To achieve this, one must learn to 'sense' how the self-centred mind acts at any moment through meditation and opening a different level of awareness where one can mindfully examine and test his actions and thought. Mindful examination is initiated through different 'practices in motion,' which includes spiritual exercises undertaken while walking, eating, or gaming. One way to

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[353] O'Sullivan 2014: p.270.

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begin these practises is to direct the mind on physical sensations and sense the forces in the mind. The instructions given for this exercise are to first rest the mind into a physical experience, keeping it still, then gently begin investigating the different sensations that arise and are felt. The meditator must allow his mind to observe these sensations, simply becoming aware of them and nothing more. Gradually, he must start to observe the sensations that are expressed within his body. At this point he is simply observing and recognising the sensations as they arise; there is no need to reject or try to transform anything. After a few minutes, the meditator allows the mind to rest again, paying attention to the sensations as they arise and continuing contemplation between these two modes for the duration of the exercise. Through this practice, the meditator is able to begin experiencing how the mind expresses itself – simultaneously, and on different levels - and sense how self-centredness arises and changes attitudes and sensations. By familiarising oneself with the mind, one can begin to sense its basic functions and slowly reorganise it beyond its self-centred attitude.

For Buddhism, the focus of attention in these practices of the self is opening a virtual plane where one can experience life in a wider sense than that of an individual who is disconnected from the world. As H.H., the Dalai Lama, explains: 'You may intellectually see the advantages of an altruistic awakening mind, but that does not actually affect your self-centred attitude. Your self-centredness will be disorganised only through constantly familiarising yourself with that understanding.'[354] In other words, disorganising the body/mind beyond its habitual self-centred attitude cannot be expressed in concepts, but only comprehended through experience. In this sense, the practice of mindfulness is understood as a practice of de-subjectivation, a practice of, as Foucault described it, 'distancing oneself and free oneself from one oneself.'[355] This does not, however, involve a negation, but rather a virtual opening onto the plane of aesthesis, experiencing the body as a dynamic, boundless field of intensities. The notion of de-subjectification as a form of non-self-centredness is not an act of self-destruction. On the

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[354] Dalai Lama 2008: p.95.

[355] O'Leary 2006: p.13.

contrary, it involves the production of an affirmative, non-centralised, and non-individualistic conception of self.

We must now ask how the meditation on non-self can be an effective way of engaging with actual power structures in the world. What is the relationship between the Buddhist path to enlightenment and a resistance to digital bio-politics?

Mindfulness In The Age Of Digital Machines

As we have seen, the introduction of digital interfaces gave us a new regime of media forms that extended the ways we are both affected and controlled. Today, we live within a technological mode of representation and consumption that creates a complex space of images with which we interact. Through this technological regime, we are exploring our mental process, not as a form of personal development, but also as new forms of labour produced by cognitive capitalism. What the digital image introduced into society is a contemporary factory where the productive force of the brain and its affective modes are exploited. This suggests that, despite the hegemonic image-regime, we can still produce alternatives to it. While these are often appropriated within the immaterial factory, they nevertheless provide a margin of possible freedom within which dominant images might be decoded and reloaded with a vital, undetermined potential.

The process of decoding these images, I argue, is technological and ethical, and is achieved through initiating the spiritual exercise of Buddhist mindfulness. I propose that this can be utilised by entering into a meditative exploration of gaming images in the same way that Buddhist therapeutic technologies access the moments of consciousness. This is an experience that is not founded on conceptual understanding, but on an insight into the conditioned arising of things. Therefore, mindfulness, in relation to gaming, begins with empirical study of the role affectivity plays in gaming; that is, by analysing the affections taking place in the gaming process, we can liberate their forces from the feedback loops of the gaming code and open them into a new future. From a Buddhist perspective, attachment to the forces of the past and the forces of the future is an

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attachment based on the experience of the ego. Opening them to the future in the sense I mean here is to turn them into an ego-less - or subjectless – experience or sensation. This event is not the ego-centred experience of cognition, but an experience of being egoless. Unless we see this process in such a way, detachment becomes a process of negation, and as a form of difference, remains too dialectical because it retains what is negated (the ego) in the act of negation. In the context of this thesis, mindfulness is not just a mode of presence that aims to empower the user with the mental tools to achieve productivity within the digitised economy of gaming, but a virtual openness to other durations and other possibilities for life. In this context, the task of mindfulness is to maximise openness in gaming in the same manner that Bifo suggests for resisting the control mechanisms imposed by the digital regime, as a practice of 're-focusing attention on de-territorialising points of attraction, opening up the possibility for new investments of desire to become autonomous from competition, acquisition, possession, and accumulation.'[356]

Mindfulness, in its bio-political expression, is a technology that operates on both a subjective and social level by allowing an ethical self-care in the world and allowing one to work on one's bios and the shaping of one's self. From this standpoint, gamers' ethics becomes a form of expression and experimentation that never assumes a transcendent point of view. Rather, they require an immanent evaluation and affirmation of forces experienced as a dynamic interconnected whole. Mindfulness, therefore, recalls something that is characteristic of Foucault's ethics of the self, which is the future orientation of being. At the same time, it expresses a Deleuzean atheistic mysticism, which is the meaning of expression/construction – the expression of the whole within the particular that also changes (ie. constructs) the whole. This places mindfulness as a mode of 'presentness,' offering a new relation to our digital conditions that are both corporeal and affective. This is an experience in the virtual dimension of our bodies, rather than a sensation of something other than our bodies. Sensation, in these terms, is an experience that is also a force to recreate the body as a body of sensation, rather than a body that has

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[356] Bifo 2010: p.140.

a sensation. For Deleuze and Guattari, it is the 'Body without Organs,' traversed, and so constructed by forces.

These forms of engagement are not achieved by creating new lines of communication or new virtual communities, but by an active engagement founded upon our ability to produce our own modes of subjectivation. In this sense, mindfulness is the conduct of oneself in the world, as well as a work on one's bios; it is the starting point for 'exercises that enabled one to govern one's self.'[357]

What a Body/Mind Can Do

In the following two examples, I aim to apply the theoretical model developed above to two games and introduce a more positive paradigm of gaming. *Call of Duty – Modern Warfare* (2007) is a popular first-person shooter whose ethics are anything but enlightened. It is for precisely this reason that it provides the perfect case study for how an ethical theory of gaming, based on meditation techniques, can be applied to the political modes of subjectivation enforced by the game's military logic. The second example, *EarthBound* (1992), is a quite different example, where the emergence of mindfulness actually comes from the gaming code. *EarthBound* is a game that offers a game space where one can mindfully invent the different tools with which he can affectively and conceptually visualise the real. In *EarthBound*, I present an empirical description of what happens *in the game,* because its relation to mindfulness is already part of the game design. With *Call of Duty,* I discuss how gamers can impose mindfulness on the game, and so de-territorialise its militarised environment.

