

# Biopolitical Games

Identifying Obscured Mechanisms in Applied Games.

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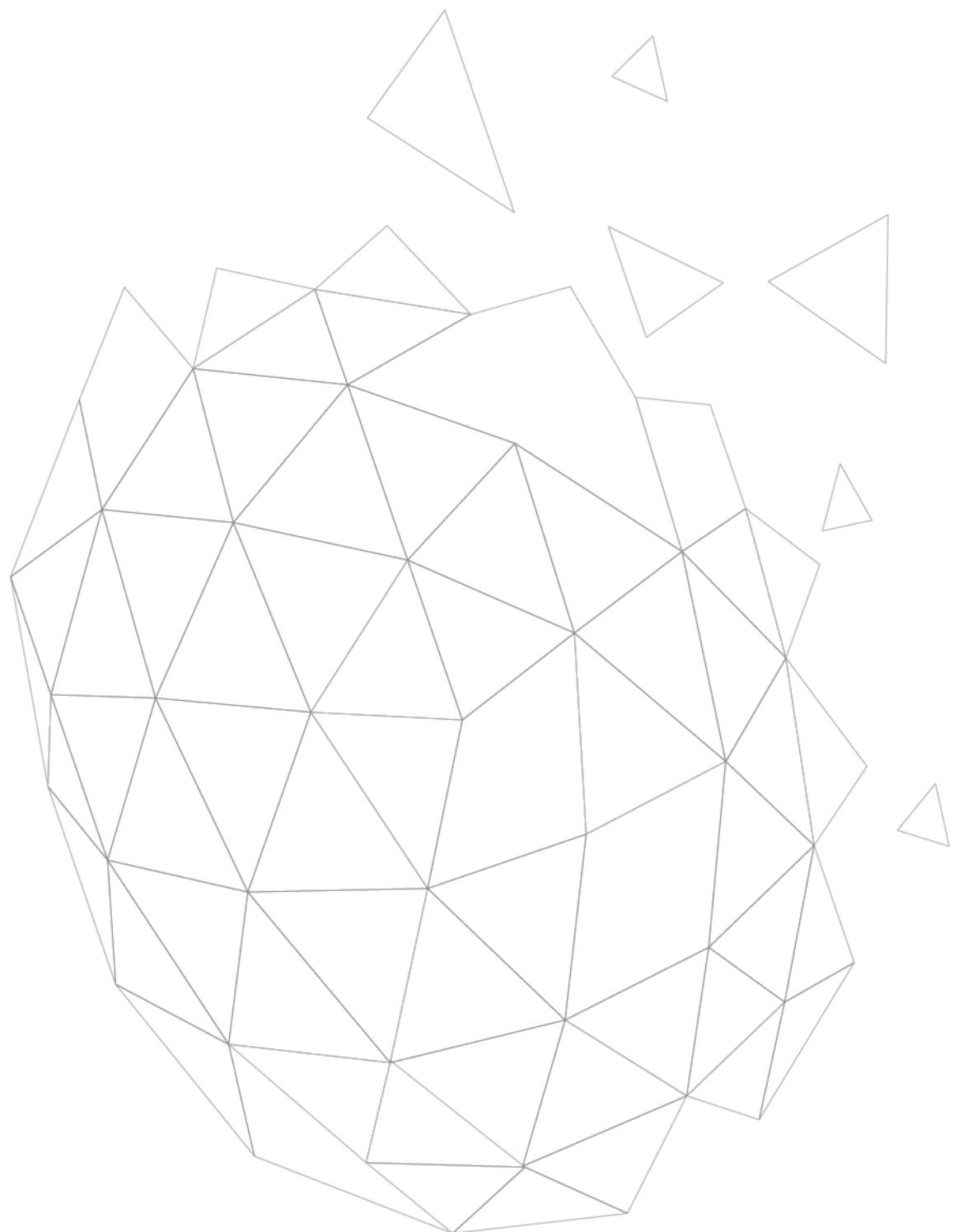
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## **Abstract**

This thesis positions games as a contemporary artifact of *biopolitics*, thereby constructing understandings about the ambiguity and power of video games in society. Through adopting the work of Michel Foucault on *biopolitics*, this thesis is set up as a critical and explorative research into the power relations of applied games in society. Multiple aspects of Foucault's *biopolitics* are analyzed in order to specify the exercise of applied games and to inform contemporary scientists, developers and players about the power of games. This thesis reveals that there are similarities between the exercise of *biopolitics* and of games in society. Linking *biopolitics* with multiple applied games, game development methods and game research reveals that contemporary applied games can be used as instruments of modern *governability* and as mechanisms for *security*, *regulation* and *economics* within society. Therefore, this thesis gives explorative insight into how *biopolitical games* are developed and used to impact the population.



## Chapter 1: Introduction

The game industry has been rapidly developing and innovating over the last four decades. While in the late seventies, video games consisted of no more than a few pixels that a player could control on a TV-screen, they have now evolved into enormous virtual spaces that resemble the world in which we live.<sup>1</sup> As the expertise of game developers has progressed tremendously, so videogame audiences have changed drastically. Millions of players engage with such games on a daily basis, anticipating new releases and the latest gaming technologies and innovations.<sup>2</sup> Society seems overwhelmed by what is presently possible with games and holds high expectations for what could be possible in the future.

This thesis explores a particular approach towards the vastly expanding game industry and is centered on the role games have in society.<sup>3</sup> The multibillion dollar video game industry today is no longer purely about entertainment, but is also about marketing, participation and economics.<sup>4</sup> A clear indication is that games have gradually tended to venture into unexplored territory parting from the entertainment industry. In recent decades, serious, behavioral, health, political and educational games have steadily fought their way into the policies of multinationals, institutions and governments (Michael, David & Sande Chen, 2006).<sup>5</sup> This suggests that games are being employed for purposes other than frivolousness. While the first pioneering educational games were basic in design, contemporary educational games have begun to increase in size and audience.<sup>6</sup> These new applied games' objectives contrast with traditional entertainment objectives, contesting the frivolous light in which society commonly perceives games. Brian Sutton-Smith, a cultural theorist fascinated with the significance of *play*, wrote that *play* is perceived by society through a variety of rhetorics (Sutton-Smith, 1997). In his book the *Ambiguity of Play* (1997), he constructs seven rhetorics of play in which he sets apart the different ways in which play is experienced consciously or unconsciously by society. Next to *play as frivolity* Sutton-Smith describes rhetorics of play as *power* and *progress*, which indicate the various meanings of play. Sebastian Deterding follows up on this research and sets apart the ambiguity of games. In his introduction, he clearly explains that our contemporary understanding of games has further diversified and writes about a 'clashing of rhetorics' (Deterding, 2014, p.2). Deterding not only addresses applied games as disputed grounds but also writes about political, economic, cultural and social domains to be emergent contested grounds between different researchers and genres. Deterding constructs eleven rhetorics for games, highlighting the variety of approaches and understandings of contemporary games and game studies.

To provide a more tangible introduction to the ambiguous perception of games, a brief analysis of the health game *Moodbot* (HKU, Altrecht & IPPO, 2014) is offered here. *Moodbot* is a health game developed by the HKU University of Arts Utrecht together with Altrecht, a facility for mental health treatment, and alongside other consortium partners (see Appendix B for a more detailed description of *Moodbot*). The game consists of a social virtual world wherein patients are provided multiple game mechanics through which players must provide health input in order to make progress (e.g. filling in 'mood meters' or adjusting an avatar's facial expression). *Moodbot* is developed to aid both psychiatric patients and healthcare workers in improving both health and healthcare by gamifying treatment, thus inventively applying game design techniques in order to create innovative healthcare.<sup>7,8</sup> Approaching games with the rhetoric of *frivolous* (Sutton-Smith, 1997, p.11) or *playfulness* (Deterding, 2014, p.23) leads to the common perception that a game such as *Moodbot* is innocent. However, when games

such as *Moodbot* are approached through a rhetoric of *power* (Sutton-Smith, 1997, p.10) or *nudging* (Deterding, 2014, p.15), it appears that the game could have far reaching consequences for patients. For example, since the game directs patients to put time and effort into *Moodbot*, which provides Altrecht's personnel with the desired data for improving personal treatment and healthcare, patients are essentially being put to work (see Appendix B for the full analysis of Moodbot's power relations). Engaged patients thereby directly provide medical input through their participation, which can be regarded as forms of *digital labor*. While this is only a short introductory example, the interpretation of applied games as frivolous does not account for the 'serious' objectives these games employ and could be a barrier to the critical understanding of such games.