We recall that, *Double Dragon* (1987), was an arcade game that introduced street fighting to the digital era. In this game, there was no need to get into a real fight with your bodily powers; you just had to fight the digital interface by exercising all of your cognitive skills. In the early years, digital gaming culture developed through war and fighting games. This was a world where groups of armed, cybernetic avatars - equipped

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[357] Foucault 1988: p.77.

with advanced arms and communicating devices - navigating and exploring the frontiers of danger and death, they surveying everything, ready to attack. It is this same 'realism' that places *Call of Duty: Modern Warfare* in the heart of the darkness of contemporary digitised war deserts.[358] *Modern Warfare* is an anti-terrorist game that starts in an American training camp in Afghanistan. From the first level, the gamer is placed under the supervision of a cyber-commander who gives orders and instructions about how to change weapons, shoot, and kill. This is a hyperactive, first-person shooter automaton, stratified under the cyber-commands of military order. An acceleration of action is the main target of the game, there is no need to talk, no need to think - you simply respond as fast as possible to your orders and gain the score needed to pass on to the next level or die. Obedience is directly proportional to competence because you must act according to law and order for survival within this gaming desert.

Figure 22

Fig. 22 Call Of Duty-Modern Warfare 2007 by Infinity Ward.

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[358] Call of Duty: Modern Warfare 2 - Opening Cinematic.

 http://www.youtube.com/watch?v=QE7Iiq3tQkM.

The game is reflexive before it is communicative: shoot and kill, improve your cognitive skills, and lose any sense of your actions. This senseless action is connected to what John Protevi calls 'the desensitisation effect of training,'[359] in his work on cyborgs and military training in the age of digital machines. Protevi's explains, in his essay, 'Affect, Agency and Responsibility. The Act of Killing in the Age of Cyborgs' (2008), that the development of digital gaming allows soldiers to train within a virtual gaming space instead of training in real-world camps. These simulated training territories aim to produce a desensitised subject that can 'temporarily withstand the stress of the act of killing.'[360] The digitised soldier, Protevi argues, is organised a contemporary cognitive subject through repetitive simulation training. He is conditioned and acts, not only through reflexive responses, but through a process that involves the whole consciousness.

Call of Dutty is a game designed to follow this kind of bio-political project and produce a perfectly desensitised, reactive man of the future who follows orders and commands through the interface. Within this game space of cognitive militarism, there is no path for escape into a Utopian world. There is only the digitised battlefield, structured around movements of cold affects, tracing the path from command to execution. This is not just an image of the future, but a dystopian world of affective governmentality, arranging the gamer within the cybernetic circuits that require constant attention and reflexive responses and turning her into an ideal gaming soldier - a gaming soldier that lives an individual life.

Call of Duty takes place within a gamespace designed to endlessly produce targets and scores, simulating an environment where intuition and affection actualise a very specific virtual organisation. This organisation is created with the intention to mutate and 'denaturalise' the world of war; it is an alteration that invites gamers to sense a different rhythm; 'a different economy of bodies and pleasures'[361] in the hegemony of reaction and

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[359] Protevi 2008: p.410.

[360] ibid p.409.

[361] Foucault 1990: p.159.

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its specific mode of attention: stay focused. The aim is to organise the gamer under the logic of a centralised mode of attention, based on commands that structure him as a unified, militarised automaton.

Figure: 23

Fig. 23 Call of Duty - Modern Warfare by Infinity Ward.

Call of Duty synthesises a representation of the reality of war with a virtual dimension. Warfare no longer takes place on the battlefield, but is reflected in the mirror neurons that the game activates, rewiring the brain to cope with the speed of war and the emotional intensities of success and efficiency. The gamer has to act according to a specific localisation of desire; satisfaction is gained by the success achieved through virtuosity and measured through the score. This is 'virtuosity' in the sense that Virno developed in, *A Grammar for the Multitude* (2004), by arguing that the post-Fordist conditions of capitalism have not only transformed the conditions of work, they have also placed labour into a continuous process of action based on virtuosity and extensive creativity. For Virno, the emergent technological regime of digitisation created the conditions for the emergence of a new historical subject that not only resembles the qualities of a virtuosic performer. It has also created the conditions for the emergence of a new communal activity, because this virtuosity 'it is an activity that requires the presence

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of others, which exists only in the presence of an audience.'[362] According to Virno, the expansion of technological functions is not merely a process founded on producing goods, but an alteration in the production process itself. The advantage of the immaterial factory, he argues, is one of producing contemporary subjectivity. Digital capitalism gave rise to an active worker who does not merely produce on an assembly line, he engages in an immaterial production made from imaginative self-reflection, communication and creative engagement with digitised machines. In this way, the intellect in general has been occupied by an active and cognitive kind of thinking. In Virno's view, the contemporary digitalism regime produced a virtioustic affective labourer who functions and acts according to his cognitive skills and ego-centred creative imaginations.

Call of Duty is, first and foremost, a game that focuses precisely on the affective pleasure of virtuosity that is specific to immaterial labour and which is concurrently expressed as reactive and reflexive, and as the attainment of a skill of attention. Nevertheless, there are ways these simulations can be utilised as interfaces, allowing a mindful mode of awareness to be cultivated. Within this militarised reality, we can actually transform its reflexive militarised logic through infusing a mindful act within our actions, without experiencing the kind of hallucinations or spiritual breakdowns that Bifo suggests. Games like *Call of Duty* can act as training mechanisms for mindful attention, and so insert a virtual insight with its own spiritual and ethical rhythm into the horrors of an automated and militarised humanity. This is mindful practice as aesthetic experimentation, rather than being oriented towards an ideological negation, it attempts to explore and extend what the game makes us feel. Following some of my previous comments, we might add that, although this mindful practice starts with a cognitive sense, it is only its point of departure. The aim is to focus on the boundaries of representation and train our mind to the openness of things, facilitating the destruction of certain circuits of subjectivation that are already part of our singular plastic body/minds. Accordingly, what I propose as a mindful act is not simply a cognitive negation of the images represented on the screen, but an insight into how our embodied minds perceive, act, and sense within the intensities and conditions set by the game design and discover

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[362] Virno 2004: p.50.

an image of different rhythms and flows. For Deleuze, it is only cinematic technology that can initiate its mode of spiritual automatism.[363] However, cinema's new will to art – which, as Deleuze suggested, came after the time image - appeared as a Neuro-Image.[364] This artistic creation never came in digital gaming, which instead turned its automatisms towards the economic processes of interaction and consumption. As a result, the gamer must create an autonomous zone of subjectivation that has its own aesthetics and ethics.

At this point, we need to attend to the difficulty of describing this game in terms of mindfulness. If attention and affection are controlled by the game's automatisms, by its structures and rules, how can we use mindfulness and attention to respond to these systems of control? At first glance, the connection between digital games and mindful attention might seem strange, because one can assume that this is an attention based on the same cognitive mechanisms that the game requires and tries to control and exploit. In one sense, attentiveness might be understood as something that is already taking place within the circuits of gaming and its image consumption. But, contrary to an attention based on cognition, the practice of mindfulness asks for a different mode of attention. This is an attention that is able to open a virtual territory where we can sense and see how our mind acts. Thus, this 'virtual' attention might be understood as the operating field from which we obtain a sense of the intensive speeds of the BwO and become sensible of its potentials. As we have seen, *Call of Duty* is a game that can be described as an acceleration of reflexive and intuitive acts, orientated towards the pleasures of virtuosity and mission success. Furthermore, *Call of Duty* is a game that sets up an existential refrain of over-production and consumption, a psychological environment of accelerating signs, actions, and affective simulations from which there is no escape. Nevertheless, when we're dealing with the cybernisation of thought, the problem is not to control the process by bringing the gamer back to 'normality' and reintegrating his behaviour. The aim is instead to de-territorialise the mind and its expressive flow and open new modes of creativity. This is a movement that passes through different stages: from affirmation to

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[363] Deleuze writes: 'Electronic images will have to be based on still another will to art, or on as yet unknown aspects of the time-image.' (Deleuze 1989: p.266.).

[364] See: Pisters 2012.

difference, from critique to evaluation, from new thought to new physiology that constitute the genetic ontology of the 'event.' If we learn to focus attention to these stages, we can sense their expression [expansion-construction] and create our autonomous zones of subjectivation.

So, how is mindful praxis performed? We can start by focusing on how the game's shooting actions give rise to internal feelings, or on how touching the controls produces both internal feelings and external impacts on the game. The choice of what to focus on can range from an open-ended one or become subject to specific lengths of time, as is the case in characteristic meditation practice. The gamer takes one object of study and starts to concentrate on its function and investigate how the mind experiences it. In this process, the gamer doesn't have to accept or reject anything as artificial or real, but instead investigates how the mind reacts to subtle experiences. After this step, our gaming becomes investigative and transformative. When the mind is in a certain mode of being or a certain level of mindfulness has been cultivated, the gamer can examine the mind when it is gaming. The gamer then begins to sense the interdependence of things when she is targeting and shooting within the game space of Call of Duty and to feel that nothing is permanent, but is an ever-unfolding. This self-sensing thought arises as soon as the gamer perceives the conditional nature between her actions and the targets. Then she can open a space where she is able to sense the actual and the virtual dimensions of thought. It is at this moment that ethics become central to attention and mindfulness. The gamer who is 'mindful' can become conscious, not only of what he does, but of what he is and who he wants to become. His self-consciousness is, first and foremost, an automaton of ethical sensitivity, because when the gamer cultivates the virtuality of mindfulness, she senses the conditional arising of things, no longer as a disconnected individual, but as an interconnected whole. *Call of Duty*, rather than a game for organising and training a digitised soldier, becomes a gaming platform for learning to be mindful, for learning to become aware of our state of mind, becoming aware of the gaming rules and ideologies, and turning our attention to the opening of the virtual aesthesis. This mindful exercise constitutes opening a field of sensation, which is an expression of atheistic mysticism as an: 'experimental practice exploring what the body can do, and as such is the continual emergence of new expressions (new existences, new

affectual assemblages, new becomings) of intense essence.'[365] When the gamer starts to 'look' at the impulses produced by targeting and shooting, she is able to sense her whole mind becoming engaged in the gaming process. By creating these autonomous zones of subjectivation, the gamer crosses the path of another game: becoming a mindful 'gamer.' She is now gaming with virtual targets, shooting algorithmic avatars, and gaming within an ungrounded game. The space of the game isn't destroyed and it doesn't disappear. The gamer simply realises that he was gaming an empty machine, a machine of abstraction.

In recent years, a new relationship between fitness, therapeutic techniques, and digital games has become a major part of digital gaming culture. For example, Wii was a console that didn't achieve success through its high-speed graphics, but by its ability to act as an interface for better fitness. In her Time Magazine article, 'Is the Wii Really Good for Your Health?' (2007), Tracy Samantha Schmidt writes that 'medical researchers are touting their health potential for more than just weight loss.'[366]

Today, the very concept of a flexible user seems to extend in a new direction towards health care, mindfulness, and affective technologies. This process of programmeming the digital code as a gaming image can facilitate the flexible gamer to train, not only his cognitive skills, but his whole being. This process is not founded on a new gaming mode that aims to extend thought and sense as ethical acts of self-sensing engagement with the sensory intensities initiated by the game. Instead, it follows and extents the same design patterns as games such as Call of Duty, which facilitate an ego-centered type of activity.

A more direct example of this relation of gaming with mindfulness and science is the research started in 2014 by the Department of Affective Neuroscience at Wisconsin University. The research, funded by the Bill and Melinda Gates Foundation, will be the first study of digital games in the context of neuro-plasticity, neuro-science, and

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[365] Zepke 2005: p.74.

[366] Schmidt 2007: *'Is the Wii Really Good for Your Health?'*, Time Magazine February 01.
http://content.time.com/time/business/article/0,8599,1584697,00.html.

mindfulness. The study will examine the differences between how gamers behave when they game two commercially produced games and two that were designed to promote mindfulness.[367] Through MRI scanning before, during and after gaming, researchers want to explore the ways that specific modes of gaming can simulate a humanised empathy and self-control. The body without organs of the gamer becomes a site of greater control and mindfulness turns into a tool for organising the whole sense under the cybernetic feedback of the game design. Richard Davidson's article in, *Nature* (2013), asserts that this research on mindfulness and digital games aims to create the possibility for the industry to produce games that have therapeutic value. He says: 'This project underscores that social skills should be understood the same way as cognitive skills. One's ability to respond empathically is a skill that can be trained in the same way that memory can be trained.'[368] The Wisconsin research team also aims to design digital games which can be treated as pharmakons[369] and used both as a therapeutic treatment and as products for learning mindfulness. Steinkuehler, the leader of this research project, has applied to the Food and Drug Administration (FDA) for acceptance of these digital games as a pharmaceutical drug. Steinkuehler asserts that FDA acceptance could create the possibility to design digital game technology as 'applied pharmaceuticals.'[370] She says: 'We are at the very precipice of this research. But our end goal is to create experiences through technology that can significantly and positively impact brain functioning and emotional well-being.'[371] For Steinkuehler, this call for an 'electronic medicine' is a mode of gaming software production that aims to use mindfulness as a managerial tool, enabling the 'user' to become more productive and functional within the gaming realities of our digitised age.