Many game occurrences like gamifications or applied games are still relatively new to society, and a clear understanding of their workings and impact is perhaps clouded by the ambiguity of games. The book *Playful Identities: The Ludification of Digital Media Cultures* (2015) describes various ways to think about the occurrence of play and games in society. The book stipulates its own ambiguities of play, which are reinforced by various authors, who address playful identities:

"play's conceptual ambiguity captures well the ambivalent attitudes many people have towards identity formation as a constant series of oscillations between engagement and disengagement, between pretense and seriousness, individualism and collectivity, and so on." (Valerie Frissen, Sybille Lammes, Michiel de Lange, Jos de Mul & Joost Raessens, 2015, p.263)

Constructing multiple rhetorics creates taxonomies and clarifications of this ambiguous attitude for the academic world and contributes to better argument and debate, as has already been briefly indicated by the example of *Moodbot*. However, as the ambiguity is addressed, it also points towards the effects games and play have on players, indicating transformations in the distribution of power. While *Moodbot*'s players probably never consciously feel pressured, the question is, are they? Is *Moodbot* pretense or serious? This question of the influence of games seems to be an effect of the ambiguity of games, which is passingly addressed by Deterding:

"as games and play move from the periphery of playgrounds, living rooms, and arcade halls toward the center of our cultural, social, and economic life, so cultural, social, and economic actors become interested in shaping and harnessing them for their purposes."

(Deterding, 2014, p1)

So while rhetorics lay bare the enormous variety and complexity of games' cultural, social and economic influences, they are unsuccessful in providing a methodology or literacy to cope with or critically assess the variety of new cultural, social or economic actors. At the same time, the exodus of games' traditional periphery is amplified by mobile gaming (Ingrid Richardson, 2010), pervasive games (Jaakko Stenros et al., 2009), ambient technologies (Janienke Sturm & Ben Schouten, 2012), gamification techniques (Sebastian Deterding, Dan Dixon, Rilla Khaled and Lennart Nacke, 2011) and persuasive design methods (Ian Bogost, 2007) that all push the boundaries of how, when and where games are played, amplifying the ambiguity. The effects of this ambiguity are mostly referred to in general and are hard to pinpoint specifically within games. This is also completely justified as rhetorics are, according to Sutton-Smith, "large-scale cultural 'ways of thought'" (Sutton-Smith, 1997, p.8),

discourses and cultural values, not game mechanics or development techniques. So while Sutton-Smith and Deterding create clear frameworks for future studies and research, one cannot avoid the fact that the rhetorics are numerous different ways of thought and interpretation driven forth by the constant innovation of the game industry.

### 1.1 The problem

The introduction revealed that both play and games can be understood through various rhetorics or ‘ways of thought.’ The growing variety and ambiguity of games disclosed the complexity of contemporary games and the difficulty of critically understanding contemporary games. This while a critical approach towards new actors of games is growing imminent as games venture into unfamiliar political, economic and social domains. This thesis explores ways to unravel the underlying game purposes in hopes of unraveling some of the ambiguity of games and enabling developers, scientist and players to critically approach games in the future. Thereby, this approach focuses more on games themselves in hopes of providing handles to identify the power of games over society.<sup>9</sup> This understanding would not only benefit science but could also provide contemporary literacy for game developers and players who (unconsciously) cope with the games’ ambiguity, or as Leopoldina Fortunati formulates “that today individuals are subject to an ambivalent, political, and social strategy which, on the one hand, strongly stimulates them to play and, on the other hand, discourages them from doing so” (Fortunati, 2015).

This thesis critically explores the impact of contemporary games and tries to construct methodologies, lenses through which it is possible to discern mechanisms that manifest within the various rhetorics. Hoping to clarify the vague field of game ambiguities and alternate understandings, this thesis especially focusses on the newly arising actors and purposes in the field of applied games. To map this fluctuating field of social, political, and cultural power struggles this thesis introduces Michel Foucault’s notion of *biopolitics*: a concept for looking critically to sets of mechanisms that purposely deploy a strategy of power over the population. Michel Foucault was a distinguished French philosopher and historian who, by analyzing the historic birth of liberal thinking, arrived at his concept of *biopolitics*. In his lectures between 1977 and 1979, Foucault traced what he called *biopower*, which was later referred to as *biopolitics* (Foucault, 1978, 1979).<sup>10</sup> Foucault found in his historical research that when the economic calculation of the society began to rule the population, the ways governments applied laws and regulations changed drastically (Foucault, 1978, p.27-51).<sup>11</sup> This caused a shift in the distribution of power, including the development of new ways of regulating and controlling the population, continuing into modern times, *biopolitics*.

The introduction portrayed games as gradually transitioning into use for political, economic and social purposes, which could indicate that games are involved with *biopolitical* power relations. This thesis focuses on these sociopolitical power relations of games while using *biopolitics* as a lens to critically analyze games. In that way, *biopolitics* provides an explicit approach to address the power of contemporary applied games in society to gain explorative insights into the workings of games. Many researchers have questioned the power relations of games and play in the past and have made critical inquiries regarding many of the ambiguities (e.g. Ian Bogost addressed politics as obscured procedural systems driven by social, political, or cultural behavior in accordance of his *procedural rhetoric* [Ian Bogost, 2007, ch.2]). What remains vague is how the ambivalent attitudes of many people are constituted and how new cultural, social and economic purposes are embedded into the design or

workings of games. Nick Dyer-Witheford and Greig De Peuter make such inquiries about the underlying capitalistic tendencies of games in their book *Games of Empire* (2009), in which they describe a similar discrepancy in the perception of games:

“games once suspect as delinquent time wasters are increasingly perceived by corporate managers and state administrators as formal and informal means of training populations in the practices of digital work and governability. A media that once seemed all fun is increasingly revealing itself as a school for labor, an instrument of rulership, and a laboratory for the fantasies of advanced techno-capital.” (Dyer-Witheford & De Peuter, 2009, p.xix)

This connection between labor and play indicates some possible emergent actors and the ambivalent attitudes as addressed by Deterding and Frissen et al.. Although criticized for their weak connection with actual game studies' authors (Simon Ferrari & Ian Bogost, 2013), *Games of Empire* does manage to identify some capitalistic mechanics and objectives in game examples. Following Deterding's rhetorics, *Games of Empire* (2009) could be categorized within the *rhetoric of exploitation*, since it uses critical theory to emphasize the political and economic power relations engendered by contemporary games. The book also touches upon multiple aspects that Deterding emphasizes with the *rhetoric of exploitation*; connects with Dalton Conley's *weisure*, which specifies that the entertainment industry shows signs of fusing work and leisure (Conley, 2008); fits with Axel Bruns concept of *produsers*, which describes the participatory culture as emergent forms of producers (Bruns, 2008); and lastly aligns with Julian Kücklich's work, which detects the unification of labor and play merging into “playbor,” shedding light onto digital labor and digital materials in games (Kücklich, 2005). These approaches not only show the complexity of contemporary games but again diversify the overabundance of rhetorics and amplify the ambiguous perceptions of games. The problem that arises is that while for academia the diversity gives way to more detailed research into the understanding of games and play, the same diversity fragments the understanding of the underlying power distributions effected by games and hampers a critical understanding for developers and society.<sup>12</sup> This thesis critically explores how to gain insight into the workings and constitution of applied games' ambiguous nature through *biopolitics*.

## 1.2 Research Structure

As described before, this thesis investigates games as a contemporary artifact of *biopolitics* by using it as a lens to identify the power of games. Therefore, this thesis substitutes the historical evidence used by Foucault with the modern societal artifact of games. In doing so, the thesis aims to raise the awareness of a large audience who may unconsciously be coping with newly arising actors and to partly dispel the ambiguity for future game development and research. This clarification is achieved by investigating the sociopolitical power relations between games and society. This brings us to the central research question of this thesis:

**How does a Foucauldian biopolitical-approach on applied games allow us rethink their contemporary economic, social and political power relations?**

The main research question is formulated fairly loosely for multiple reasons. Firstly, Foucault's genealogy was very broad, ranging from the political, cultural, social and economic domains that together assemble the cohesive meaning of *biopolitics*. As Evangelia Sembou illustrates, Foucault's

genealogy is often “attempting to identify an underlying continuity which is the product of ‘discontinuous systematicities’” (Sembou, 2011, p.2). These “discontinuous systematicities” describe Foucault’s methods as an assemblage of irregular continuities, heterogeneous, without clear causalities to bind them (Sembou, 2011, p.1).<sup>13</sup> Secondly, this thesis tries to find explorative insight into how games can be understood and analyzed by using biopolitical methodologies. This means that the research question should be broad enough to incorporate the practice, design and studies of games. Lastly, explorative research would ideally include analysis of all game genres; however, this thesis will mainly focus on applied games. These games have a greater intent to influence the population due to their ‘serious’ nature. Therefore, their ‘biopolitical mechanisms’, or *biopower*, are greater and easier to discern with explorative research.

This thesis is at risk of making assumptions about the understanding of both *biopolitics* and the power of games because *biopolitics* is a rather heterogeneous theory. It therefore is critical to connect the general interpretation of *biopower*, as described by Foucault, with fundamental understandings of games. Foucault’s genealogy rests heavily upon historical analysis, exposing discontinuous systematicities by tracing the origins and definitions of power relations (Sembou, 2011, p.5-7). Therefore the first sub-question is formulated: How does our contemporary definition of games align within Foucault’s genealogy of biopolitics? This sub-questions will be answered in Chapter 2, where the definition of games and play is critically studied in order to investigate how Foucault’s perception of *biopower* mechanisms can be found within our primary understanding of games. This analysis will form the foundation and justification for how *biopolitics* is used as a lens to critically assess the power relations of games in order to create insight into the power of applied games in society.

Further analysis will be divided into the four main approaches derived from Foucault’s work on *biopolitics*: mechanisms of *security*, mechanisms of *regulation*, mechanisms of *economics* and *governmentality*. Foucault’s examination of the four concepts is extensive and described through various analysis, examples and domains. That is why the full analysis and explanation of these concepts can be found in Appendix A. Foucault did not separate these concepts but identified them as parts of the entire *biopower* mechanism; in this thesis, each subject is separated and answered in its own chapter to create an understandable structure by which to carry out a critical discourse analysis.

#### Sub-questions:

**Security:** How does Foucault’s concept of *security* relate to the exercise of applied games?

**Regulation:** Can applied games be identified as *regulated spaces*?

**Economics:** What can the analogy between Foucault’s notion of *managing society* and the practice of applied games in contemporary culture tell us about the exercise of games in society?

**Governmentality:** Can applied games be identified as a contemporary medium for *governability*?

### 1.3 Game Methodologies

This thesis explores applied games through the lens of *biopolitics* in order to unravel their power relations with society. Therefore, the first research step of this thesis is to analyze *biopolitics* in order to use it as a lens to address applied games. This thesis derives the concept of *biopolitics* from Foucault, although *biopolitics* has revealed itself as a fast-growing field of research and can be found in a plethora of literature. Therefore, there are multiple uses and interpretations of the term

*biopolitics*. A clear example of this is the work of Laurette Liesen and Mary Walsh, who write in *The Competing Meanings of “Biopolitics”* of the various meanings and interpretations of the concept that lay bare a discourse of competing arguments (Liesen & Walsh, 2012). Deducing a general contemporary definition of *biopolitics* is worthy of research itself but falls outside of the scope of this thesis. Therefore, this thesis primarily adopts Foucault’s notion of *biopolitics*. Multiple studies have applied Foucault’s work to games and media, supporting the use of *biopolitics* to analyze media and technology (Lazzarato, 2002; Michael Dillon and Julian Reid, 2001; Alexander Galloway and Eugene Thacker, 2007; Dyer-Witheford & De Peuter, 2009).<sup>14</sup>

One of the reasons *biopolitics* is such a contested subject is perhaps partly because Foucault never clearly defined the theory.<sup>15</sup> In his work, he rather revealed how to trace and analyze *biopower* using Foucauldian genealogy, methods and techniques. In that way *biopolitics* is not substantial but rather a heterogeneous strategy or intent of (bio) power, techniques through which games can be approached, or seen. That is why this thesis deducts central concepts of Foucault’s research on *biopolitics*—mechanisms of *security*, mechanisms of *regulation*, mechanisms of *economics* and *governmentality*—which are used as lenses for tracing *biopower* within studies, design methods and examples of games. Chapter 2 more thoroughly examines the concept of *biopolitics* and *biopower* in order to establish a better understanding of their use in this thesis.

This brings us to the second research step of this thesis, using the four different biopolitical lenses to investigate the resemblances between Foucault’s *biopolitics* and contemporary applied games. Foucauldian genealogy was already specified as a heterogeneous strategy or intent of power, indicating that a wide theoretical framework to approach games is needed. This thesis addresses games by two approaches, by Gilles Deleuze and Félix Guattari’s metaphor of *machine* and by a *critical media analysis* as addressed by Matteo Stocchetti and Karin Kukkonen, which are both in line with the heterogeneous nature of Foucault’s genealogy.

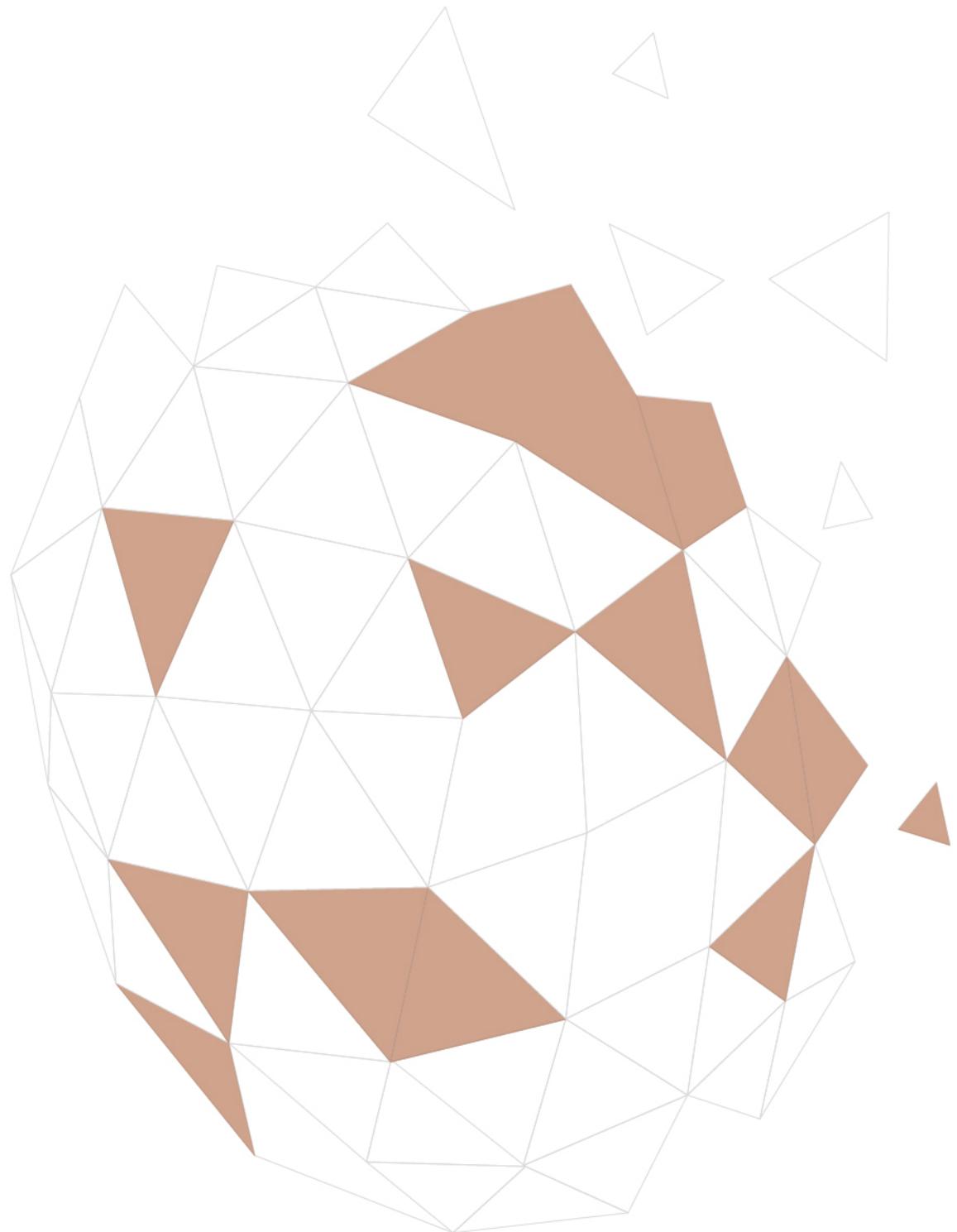
Stocchetti and Kukkonen’s book *Critical Media Analysis* (2011) describes how to critically address media.<sup>16</sup> They place media as a fundamental aspect of the *social construction of reality*: the way in which society constructs their understanding of reality through social interaction (Stocchetti & Kukkonen, p.21-24). According to Stocchetti and Kukkonen, addressing the notion of power is concerned with tracing invisible forces that control society’s behavior, influencing the public political arena and shaping the *social construction of reality* (*Ibid.* p.121-127). Similarly to Foucault’s biopolitics, for it fits with Foucault’s understanding of *biopolitics* as being part of the fundamental powers that regulate the population (see Appendix A for the connection of the population with biopolitics).<sup>17</sup> Stocchetti and Kukkonen give examples of this influence, or power, throughout history, also similarly to Foucault’s genealogy. They recognize that the critical understanding of these powers is one of the most important aspects of media studies and construct three subjects that media studies into power relations have to incorporate: the nature of media power (how games are powerful), the direction of media power (on whom games have an impact) and the control of media power (who controls games) (*Ibid.* p.50). Analyzing media this way fits the aim of this thesis, which in general is an inquiry into the use of and resistance to media power.