We can identify that, in the larger genealogy of gaming culture, there is a historical relationship between mindfulness and gaming that alters the image of

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[368] Davidson 2013: p.10.

[369] The term 'pharmakon' comes from Derrida's book Dissemination (1981).

[370] Steinkuehler cited Isthmus 2013: *'Can Video Games Create Mindful Teens? U-W Madison Research Look into the Therapeutic Possibilities'*, December 19. http://www.waisman.wisc.edu/news2013-DavidsonDec19.htm.

[371] ibid.

digitisation from a system of control into that of a pharmakon. Within our digital era we have two aspects of the digital image: one founded on the notion of control and another, medical view, of digital technology as a clinical physiology that acts both in terms of control and as a therapy that feeds the 'ills' of the ego. At the same time, as a performative practice it acts as the opening for an engagement that will enable one's self to be formed as an ethical subject. In digital gaming culture and in an affiliation to mindfulness, we can identify these two facets of the pharmakon. First, we have the implementation of mindfulness as a practice of digitised individualisation. This is the current privatisation of mindfulness that positions mindfulness in the cognitive realm of a humanised experience, excluding it from its ethical dimension. By placing mindfulness outside its ethical programme of the Four Noble Truths, it comes to be seen as a managerial tool, aiming to enhance the ego-centredness of the individual by reducing anxiety and stress, rather than seeking transform the mind beyond its humanised condition. In this sense, mindfulness, as a process of therapeutics for the ego, is reduced to a domestic managerial commodity , disconnected from its political and ethical dimensions and functioning just to promote better health or a technique to produce better-functioning subjects. Second, mindfulness can be seen as a transformative technique and a tool for creating an autonomous mode of sujectivation that generates other ways of perceiving and acting in this world. This is the point at which mindfulness becomes, not just a meditational technique for a so-called 'better quality of life,' but a political ethology that aims to sense the bodily relations (ie., affects) produced in gaming to form new subjectivations. This politics of the body (a critical and clinical physiology) operates as both a singular and a specific intervention into the logic of a game (*Call of Duty*), and as a wider technique or diagram of the interface, a bio-political intervention into our contemporary technologies of control and a technique for 'gaming the game.'

From the early years, game designers tried to utilise the gaming code for political purposes, creating games that forced the player to mindfully game the game. For example, in 1994, Sigeshato Itoi designed, *EarthBound* (1994), a game that, through its open narrative structure, slow speed and abstract graphics, allowed the gamer to mindfully examine reality. The game allows the gamer to see the world through new I/eyes, then return from this virtual simulation to reflect on what it means to charge our

sensations positively within any given reality. This is a Spinozean ethics, offering 'the creation of a new reality, emerging as a new I/eye, adequate to its properly diagrammatic experience.'[372]

The story goes like this: Earth is captured by aliens and a young boy has to save it. *EarthBound* begins in the year 199X, when a meteorite appears in the sky near the town of Onett. A young boy, named Ness, sees the meteorite and wants to go out and explore this event that appeared in the sky. *EarthBound* is an RPG[373] game in which the gamer explores a virtual world, makes friends, discovers secrets, and collects the lost notes to the 'eight melodies,' which are humanity's last hope against the evil alien Giygas, who is plotting to conquer Earth.

Figure: 22

Fig. 22   Earthbound by Ape – City of Onnet

The game starts when Ness is awakened by the comet and goes out to investigate the source of this bright light he saw in the sky. The difficulties of his adventure begin when Ness discovers that the police have blocked the road and he cannot get through.

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[372] Zepke 2005: p.123.

[373] Role Playing Games.

Ness has to go to the police station, pass through different rooms, and convince the policemen to let him pass. All of them refuse to help him, and even assault him, taking him into a room and brutally beating him. For Ness, there is no alternative but to go into battle and fight, utilising all his powers in order to beat the cops and pass into the next fight. [374] After Ness passes these tasks, he has to confront the police boss, Captain 'Strong.' However, this time Ness is able to defeat Captain Strong, not by utilising his fighting powers, but by using the option of 'a PSI (psychic) attack' that is able to 'heal' Captain Strong, and take away his powers to fight.

EarthBound is a game that makes the gamer confront ethical questions about the role of violence and power. In this game, violence does not offer the pleasure of virtuosity, as it does in *Call of Duty*. Rather it defines a political field of contestation, a field policed by the cops, and offers two approaches to this combat, one typified by the violent fight with the six policemen and the other by the healing defence used against Captain Strong. In this way, *EarthBound* produces a gamespace where the violence underlying our political reality can be mindfully revealed, inhabited, and played without being actually experienced.

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[374] The comedic nature of the narrative is clear from a description of this scene: First one of the cops comes to Ness and says: Cop 1 'Hey small fry. You must be shaking in your boots. "The other 4 cops follow the same pattern: Cop 2: "Your average policeman is stronger than any superhero! *after the spanking* Oh… you won…'*runs away*. Cop 3: 'Don't let the Mayor's compliments give you a big head… Bring it on, fat boy! *BOINK* let's do this again sometime… Next time, I'll take you out with my nuclear suplex attack! *leaves* Cop 4: "C'mon! I'm going to take you apart right here, right now, baby! (psycho issues detected) *Bitchslap* Grr, I lost… *leaves* Cop 5: 'That's it, buddy…You can forget about me, I'm going to call my boss! *runs away, cowardly, without any fight* Captain Strong comes and says to Ness: 'There is no way I can beat you in a straight competition, so… get ready for my "Super Ultra Mambo-Tango-Foxtrot" martial arts!'.

Figure:24

Fig. 24 Earthbound by Ape

In *EarthBound*, the examination of violence emerges through the design of the game as a mindful territory that gives the gamer an awareness of how violence is represented in the game. This self-reflecting, or meditative, space determines our awareness in ways that generate new insights about how we feel when we have to face or exercise violence. This process is not, however, an emotional response to the brutality that Ness experiences. Instead, it is a mode of gaming that provides us with the

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possibility to construct a mindful sensibility and transform our habitual attitudes about violence, then deconstruct its psychological and repressive qualities. In this stage, EarthBound aims to utilise the digital code as a platform for creating a humanised subjectivation for thinking about the repressive qualities of violence. The game uses different gaming levels as processes to transform the mind away from negative emotions. Although the fight with Captain Strong aims to make us think morally about violence, this is employed as the first step to becoming mindful when we game. So, *EarthBound* does not utilise a simulacra of violence to represent or enforce 'reality,' but makes us think about how a new reality might come into being.