Both the concepts of *biopolitics* and *critical media analysis* have addressed games not merely as the object itself, but rather through the network of their influences and relations towards other social,

cultural and political actors, aligning the approach of games in this thesis to the Foucauldian perception of power (see Chapter 2 for a more detailed justification of the power in games). To make this more explicit, this thesis applies Gilles Deleuze and Félix Guattari's metaphor of *machine*. Although the entire metaphor is very elaborate, a short and clear notion of the central idea behind the metaphor will suffice: machines are regularly thought of as artifacts or objects made by men. For Deleuze and Guattari, the actual object only represents the *technical machines*, like chairs, shovels or lanterns (Deleuze & Guattari, 1987 p.36). Technical machines are always connected to a broader network of *social machines*.<sup>18</sup> Thus, *machine* is a concept that addresses games in their totality: their content, their uses and their surroundings, which in turn matches with the *critical media analysis* and Foucault's genealogy. Applying the concept of *machine* in this thesis means perceiving games as an assemblage of various mechanisms, or a grand *game machine*. In this thesis, the term *game machine* will stand for the entire assemblage of both technical and social machines, as well as the activities, agents and subjects connected to it.

The *critical media analysis* and the *game machine* creates an approach through which it becomes possible to address the power relations of applied games similarly to the way Foucault addressed the power relations in his Foucauldian genealogy of *biopolitics*, enabling a substitution of the historical evidence used by Foucault with the modern societal artifact of applied games. This meant that Foucault's four deducted central concepts of *biopolitics* are used to guide the research into studies, design methods and examples of applied games, specifically their power relations. Resulting in the previously addressed structure of addressing a biopolitical concepts, or lens, per chapter.

The introduction indicated that a thorough methodology on game examples was needed in order create literacy for players, developers and scientists to cope with the newly arising applied game actors. Therefore this thesis should pinpoint mechanisms in games, gaming and science specifically, gaining a clear understanding and insight into the ambiguous nature of games. Therefore this thesis adheres to approached applied game examples through the *MDA-Framework* as described by Robin Hunicke, Marc LeBlanc and Robert Zubek. With the *MDA-framework* they create a method to more specifically address the workings of games by classifying different elements of games as *mechanics*, *dynamics* and *aesthetics* (Hunicke, LeBlanc & Zubek, 2004). The full analyses and explanations of the most prominent games would clog up the thesis and will therefore be fully addressed in Appendix B.



## Chapter 2: Games as mechanisms of power

This thesis makes inquiries into the power of games as understood through *biopolitics*, or more specifically through four methodologies as defined by Foucault's genealogy of *biopolitics*. This is done in order to create better insight into the ambiguity of games but also to create better understanding of the new actors and power relations that contemporary games constitute (Deterding, 2014).<sup>19</sup> In this chapter, *biopolitics* is further described in order to create a better understanding of the four different methodologies and clarify how these guide the analysis in further chapters. Since *biopolitics* has already been defined as a heterogeneous theory, this chapter will analyze how at a fundamental level games and *biopolitics* can be connected, thereby answering the question of how our contemporary definition of games aligns with Foucault's genealogy of *biopolitics*.

### 2.1 Foucault's genealogy of biopolitics

Foucault started his lectures in 1977 with inquiry into the origins of our modern *governmentality*, the rationality with which the state operates (Foucault, 1978, p.2-25). In his historical research, he finds that the first rudimentary *governmentality* was constituted with the liberal ideologies around the seventeenth and eighteenth century (see Appendix A for a thorough analysis of the constitution of the early government). It was in this period that sovereign rulership gradually changed into the governing of the state. For Foucault this sparked *biopolitics*, as it was the first time in history that the concept of the *population* was recognized by the state as the sum of the rulers' subjects (Foucault, 1978, p.66).<sup>20</sup> The *population* entailed basic biological characteristics of the human species that could be quantified in order to rule. This meant that from that moment on, *governability*, the ability of a government or state to rule, involved strategies that included the *population* as seen through *governmentality*, so *biopolitics* were formed. To show the workings of *biopolitics*, Foucault started to systematically address numerous examples throughout history to trace *biopower*: the power, mechanisms or procedures that bring forth *biopolitics*.

In the remainder of Foucault's lectures until 1979, he traces *biopower* within numerous examples derived from multiple social, political, cultural and historical domains (see Appendix A in which some examples are addressed). While undertaking his research, Foucault creates various concepts and methodologies to examine this wide range of examples. This thesis has derived four essential concepts from that research in order to substitute the historical evidence with the modern societal artifact of games. A full description of these four concepts can be found in Appendix A.

#### Mechanisms of Security

One of the most outstanding conceptions that define *biopolitics* is the fact that it is used in order to secure a possible event from happening. Foucault traced these securities throughout history (e.g., seventeenth century grain laws to prevent the shortage of grain; planning and architecture to decrease the emergence of diseases and criminality due to urbanization; the maintenance of the growth of the state's power in the late nineteenth century *police state*; or even the determination in the continuance of religious beliefs). Securities are thereby involved in debate over the best course of action, or rather, implementation of mechanisms of security to articulate the best course of action based on the *governmentality*, while simultaneously diminishing or nullifying undesirable behavior and outcomes. (see Appendix A for a more detailed description of mechanisms of security)

## Mechanisms of Regulation

Foucault stressed above all that *biopolitics* where nothing like common laws or discipline, but they were power relations (Foucault, 1978, p.34). Therefore, Foucault speaks of *managing* rather than governing or ruling, for ruling was for sovereigns and governing involved actual laws, while managing involved the *regulation* of the population. By managing, governments show the necessity of regulations emphasizing the beneficial results to the population, the necessity, overcoming the critical judgement of society. The necessities within the above examples were, for instance, more grain for the people, safer and healthier cities, influential and thriving countries and flourishing religious culture. This causes for mechanisms of regulation to be innocuous, while obscuring accompanying mechanisms and effects. (see Appendix A for a more detailed description of mechanisms of regulation)

## Mechanisms of Economics

The constitution of *biopolitics* could not have happened without economic intent. For when the first elementary governments started to distinguish the population as the sum of its subjects, it was the quantifying and calculating resolve of the first rudimentary politicians that brought forth *biopolitics*. When Foucault speaks of economics, he mostly refers to such resolution, the devoted ideology that by quantifying the population one could calculate the best course of action. Again, another perspective of Foucault's examples is shown: the quantification of the behavior of farmers to ensure the abundance of grain; the calculation of the risk of growing city-populations; the measurement of the state's forces; and even the measuring of religious followers as the extension of the might of faith. Mechanisms of economics are therefore signified as the means through which the *governmentality* measures or calculates its *governability*. (see Appendix A for a more detailed description of mechanisms of economics)

## Governmentality

While *governmentality* was already addressed as elements in the previous characteristics, it is itself a signifier of *biopolitics*. It was especially Foucault's analysis of the seventeenth century German *police state* that brought *governmentality* directly into contact with *biopolitics*. In that period, Foucault saw a radical change in *governmentality* as the state became obsessed with the connection between the productivity or the splendor of the *population* and the development of the state's forces. The *police state* would carry though history introducing health policies, professional education and various *regulative* mechanisms to *secure* the state's internal productivity and to that extent the state's power. While in most examples, Foucault predominantly referred to *biopower*, it is after the full analysis of *governmentality* that he sparsely starts referring to *biopolitics* as a reference to the political intent of biopower. (see Appendix A for a more detailed description of *governmentality*)

## 2.1 The origins of games as biopower

While the theory of *Biopolitics* has been introduced, this thesis has to link *biopower* with games. Approaching the *games machine* in this way means understanding it as mechanisms that influence the population in a general strategy of power. According to the *critical media analysis*, such analysis should search for ways in which games can be understood as a strategy for directing the *social construction of reality*, or according to Foucault, how games could exercise *biopower*. Attempting to

follow in the footprints of Foucault's genealogy, the first step should include the *origins* of games (Sembou, 2011, p.2-3).<sup>21</sup> Therefore this analysis starts by looking at the definitions of *play*, as it unites games with its historic roots.

Play originates from our own human nature and may even have roots in our animalistic history. Johan Huizinga, seen as one of the founding fathers of game studies, describes play as a fundamental part of life. He describes play as an integrated part of our nature and places play among the roots of our cultural and social habits, meaning that play is one of the basic biological features of the human species, "essential for the individual" (Huizinga, 1938, p9).<sup>22</sup> Play, therefore, is an omnipresent aspect of society residing within many of society's social and cultural conventions.<sup>23</sup> Joost Raessens elaborates on the presence of play in contemporary society, and he traces playfulness within our social and cultural identities (Raessens, 2006). He writes that our verbal communication, writing, media, politics, education and behaviors have become increasingly playful, a phenomenon he describes as the *ludification of culture* (Raessens, 2011, 2006).

Play can thus be understood as inseparable from the human species and thereby could qualify as a basic biological feature, connecting it to *biopolitics*. The question arises: how play can thereby be understood as a *biopower*, for play itself is a natural phenomenon, not a mechanism or political strategy? Games do not share the naturalness of play, but are systems or mechanisms through which the population experiences play.<sup>24</sup> This insight reveals that on a fundamental level games show resemblances to *biopower*, as games are themselves mechanisms that depend on the basic biological features of the human species. From a cultural perspective, this was already indicated by Sutton-Smith, Frissen et al. and Deterding, since their diversity of rhetorics indicates that play and games are understood and used in a variety of ways. However, this biopolitical approach highlights that while play is a natural phenomenon, games are fundamentally different, although they can be used as instruments to fulfill the population's biological needs.

## 2.1 Entertainment as historical game strategy

This chapter has started to understand games as mechanisms that are constructed upon the foundation of our basic human urge to play. This in itself is not particularly odd, given that the main purpose of games (e.g. puzzles, sports, theatre or board games) is to provide an experience of play. *Biopolitics* are different from this natural course of games, prescribing an intent or strategy to secure, regulate or measure the population's biological features. In order to identify games in terms of *biopolitics*, the *game machine* needs to be a part of an effective media strategy that is deployed upon the population.<sup>25</sup>

As Foucault revealed seventeenth- and eighteenth-century examples, this thesis will start to look at the ancient uses of games, while remaining particularly interested in the intent or strategy with which games are played. Keith Hopkins' book, *The Colosseum* (2006), refers numerous times to how the deadly games on the arena floor functioned to entertain the people of Rome and 'share' the wealth of the empire. The use of games as an instrument to entertain the population resonates with Foucault's study that sovereigns started to recognize the population as the source of a state's power. Addressing the *police state*, Foucault states its governmentality as "making men's happiness the state's utility, making men's happiness the very strength of the state" (Foucault, 1978, p.327). In ancient Rome, satisfying the population with games was a productive strategy to secure the problems of angry mobs

or revolts. Colosseum games reveal the possibility that games can be part of a strategy of power to entertain the population and thereby control or influence social conventions and behaviors.

There are more examples indicating that games were used as a strategy to entertain the population, such as the rudimentary games used in the ancient Egyptian civilizations for overcoming anxiety and boredom (Jasper Juul, 2005). A more modern example is that of slot machines, described in the work of Erkki Huhtamo. He describes the experience of these games as “short, fleeting, ephemeral” (Huhtamo, 2005, p.10), as if players could temporarily burst outside of society into other worlds, leaving behind all real world troubles.<sup>26</sup> Huhtamo refers directly to the function of slot machines in the industrial age: “Slot machines obviously fulfilled a therapeutic function by providing the user an opportunity to step outside the capitalistic idea of constant productivity and scientifically regulated work routines for a moment” (Huhtamo, 2005, p.10).<sup>27</sup> It is questionable whether this effect was intended for slot machines; however, the effect does show resemblances with the Colosseum games.

The calculated or side effects of regulating the population with deadly games or therapeutic machines provides a glimpse into the ways in which games can be deployed as a strategies to regulate populations. The question of where such strategies manifest in games arises. The ephemeral effects of the slot machines can be related to Huizinga’s concept of the *magic circle*, which describes play as an activity apart from reality.<sup>28</sup> Katie Salen and Eric Zimmerman later reformulate the concept of the *magic circle* to address games (Salen & Zimmerman, 2004). They describe the *magic circle* not only as a different physical space, but emphasize the *magic circle* as a different state of mind, a mental acceptance of a different set of rules.<sup>29</sup> This approach clearly aligns with Huhtamo’s findings about the ephemeral effects of slot machines, and could even be related to the games the Roman Empire as arranged in amphitheaters. Therefore, the ephemeral affordances of the *magic circle* can be indicated as a mechanism to deploy a strategy to entertain the population.

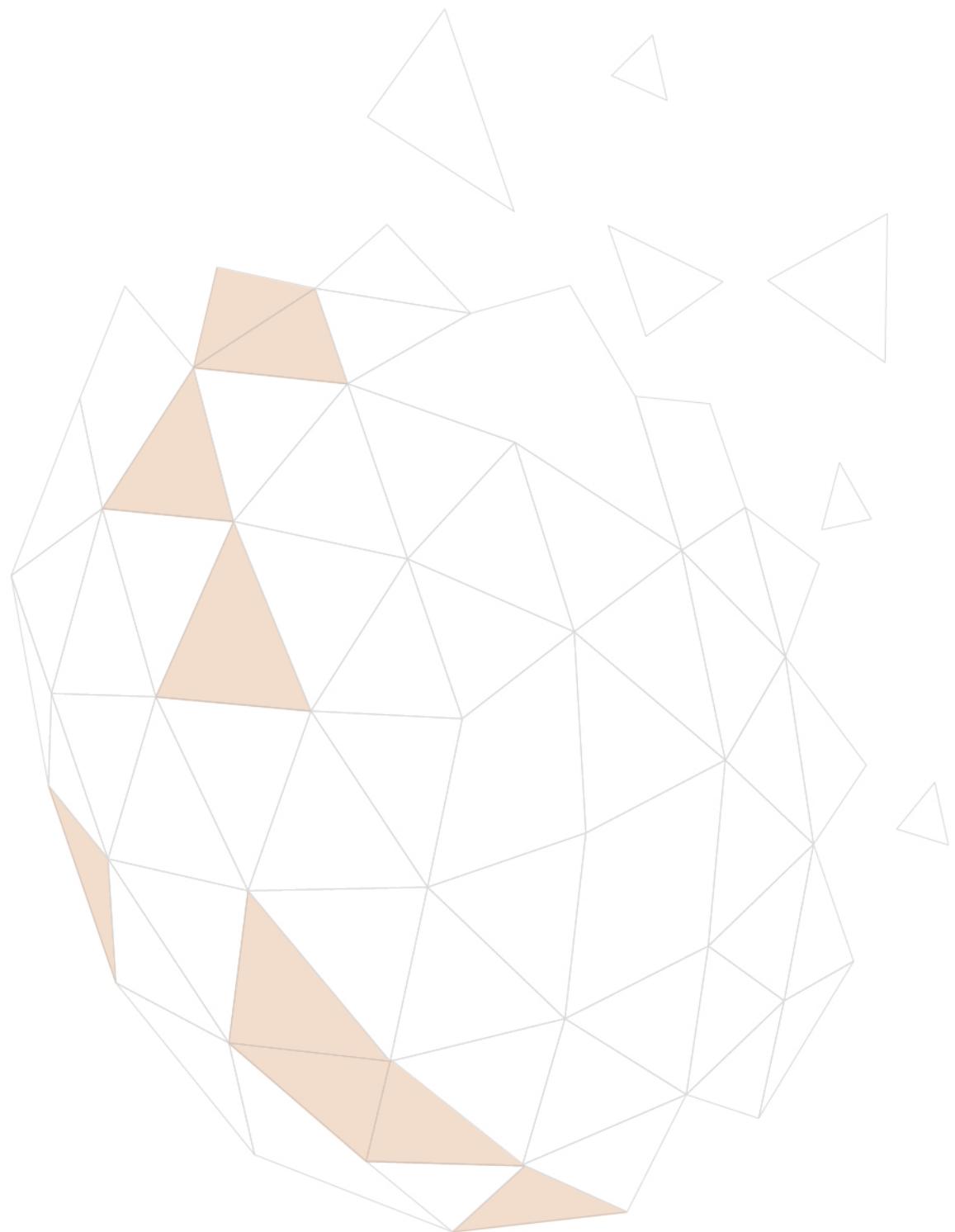
## 2.2 Games as mechanisms

This chapter was formulated in order to illustrate how our definition of games can be understood through Foucault’s genealogy of *biopolitics*. Through the examples of ancient Colosseum games and industrial slot machines, the idea was formed that games are or could be a part of a strategy to entertain and thereby influence the population. What mainly deviates from other varieties of play was that games are addressed through *biopower* as a means to an end, as mechanisms, with a typical set of affordances to regulate and secure the population. This perception leans more towards the Deterding’s rhetoric of *systems*, which describes “games as meaning-making media” (Deterding, 2014, p.21). However, *biopolitics* indicates that rhetorics of *frivolity* (Sutton-Smith, 1997, p.201) or *pleasure* (Deterding, 2014, p.21) can be used as an affordance of play and games to employ biopolitical strategies. In that way, rhetorics are not understood as ‘ways of thought’ but used as representative signifiers, which in their turn connect with the construction of games being based on play as a basic biological feature of the human species.