After his defeat, Captain Strong says to Ness: 'I didn't think you would do so well against the mighty Onett police force…' This enables Ness to move forward and continue to save the world from its total destruction by Giygas. However, in spite of all he is able to achieve, Ness cannot do this alone. Through his journey to discover the cause of the comet's landing, Ness meets three other kids named Paula, Jeff and Pokey, who follow him in his adventure. Ness and his friends are willing to learn what caused all the chaos in their town, meeting different people in their journey and learning how to meditate and sense the world in its spiritual dimension and its egoless manifestation. Then Ness is powerful enough to meet and fight with the evil alien Giygas. In the final battle, Giygas' aim to conquer the world is strong and he is not willing to go back to his planet, using all of his aggressive powers on Ness and his friends. However, the Giygas' fighting powers are too strong for Ness. Even though he utilises all of the moves and meditational techniques that he learned during his journey, he is unable to confront him. At this time, his friend, Paula, looks for help from the people of the town, asking them to pray for Ness to save the world from the evil forces of Giygas. The prayers from the people all over the town of Ornett communicate with Giygas. When he senses the communal powers of these prayers, his ill ego character is exposed, making him lose his powers and dissolve into a void of nothingness.

Figure:25

Fig. 25 EarthBound 199 by Ape - Battle with Gygas.

EarthBound is a game that presents us with an imaginative vision of a different universe. This universe is a programme which runs the code as a simulation that is designed to offer a potential new vision of things. In this sense, game coding, in both its technical and metaphorical sense, has positive possibilities. This is an important point about the positive qualities of digitisation, because if there is no positive potential to coding we're simply left with a theory of apocalypse. It is this apocalyptic vision that Bifo's argument often appeals to, presenting no hope for the creation of another world within the network of our digital screen culture. Codes are the form of expression within control societies. Unlike norms, which demand ethical training to learn, digital coded programming only requires execution.[375] The fact is, the contemporary game of digital

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[375] Deleuze 1992: p.5.

capitalism today is to insert control directly into our brain, which is, after all, just coded information.

The plan of this bio-political project is to embrace all the social sphere within its systemic thinking of positive feedback loops, all in the name of power and profit. But *EarthBound* offer the possibility of gaming code's ability to open a virtual field that allows us to begin sensing an alternative expression of the world and an altered state of consciousness that is not founded on the economic flows of ethical imperatives. The game offers a counterpoint to social and economic 'reality' (not to mention today's 'financial realism') with its positive sense of how things *could* be. This positive gaming is performed and designed through the code, which aims to directly turn the gaming process into a mindful action that explores questions of social repression and the means to combat it not through violence but through the creation of a new belief. Earthbound is a game designed to force us to think about love and compassion, about our actions beyond profit and interest. Therefore, it aims to transform the contemporary financial system and to explore a 'political' gaming that forces the gamer rethink the real. *EarthBound* seeks to alter gaming language and move beyond the economic notions of competition and score. Friendship, in this game, becomes the frame within which a shared philosophical quest is conceived and experienced as a transformative force. This involves a rejection of the belief that financial success might be able to determine the path to happiness might have anything to do with profit or business. *EarthBound* can be seen to have a strategic role in inventing this kind of ethics. In his book, *Guattari: Thought, Friendship, and Visionary Cartography* (2008), Bifo speaks about friendship. He suggests that friendship is a force that opens the ability to recreate ourselves from an individual subectification to a communal one. He writes that it is: 'because friendship means sharing a sense, sharing a view and a common rhythm, a common refrain (ritournelle), in Guattari's parlance.' [376] Following Deleuze and Guattari, Bifo sees friendship, not as a social condition, but a genuine force that enables us to link our societies into a realm of happiness. This is the new belief that the game aims to produce by opening a virtual field from which we can sense and extend our ways of perceiving the

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[376] Bifo 2010: p.215.

world. Consequently, *EarthBound* is not only an important moment in the genealogy of mindful gaming, it also offers a new mode of subjectivation in which reality is something dynamic and relational that can be positively transformed by our common actions. Indeed, in *EarthBound,* we experience this kind of insight, as the code in this game offers us the path to access new points of reference that allow us to construct and imagine a new world. Here, meaning exceeds the limits of the human subject, opening itself into a *unity of love and compassion*. This love is not a humanised conception of love, it is a joyful affect that flourishes within our hearts and minds, that binds us within a body of compassion and exceeds our ego-centred mind of personal desires, interests and attitudes. As Deleuze writes: 'You have to be able to love the insignificant to love what goes beyond persons and individuals; you have to open yourself to encounters and find a language in the singularities that exceed individuals, a language in the individuations that exceed persons…' [377]

EarthBound is a game that it involves a social and political re-telling of stories and the sharing of knowledge and experience of future communities through a digitised aesthetic form. We may say that this game presents us with an undeveloped example of what Deleuze proposed as a new will to art within the electronic image regime. For Deleuze, this should be a new artistic process for a creative storytelling which will open the path for the creation of new myths. Deleuze recognises this new image as the arrival of a 'creative storytelling' which moves the image of cinema beyond the current financial conditions of business and profit. [378] For Deleuze the numerical image regime continuously associates profit and business within an economic rationalisation of life by which contemporary capitalism instrumentalises creativity. Within this image regime of control, where creativity is instrumentalised by the code, our digitised gaming culture becomes an ethical praxis, an act of spiritual and ethical experimentation, and a mindful exploration of our sensibility that re-organises our experience as a means to liberate creation.

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[377] Deleuze 2004: p.139-140.

[378] Deleuze writes: '…a continuity from which the pure speech act is to be extracted , that is , an act of myth or story-telling which creates the event, which makes the event rise up into the air , and which rises itself in a spiritual ascension.' (Deleuze 1989:279.).

The truth is that games are infused within the economies of capitalist production. The image of gaming presents a synthesis of design and business, of which the gamer acts as a virtuosic performer. In this thesis, however, I have tried to discover a way practice of gaming can develop an ethical mode that would be applicable in a general sense to the interface. The functional modes of the image of gaming always works in these two directions: as a vitalising force from a repetition of the same and as a vacuum of training in cybernetic servitude. We see the positive and negative emergent qualities of games. Positively, they move us into a mindful era of gaming that is able to positively affect the brain and produce more joyful actualisations of the world. On the negative side, we can argue that digital games capture our minds in their systems of control, calculating all virtualities and capturing our embodied minds within its cybernetic loops. It seems that in our age of digital screen culture, it is through our powers of mindfulness that an event might emerge that could move the digital image away from the apocalyptic future that seems to be awaiting us.