The intent to purposely use such game mechanisms evokes more disturbing perceptions of games, particularly rhetorics of *power* (Sutton-Smith, 1997, p.74), *nudging* (Deterding, 2014, p.15) or *exploitation* (Deterding, 2014, p.15). These are ‘sinister’ because they seem to counter our basic

understanding of play as free and frivolous, as expressed by Sutton-Smith with the rhetoric of *frivolity* (Sutton-Smith, 1997, p.201). However, this thesis will reveal indications that many games incorporate intentionally designed mechanisms aimed at having various effects on the population. This feature sheds light on the ambiguity of the games machine as it is a intertwining network with multiple embedded purposes—as how coloseums functioned both as a regulatory mechanisms for sovereigns and brought calm and pleasure to the Roman population, for example, and as Huhtamo showed that slot machines can have both therapeutic effects in society and be used for entertainment and leisure. This multiplicity can even be seen in *Moodbot*, which manages to provide both healthcare and entertainment.

In the following chapters, this thesis will show that serious-, behavioral-, health- and applied-games push the boundaries of these strategies further, incorporating multiple mechanisms in games, amplifying their ambiguous status and creating challenges for unravelling the impact of contemporary games in society. Dyer-Witheford and De Peuter refer to this multiplicity while looking at the capitalistic aspects of contemporary games, saying that “game making blurs the lines between work and play, production and consumption, voluntary activity and precarious exploitation, in a way that typifies the boundless exercise of biopower” (Dyer-Witheford & De Peuter, 2009, p.xxix). Such connection between game development and biopower indicates that contemporary games have become chimeras between our natural playfulness and artificial games, resulting in distorted perceptions of contemporary games by society, constituting the ambiguity of games, as well as blurring critical understanding of the role of games in society and the distribution of their power.



## Chapter 3: Games as mechanisms of security

The previous chapter indicated that games could be incorporated into a political strategy that may deploy biopolitical mechanisms. While this partly laid bare the enormity and complexity of the power distribution surrounding the *game machine*, it does not specify how games can be identified as a contemporary artifact of *biopolitics*. Therefore, this chapter highlights one of the characteristics of *biopower*: mechanisms of security. Security mechanisms work on the basis of an imagined reality, a vision that must either be secured or reached. Mechanisms of security try to increase positive behavior while nullifying natural phenomena in society (see Appendix A for a more detailed description of mechanisms of security). Investigating mechanisms of security will also touch upon one of the core aspects of the *critical media analysis*, the control of media power (who controls games) and thereby the resistance to media power. This chapter is therefore arranged to formulate an answer to the second sub-question: how does Foucault's concept of *security* relate to the exercise of contemporary applied games?

### 3.2 Health as security mechanisms

The introduction described how games have progressively moved away from their traditional periphery and have ventured into unknown territories. One of these fields is healthcare, into which games have vastly spread. The opportunities for interactive, digital and constant monitoring, e-health applications and innovative health solutions, combined with a growth of health costs, means that games have positioned themselves as an ideal media for the healthcare sector. Approaching health games through the biopolitical methodologies of mechanisms of security illustrates that health games show much resemblance to *biopower* securities.

*Moodbot*, which was addressed in the introduction, was developed with the aim of making mental patients more social, creating more awareness of their mental condition, and the game functions as a guideline for altering their behavior outside of the game. Therefore, *Moodbot* incorporates multiple game *mechanics* that urge players, through gameplay, to become more social and raise self-awareness; changing the appearance (expression) of their in-game moodbots (characters) or changing the music and TV in their own virtual rooms (see Appendix B for a more detailed description *Moodbot*). *Moodbot*, however, targets the *dynamics* of the game; shared digital environments like the 'relax room' are meant for players to socialize with other moodbots while seeing their moods, and the biggest objective that players have is to cooperate to fuel the "Mood-vis," your shared vehicle, and together keep him on the right track. *Moodbot* thereby creates a virtual environment in which the 'scarcities' (correct behavior) of the real world are detached. The ephemeral *aesthetics* of the games in combination with the *mechanics* and *dynamics* indicate that *Moodbot* tries to temper the mental conditions in-game, or at least shape a virtual reality in which the connotations of the condition are altered.

*Moodbot* is not an exceptional case in the exercise of security mechanisms, which can be found in most health games, as they try to cure diseases, diminish symptoms, improve health treatments or change behaviors. The following are some examples of other health-related games: *Plan-It Commander* (Ranj Serious Games, 2013) was developed to regulate the behavior of ADHD patients; *abcdeSIM* (Ijsfontijn, 2013) simulates healthcare scenarios in order for medical students to learn the

correct treatment methods; *Remission* (Hopelab, 2008) consists of a virtual reality in which players beat cancer in order to improve their treatment adherence (see Appendix B for a more detailed description of these games). These examples show that many health games envision ideal realities while disregarding unwanted outcomes, which shows great similarity with Foucault's mechanisms of security. In *Remission*, for example, the scenario of failure, defined by succumbing to cancer, is partly removed within the game's *mechanics*. For the most part, the outcome of health games, or scores, are heavily associated with the actual scarcities the games try to secure. *Plan-It Commander* uses multiple measuring *mechanics* to measure player's skills in mini-games, which players need to master in order to cope with their ADHD. The game *abcdeSIM* measures various important real world parameters in virtual health care treatment in its *mechanics* and *dynamics* in order to create scores regarding students' medical abilities. *Remission* constructs a virtual experience of conquest, *aesthetics*, to boost the *real* motivation of players beating cancer. All these examples indicate that health games are being strategically developed as mechanisms of security to help health facilities, hospitals and institutions to improve healthcare.

Looking through the biopolitical lens of scarcities, the examples indicate that the population's behaviors, knowledge, effort and emotions are regulated and monitored by health games in order to reach envisioned outcomes. While at the same time, the rhetorics of *frivolity*, *well-being* or *playfulness* obscures these effects as if in a 'fog of war,' as most security mechanisms addressed seems to be distorted by various playful *mechanics* and *dynamics*.<sup>30</sup> With this analysis, the purposes of health games gently reveal themselves as a possible strategy of power to control populations.

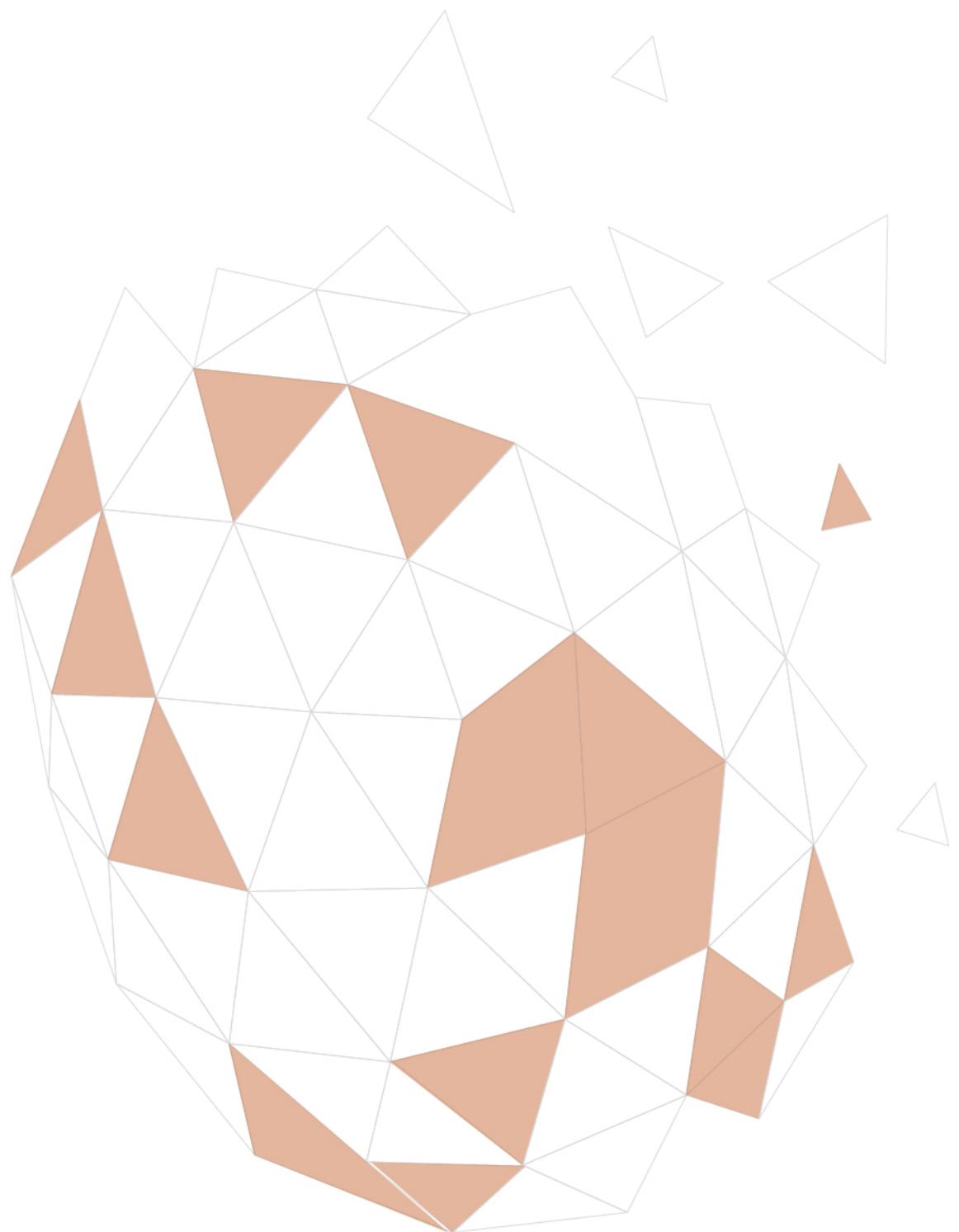
### 3.3 Applied games as mechanisms for change

Health games show similarities with mechanisms of security, but what about other applied game genres? While health games are associated with lifesaving securities, similar to those addressed by Foucault with the security of grain, not all securities are so severe. Foucault's construction of the town as part of a general security strategy indicates more refined strategies, for example *Plan-It Commander*, which was developed to gradually improve the behavior of ADHD patients.

In *Reality is Broken* (2011), Jane McGonigal argues that games have tremendous power to achieve greatness in the world. McGonigal's game examples are fixated on change, and clearly disclose an envisioned strategy upon players. To illustrate this claim, McGonigal addresses multiple examples of games that solve global humanitarian and economic problems; *World Without Oil* (Ken Eklund, 2007) could solve the world's oil problem, while *Freerice* could eradicate the world's food shortage (The World Food Programme, 2007, see Appendix B for a more detailed description of *Freerice*), McGonigal claims (2011, Ch. 14). *Foldit* (University of Washington, 2008) is another game in which gamers play with protein-puzzles in order to come up with actual medical solutions for folding protein strings, contributing to finding cures for real world diseases (see Appendix B for a more detailed description of *Foldit*). McGonigal positions games as a method for contesting real problems but at the same time highlights the security mechanisms and events these game try nullify: oil depletion, world hunger and incurable diseases. McGonigal unilaterally lays the strategies of these games on society, demonstrating how they can potentially change the population.

*ChoreWars* (Kevan Davis, 2007) is another example, a *gamification* that changes the connotations of nasty tasks in and around the house (see Appendix B for a more detailed description of *Chorewars*). Unwanted chores can be added by user-generated content *mechanics* and thereby incorporated into the imaginary game world. By doing so the connotations of the chores are placed within the game's fantasy environment, in which your character may earn experience points for doing them. *ChoreWars*'s security mechanisms are not life changing, mostly focusing on the lack of motivation for doing household chores; their potential impact, however, could be tremendous because every possible chore can be implanted into the game, decreasing the aggravation of those activities. *ChoreWars* is not an isolated example of these security mechanisms within gamifications. Similar examples are location-based games such as *Merchant Kingdoms* (Chillingo, 2010), *Ingress* (Google, 2013), *Zombies, Run!* (*Six to Start*, 2012) and *Life is Magic* (Redrobot, 2012), all examples that transform the motivation and connotations of real world places and behaviors.

Generally, health and applied games show remarkable resemblances to the way mechanisms of security are addressed by Foucault, not only in the manner through which they approach the population but especially the intent in the envisioning goal or the reality that can be traced back to the different mechanics and dynamics in the examples.<sup>31</sup> Also, the variety in the examples seems to indicate that applied games could be increasingly developed for numerous fields and industries.



## Chapter 4: Games as mechanisms of regulation

This chapter will apply the perspective of systems of regulation as addressed by Foucault onto the *games machine*. Foucault was much intrigued by the regulating power of *biopolitics* as it was fundamentally different from the concepts of law and discipline. Regulation means that those who regulate can do so by revealing the necessity of doing so. For Foucault, this was a wondrous mechanism that seemed nearly to eliminate the use of law and discipline, a trait which highlights the exercise of biopower. With the right urge, evidence or conviction, biopower mechanisms are able to manage an “architecture of the disciplined space,” an environment in which the population is regulated by the means of a given regulation’s necessity (see Appendix A for a more thorough understanding of mechanics of regulation). This chapter will thereby answer the sub-question of whether applied games can be identified as regulated spaces, which will especially reveal the ambiguous nature of games, in which the regulated space becomes a distorting mechanism for critical understanding or resistance to *biopower*.

### 4.1 Game-regulation?

The impact of mechanisms of regulation seems to entail a level of necessity that obscures or eases the impact of *biopower* mechanisms on the population. In past chapters, different games were mentioned that indicated a level of necessity: one could become healthier by playing *Moodbot*, *Remission* or *Plan-it Commander*; one could educate oneself with *abcdeSim* or *Freerice*; and one could even contribute to beating global problems by playing *Foldit* or *World Without Oil*. But, is this the correct analogy to address regulation? The *critical media analysis* writes about voyeurism and surveillance in accordance with the power of media, debating on whether the subject is in the position of seeing or being seen (Stocchetti & Kukkonen, 2011, p.98). In other words, is the population playing the game or is the game playing with the population? Or, seen through the mechanisms of regulation, is the population subjected to a regulatory architecture of the disciplined space? Such questions position the way that games interact with the population as a central contested subject.

As described previously, the *magic circle* is a mechanism that can be used to constitute another reality. Huizinga stated that play creates temporal realities within our own, establishing another order of things (Huizinga, 1938, p.7). Describing games, Bernard Suits, a Canadian philosopher, writes about “the voluntary overcoming of unnecessary obstacles,” the rules of games, highlighting the human idiocy of abiding by the rules (Suits, 1990 in Salen & Zimmerman 2006, p.175-176). In golf, for example, why would a golfer not use his hands to put the ball into the hole? It is far easier, practical and faster that way.<sup>32</sup> Suits concludes that by entering the *magic circle*, players accept the truths of the alternate order in games, which acceptance bears similarities to Foucault’s regulated space. Well this may speak in favor of games as mechanisms of regulation, it does not entail the large variety of rhetorics as addressed by Sutton-Smith and Deterding. Firstly, the concept of the *magic circle* is more closely related to play than games. A playful state of mind is still a mental resolution, a moment in which our human imagination and playfulness takes over and accepts a journey into the alternate order of play. Secondly, while play comes and goes like the wind, gaming is a far more conscious decision, also indicating that the population is consciously gaming and not being regulated. Play remains a free activity and cannot be forced upon players.<sup>33</sup>

## 4.2 Playful development strategies

This chapter has so far shown that while the *magic circle* may have regulatory affordances it is not that simple to force the population to play. There are, however, also other indications. Society has grown accustomed to games paving the way for playful journeys into alternate realities, as was previously addressed with the *ludification of culture* by Raessens, but Deterding, McGonigal and Frissen et al. also write that games and play are becoming increasingly intertwined in contemporary society and cultural identities. Games are becoming more skilled at mimicking the natural flow of play, which could be understood as a strategy to shed themselves of the blunt disciplinary interruptions of society. Are there indications that games are increasingly designed as play or becoming more adept in the fluid and intertwining ways in which play unfolds within our daily lives?

The theoretical concept of *gamification* suggests that the gap between the naturalness of play and the artificiality of games is closing. Deterding, Dan Dixon, Rilla Khaled and Lennart Nacke define *gamification* as “the use of game design elements in non-game context” (Deterding, Khaled & Nacke, 2011). *ChoreWars* already indicate that the game could incorporate literally every ‘non-game context.’ *ChoreWars* is not bound by any space. While it has a digital web interface, the game itself consists mostly of social agreements made by the players. After that, any activity or object can be incorporated into the playable space, while everything that is incorporated becomes subjected to the regulation of *ChoreWars*. This means that gamification is a development strategy of games that thrives by blending the real with a gamified, regulated space.

The design method of pervasive gaming also shows clear signs that the boundaries of games could blend with natural activities. Markus Montola, Jaakko Stenros and Annika Waern describe pervasive gaming as “a game that has one or more salient features that expand the contractual magic circle of play spatially, temporally, or socially” (Montola, Stenros & Waern, 2009, pp.12). Where in the past, games had a distinctive *magic circle*, a clear physical place where play was conducted, pervasive games show how these boundaries are slowly fading into the fabric of reality. This indicates that, spatially, games could be everywhere; that, temporally, games could be constantly present; and that, socially, the distinctions between games and reality is fading. Therefore, pervasive games are merging with play, becoming more like a natural phenomenon in society.