CONCLUSION

In this thesis, I have tried to identify a mindful practice in relation to digital gaming. This embraced a genealogical examination of digital gaming technology and its gaming culture that identified the relations between gaming images and the military-entertainment complex and its association with our current bio-political society of control. In bringing together Deleuze's notion of the 'brain is the screen' with Foucault's theory of 'technologies of the self' and Buddhist mindfulness, I have tried to discuss how these cybernetic processes control us, and how we can respond to this system of control in practical ways. Through the use of the Buddhist technology of mindfulness, I have identified a mindful mode of thinking that can initiated within the control image regime of digital gaming interface. Through this conception of mindfulness, I describe an ethical way of gaming which is actualised through an affective experience of the gaming image. The objective of this genealogical study, therefore, was to reveal these different 'ways of gaming' within and between games, showing how they are linked within an ethical technology of the self that begins from Buddhist ancient tradition and extends into our current digital culture.

Historically, the practices of 'care for the self' have seen different transformations, and now they have been transformed again by their performance within the technological regime of the image culture of gaming. While the Foucauldian concept of 'technologies of the self' must clearly be updated in relation to the new phenomenon of digital imagery, it still remains an ethical practice of subjectivation by which individuals attempt to 'affect, by their own means or with the help of others, a certain number of operations on their own bodies, souls, thoughts, conduct and way of being.'[379] In my analysis, and in the manner of Deleuze's explanation of Foucauldian ethics, the ethical power of the digital image lies in our ability to create new images of thought out of these interactive images of control. By seeing the new forms of gaming mediation as a cybernetic system of control, I have argued that, alongside these cybernetic processes there is also the possibility of autonomous outcomes for consciousness. Against the bio-

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[379] Foucault 1988: p.18.

political project of control, I have, therefore, identified the function of an ungrounded ethical subject who escapes neo-liberal individualism and self-centredness through the implementation of a mindful act. This is an ethical mode of gaming that can be framed as mindful affect – an intensity, both creative and destructive - that is becoming more prevalent. The changes brought about by the technological regime of the digital image have altered life by modifying the role and function of individuals and their activities. However, the present analysis of digital games does not take into account the potential for gamers and digital users to create autonomous zones through alternative strategies of self-care. Through these self-care practices, gamers can experience the potentiality of their own means and transform the norms of reactive gaming into ethical actions. Mindful praxis is, in this sense, an ethical experimentation of an autonomous force within our current condition of immaterial labour. In fact, mindful practices reveal the possibilities of digital games to exceed their corporate design and deconstruct the flows designed by the military-entertainment complex.

Digital gaming culture reveals the two faces of mindfulness in the digital era. In one facet, mindfulness presents an example of 'micro-politics,' involving a disorganisation of the 'machinic subjectivities' imposed by the game. The other allows us ever-greater control and rationalisation in digital visualisation and other forms of info-aesthetics by using mindfulness to produce better-functioning individual subjects. The emergence of affective politics has brought about an individualisation of mindfulness by placing its practice outside of the ethical programme of the Four Noble Truths. This is designed within the notion of the 'well-being' forming a contemporary programme of governmentality. As the entertainment industry is imagining and designing software programmes for the well-being that aim to enhance the flexible functional qualities of subjects, gamers at the same time they are treated as dysfunctional subjects that require corrections by rewiring their brains into a more functional state. In this way, the gaming industry is able to capture and use any gaming practices to its self because it does not try to control gamers through a transcendent apparatus of capture. Instead, it is exercised within immanence. Within our plastic body/minds, digital interactive machines 'becoming part of a more general cultural process, as they affect the unseen and the

unseeable,'[380] altering and expanding the possibilities for seeing the world. In this immanent, bio-political process of control, digital games offer the possibility of experimentation within an interface that increasingly defines our cybernetic experience and intelligence. Through mindfulness, I have argued that digital images can be utilised as an ethic of experimentation exercised within this virtual gaming world by opening a mindful virtual space that is a self-transformative, autonomous force. While many theories of digital media focus on their affective intensity as a mechanism of control, my thesis has tried to reveal a process where mindfully we can re-organise our plastic body/minds. This is a game that opens itself, not within the coded gamespaces of our current digitised realities, but as a mystical game of finding the ways to produce our own spiritual automatons and overcome the limits of our own singular body/minds. Bifo writes: *'All other games* of power have already been played, and all have already been lost. But the game of neuro-plasticity, which aims at decoupling the autonomy of the general intellect from the neuro-totalitarian cage, is just getting started. Perhaps it has yet to begin and we are only now seizing the opportunity of a decoupling process from the mental spell of Tecnosamsara.'[381]

Digital gaming is an empty machine. It can create lines related to immaterial production, training and profit, but also move towards a mindful act, which deconstructs its corporate foundation. Mindfulness today turns into a weapon available for media resistance offering the prospect for an ethical form of gaming in the digital era. It is within the systems of gaming that we find the politics of mindful experimentation and the means to transform them into a tactical methodology. Gaming, as a mindful ethical practice, explores the ways digital games exceed capitalist expressions and design of the game industry, presenting an example of the 'micro-politics' of software systems.

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[380] Banks and Morphy 1997: p.23.

[381] Bifo 2014: p.5.

SUMMARY

The Mindful Gamer: Diagrammatical Strategies on the Bio-political Plane of Digital Gaming Culture

The purpose of this thesis is to diagram the way digital games affects us, both as a culture and individually, and to suggest alternative ways of respond to these effects through the use of Buddhist ontology and meditational practices to explore of the possibility of gaining a positive ethical result from our interaction with the control mechanisms of the gaming space. This is achieved through studying the course of digital gaming's cultural and technological evolution as they relate to governmental and capitalist control regimes. The theories put forth in this thesis do not study digital gaming culture as a linear history, instead follows Foucault's method of genealogy in mapping the different economic, social, and political events that have played a key role in the design of digital gaming culture. This is a method whose main aim is not to uncover the chronological order of events, but to map the different types of power and knowledge that produced them, in the hope that they might be once again unleashed, and create a new future. Within this genealogy of gaming culture I examine the social, capitalist, and government forces that act and react as a means of biopolical mode of control, both overtly and covertly and the ways that gamers respond to this system of control. The objective of this genealogical study, therefore, is to explore how digital games developed and designed by the gaming industry as interfaces for control and at the same time to reveal the different 'ways of gaming' that gamers performed within and between games, and to show how they are linked within an ethical technology of the self, one that begins in Antiquity and extends into our current digital culture.

The main view of this study is based upon the works of social/media theorists and post-modern philosophers such as Gilles DeLeuze, Michel Focault, and Félix *Guattari*. The thrust of these modern media studies and related theory will combine with the tenets of Buddhist philosophy and meditation as a way to practice mindfulness and derive meaning

from digital games and its wider applications in modern life and society. Gaming as a mindful practice explores the ways in which digital games exceed their corporate design and the desires of the game market, and presents an example of the 'micropolitics' of software systems. In my analysis, and in the manner of Deleuze's explanation of Foucauldian ethics, the ethical power of the digital image lies in our ability to create new images of thought out of these interactive images of control. Mindfulness, in its biopolitical expression, is a technology that operates on both a subjective and social level by allowing an ethical care of the self in the world, allowing one to work on one's bios and the shaping of oneself. From this standpoint, gamers' ethics becomes a form of expression and experimentation that never assumes a transcendent point of view. Rather, they require an immanent evaluation and affirmation of forces experienced as a dynamic interconnected whole. Mindfulness, therefore, recalls something that is characteristic of Foucault's ethics of the self, which is the future orientation of being, and at the same time expresses a Deleuzean atheistic mysticism, which is the meaning of expression/construction – the expression of the whole within the particular, that also changes (ie. constructs) the whole. This places mindfulness as the opening of a virtuality that offers a new relation to our digital conditions, conditions that are both corporeal and affective. This is the point at which mindfulness becomes, not just a meditational technique for a so-called 'better quality of life,' but a political ethology that aims to sense the bodily relations (ie., affects) produced in gaming, in order to produce new subjectivations. This politics of the body (a critical and clinical physiology) operates as both a singular and specific intervention into the logic of a game and as a wider technique or diagram of the interface, a biopolitical intervention into our contemporary technologies of control, a technique for 'gaming the game'.

Chapter 1, *Diagrammatics*, begins this discourse by providing an overview of the methodology followed in this thesis. This methodology includes placing media theory in a philosophical context and relating it to the affects produced in digital gaming, based, in part, on the work of Deleuze, Foucault, and Guattari , neurology and Buddhist epistemology of the mind .

Chapter 2, *The Computational Universe*, extrapolates the issues considered in chapter one by mapping the ecology of digital gaming and its place within the wider development and influence of the media-entertainment-military complex and its control mechanisms. This analysis is grounded upon the technological advances of digitalism and relates them back to theories of affect and digitalism's influence on capitalistic control societies. Chapter 2 answers the question of what digital games are, their original intent, and how they evolved into the mass-marketed consumer product they are today.

In Chapter 3, *Digital Machines – A Brain Interface*, this thesis traces the similarities between the evolution of computer technology and its relation to the human brain. This chapter argues that computer technology not only used the human brain and its functions as a model for it design, but that this technology also acts as a catalyst for the becoming of the gamer as a gaming automaton. In this manner, games are not technological machines, played by individual gamers. They are brain interfaces that mesh and meld with our organic brain matter and nervous system to form relation that affects the way we see, feel, and interact in society. This puts game coding on a different level than the static mechanism it is perceived, and puts it on the level of a control mechanism that is in a constant state of flux, a diagrammatic structure that influences the subjectivity of its users. An overview of popular games and other media, their effects on game culture, and societal fear of gamers and gaming is included in chapter 2 and 3.

The analysis of gaming genealogy continues in Chapter 4, *The Gaming Automaton*, by investigating gaming culture from the side of the gamer. This includes the study of game culture as a historical praxis that uses technological design and development to influence the gamer to adhere to modes of subjectivity and align themselves to societal norms of behaviour. Forms of governance are identified and related to game design that utilises codes, patterns, and self-care technologies to mold the gamer into the ideal, responsible citizen. It also identifies the ways gamers react to this technology of control and how the gaming industry and government acts to bring the gamer back into alignment with societal norms. Two distinct methods of governance are identified.

Chapter 5, *From Mediation to Meditation*, brings this thesis full circle by discussing Deleuze and Foucault's views on late capitalism's use of technology as a societal and individual control mechanism. It relates the theory that gamers are not merely subjective, but active agents who not only consume but also instinctively seek ways to subvert the influence of digitalism, and the efforts of the military-entertainment complex to combat their subversion. A short overview of Buddhism, in the context of this discourse, is provided, and Buddhist epistemology is explored as a means of using mindfulness to 'game the game' from within, rather than fight against the tide of digitalism.

SAMENVATTING (DUTCH SUMMARY)

De 'Mindful' Gamer
Diagrammatische en Biopolitieke Strategieën in de Digital Gaming Cultuur

Het doel van het onderzoek is om in kaart te brengen op wat voor wijze *digital gaming* ons beïnvloedt, zowel als samenleving als als individu. Ik zal een aantal alternatieve handelswijzen, zoals het Boeddhisme en meditatie, ter sprake brengen als reactie op de effecten van *digital gaming* en onderzoeken in hoeverre die handelswijzen kunnen bijdragen aan een positieve uitwerking van onze interactie met de voorgeprogrammeerde en sturende controle mechanisme binnen de *gaming space*. Dit doe ik door de ontwikkeling van *digital gaming* en de technologische evolutie, die gelijkenissen vertonen met de overheid gestuurde en kapitalistische controle mechanismen, te bestuderen.

De theorieën die ik in mijn onderzoek uiteen zet bestuderen de cultuur van *digital gaming* niet als een lineaire geschiedenis. Zij volgen daarentegen Foucault's methode van genealogie om de verschillende economische, sociale en politieke gebeurtenissen die van invloed zijn geweest op de structuur van *digital gaming* cultuur in kaart te brengen. Het doel van deze methode is niet het verwoorden van de chronologische volgorde van de gebeurtenissen. Het doel is het in kaart brengen van de verschillende soorten kennis en macht die ten grondslag liggen aan deze gebeurtenissen, in de hoop dat deze kennis en macht nogmaals samenkomen en een nieuwe toekomst zullen creëren.

Binnen deze genealogie van de *digital gaming* cultuur zal ik de sociale, kapitalistische en overheidsmachten bestuderen die zowel openlijk als heimelijk controle uitoefenen op de samenleving, en nagaan op wat voor wijze *gamers* reageren op deze vormen van controle. Het doel van deze genealogische studie is derhalve te achterhalen op welke wijze *digital games* worden ontworpen en ontwikkeld door de *gaming industry* tot een voorgeprogrammeerd en sturend controle mechanisme, evenals het onthullen van

verscheidene andere manieren van *gaming* die *gamers* hebben uitgeprobeerd binnen en tussen *games*. Ik zal derhalve aantonen hoe zij gekoppeld zijn aan de ethische technologie van de individu die begint in de Klassieke Oudheid en uitstrekt tot de hedendaagse digitale cultuur.

Het uitgangspunt van dit onderzoek is gebaseerd op studies van sociale en media deskundigen evenals van postmoderne filosofen zoals Gilles DeLeuze, Michel Focault en Félix Guattari. Deze moderne media onderzoeken en de daaraan gerelateerde theorie, gecombineerd met de leer van het Boeddhisme en meditatie als middel tot uitoefening van *mindfulness*, zullen belangrijke betekenis geven aan *digital gaming* en de toepassing van *digital gaming* in de moderne samenleving. Gaming, uitgeoefend vanuit het perspectief van *mindfulness*, onderzoekt hoe *digital gaming* zijn zakelijke vormgeving en de behoeftes van de markt overstijgt en resulteert in de "micro-politiek" van de software systemen. In mijn analyse, evenals in de uitleg van DeLeuze over de Foucaultiaanse ethiek, ligt de ethische macht van het digitale beeld in onze mogelijkheid tot het creëren van nieuwe beelden en gedachten die los staan van de interactieve beelden van controle. *Mindfulness*, in haar bio-politieke betekenis, is de techniek die zowel op het subjectieve en sociale niveau wordt toegepast om te komen tot een ethische zelfgewaarwording en resulteert in het werken aan iemands negatieve kanten en tot het vormen van de persoon. Bekeken vanuit deze optiek, kan de ethiek van de *gamer* worden beschouwd als een expressie en ontdekkingstocht die nooit zal komen tot een transcendent perspectief. Het vereist veeleer een constante evaluatie en bevestiging van krachten die worden ervaren als een dynamisch, samenhangend geheel. *Mindfulness*, doet derhalve herinneren aan iets dat kenmerkend is van Foucault's ethiek over de mens, namelijk de toekomstgerichte oriëntatie van het zijn. Tegelijkertijd verwoordt het het DeLeuziaanse goddeloze mysticisme dat is, de betekenis van expressie/constructie – de expressie van het geheel binnenin de individu – die eveneens het geheel verandert (door bijvoorbeeld constructie). Dit maakt *mindfulness* tot een opening van de virtualiteit die een nieuwe verhouding kan bieden met onze digitale gemoedstoestand – een gemoedstoestand die zowel lichamelijk als emotioneel is. Het is op dit punt dat *mindfulness* niet slechts een meditatie techniek

meer is voor een zogenaamde betere levenskwaliteit, maar ook een politieke ethologie die tot doel heeft de lichamelijke reacties te stimuleren door *gamen* te begrijpen en nieuwe vormen van de zogenoemde *subjectivations* te ontwerpen. Op deze wijze fungeert de bewustwording die gecreëerd wordt door *mindfulness* niet alleen als een individuele, specifieke interventie in de logica van een *game*, maar tevens als een bredere techniek die intervenieert in de hedendaagse controle mechanismen en de vereiste technologie voor het spelen van de *games*

Hoofdstuk 1 *"Diagrammatics"* leidt het betoog in door een weergave te geven van de methodiek die wordt aangehouden in dit onderzoek. De methodiek omvat het plaatsen van media theorie in een filosofische context en relateert dit tot de invloed die wordt uitgeoefend in *digital gaming*, deels gebaseerd op het werk van DeLeuze, Foucault en Guattari, de neurologie en het Boeddhistische leerstuk over de gedachten.

In hoofdstuk 2, "*The Computational Universe*", werk ik de onderwerpen uit die in hoofdstuk 1 zijn behandeld door de ecologie van *digital gaming*, en diens plaats in de algehele ontwikkeling en de invloed van de media/amusement/militaire industrie en diens controle mechanismen, in kaart te brengen. Deze analyse is gebaseerd op de technologische ontwikkeling van het *digitalism* en herleidt dit terug naar de zogeheten *Affect Theory* en de invloed van *digitalism* op de kapitalistische besturende maatschappijen. Hoofdstuk 2 beantwoordt de vraag over wat *digital gaming* precies omvat, wat de oorspronkelijke intentie ervan was en hoe het zich heeft ontwikkeld tot het hedendaagse massaproduct.

Hoofdstuk 3 "*Digital Machines – A Brain Interface*", onderzoekt de gelijkenissen tussen de evolutie van computer technologie en haar relatie tot het menselijke brein. Dit hoofdstuk beweert niet alleen dat de computer technologie het menselijke brein en haar functies gebruikt als een model voor zijn ontwerp, maar ook dat deze technologie fungeert als een katalysator voor de *gamer* om te worden tot een *gaming* machine. Op deze wijze zijn *games* geen technologische machines die worden bediend door individuele *gamers*. Het zijn koppelingen die samensmelten met ons organische brein en zenuwstelsel die onze wijze van zien, voelen en bewegen in de maatschappij

beïnvloeden. Dit plaatst *game coding* op een ander niveau dan het statische mechanisme zoals het tot op heden wordt beschouwd, namelijk op het niveau van een controle mechanisme dat voortdurend aan verandering onderhevig is, een schematische structuur die de subjectiviteit van de gebruiker beïnvloedt. Een overzicht van populaire *games* en andere media, hun effecten op de *gaming* cultuur en de sociale angst van *gamers* and *gaming* is gevoegd bij hoofdstuk 2 en 3.

De analyse van de genealogie van *gaming* wordt voortgezet in hoofdstuk 4 "*The Gaming Automaton*" door de *gaming* cultuur te onderzoeken vanuit het perspectief van de *gamer*. Dit omvat het onderzoek van de *gaming* cultuur als een historisch middel dat gebruik maakt van technologische vormgeving en ontwikkelingen om de *gamer* tot een bepaalde mate van subjectiviteit en tot bepaalde sociale waarden en normen te laten komen. Verscheidene vormen van bestuur worden geïdentificeerd en gerelateerd aan de *game* vormgeving die codes, patronen en zelfvoorzienende technologie gebruikt om de *gamer* te vormen tot een ideale, verantwoordelijke burger. Het identificeert ook de reacties van *gamers* op deze technologie van controle en hoe de *gaming industry* en overheid tracht de *gamer* terug te dringen in het stramien van de sociale normen en waarden. Twee verschillende methodes van bestuur worden uitgewerkt.

Hoofstuk 5 "*From Mediation to Meditation*" maakt de cirkel van het onderzoek rond door DeLeuze en Focault's visie op het recente kapitalistische gebruik van technologie als een sociaal en individueel controle mechanisme uiteen te zetten. Het verwijst naar de theorie dat *gamers* niet slechts passieve, maar juist actieve spelers zijn die consumeren terwijl zij instinctief op zoek gaan naar manieren om de invloed van het *digitalism* omver te werpen, evenals de inspanningen van de amusement/militaire industrie om deze omverwerping te voorkomen. Een kort overzicht wordt geschetst van het Boeddhisme in de context van dit betoog, en het Boeddhisme wordt bekeken als wijze van het gebruik van *mindfulness* om het spel te spelen van binnen uit, in plaats van te vechten tegen de vloed van het *digitalism*.

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