Slightly parting from applied games reveals many more tendencies of the *game machine* to represent play. Technologies that boost the social presence of games include real-time multiplayer capabilities along with live chat capabilities (e.g. *Doom*, id Software, 1993 & *Quake*, id Software, 1996); mobile games technology (e.g. *Snake II*, Nokia, 1997); and games as social media platforms (e.g. *Minecraft Majong*, 2009; *FarmVille*, Zynga, 2009; *World of Warcraft*, Blizzard, 2004).<sup>34</sup> Besides, the social presence of games runs technology’s continual graphic innovation, driving forth an everlasting pursuit of realness in game engines and graphics. By studying real world scenarios and environments, game developers try to create even ‘real’ virtual worlds (e.g. *Battlefield* Series, Electronic Arts 2002-2013 or *Total War* Series, The Creative Assembly, 2000-2013).<sup>35,36</sup> Still, the *game machine* entails far more features that are not directly in-game but are nonetheless provided by game developers, connecting in-game experiences with real world interactions and activities, constituting a surrounding game culture<sup>37</sup>: the introduction of replay functions; achievements for comparing game performances within social activities; the usage of large worldwide groups of beta testers; and premade forums and wiki’s.<sup>38</sup> This game culture is also maintained: regular game-updates; monthly championships,

supported by 24/7 streaming sites like Twitch.tv<sup>39</sup> (e.g. *Starcraft 2*, Blizzard, 2010; *League of Legends*, Riot, 2009; *Warcraft 3*, Blizzard, 2002). While contemporary video games constitute their own cultural environments, they also incorporate existing culture. A clear example is Electronic Art's *Support Your Club* in *FIFA 12* (Electronic Arts, 2011). With this *mechanic*, players could pledge their allegiance to their favorite team and earn experience points in the worldwide virtual football competition, effectively merging club culture with gaming (Cam Shea, 2011).

With all these game innovations within game design and development, one could argue that society's perception of games has changed in the last decade. Where traditional games could be seen as blunt interruptions of reality, modern games are blending seamlessly with society. These indications reveal that a critical analysis of the regulative powers of games is becoming harder to undertake. Games are skillfully integrated with the population's behavior and cultural surroundings and permeate social and cultural identities in both virtual and real environments. Through these evolving game innovations, it is perhaps our basic human instinct that is taking over, allowing games to slip away from our critical understanding and challenging the relationship that society has with games. This obscuring tendency of regulating biopower mechanisms is described by Foucault: "All these mechanisms, unlike those of law or of discipline, do not tend to convey the exercise of a will over others in the most homogeneous, continuous, and exhaustive way possible" (Foucault, 1978, p.66). That games are moving away from blunt oppressive interventions upon society could be interpreted as a tendency to function as unobserved regulating mechanisms.

#### 4.3 Surveillance games as regulates spaces

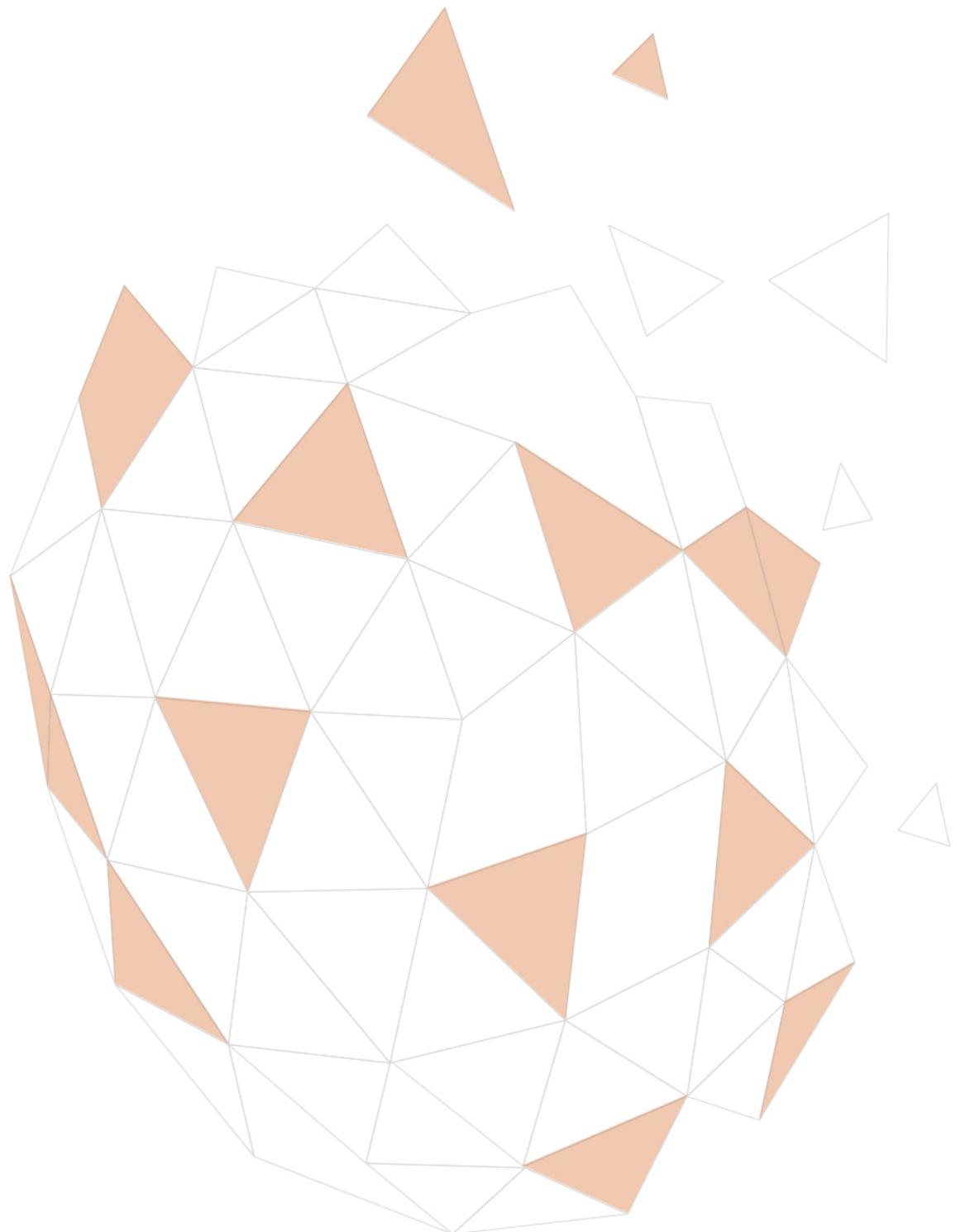
This chapter has given insight into the way games obscure their power mechanisms by resembling play, connected these gentle design methods with the way mechanisms of regulation are exercised. This only partly answers the sub-question concerning whether applied games can be identified as regulated spaces, for it hasn't shown examples of regulating mechanisms being purposely deployed by games. Indicating that games are capable of constructing regulated spaces, the work of Jennifer Whitson on surveillance in games is analyzed to this end.

In the article *Gaming the Quantified Self*, Whitson examines the notion of free and captive gaming, while applying *gamification* techniques. Whitson writes about a fictional call-center gamification to improve the work quality of employees.<sup>40</sup> Whitson perceives that while such gamifications start out as positive workplace innovations, they result in an omnipresent surveillance system monitoring employees. With such gamifications free participation becomes the most centrally contested subject, the difference between playing or being surveyed. While voluntary gamification might be assessed by the individual and stopped at will, a forced gamification within the workplace cannot be stopped, resulting in a surveillance mechanisms. While such gamifications are made to improve productivity, they irreversibly measure unproductivity and put continual innovating processes into action.

"When employees have no choice but to participate, the gamified call-centre can no longer be framed as a game or play, it reverts to work: 'what a body is obliged to do'. It is revealed as a thinly-veiled ploy to create ideal workers." (Whitson, 2013, p.174)

The “ploy to create ideal workers” shows the strategy within the gamification and reveals its mechanisms of regulation. The game upholds a clear capitalistic necessity, that of a company which relies on working employees to make profit. While the gamification introduces playfulness and entertainment to the work floor, it at the same time establishes a regulated work space, a space in which employees are pushed to their maximum capacity, which is the ideal capitalistic goal of the company. Whitson’s notion of the freedom of choice does therefore not originate from the opposing of work, for that is what a working job signifies; it is the resistance to play. The gamification has become work itself, for this gamification example has no playful or frivolous signifiers. The playful manner of the gamification blends the critical understanding of the gamified call-center and seems to hide the “ploy to create ideal workers” in frivolity.

The conceptual example of the gamified call-center indicates how mechanisms, player’s behavior and strategies collide. This conceptual gamification, as was similarly indicated with different development techniques and game innovations, blurs the intent or strategy behind the regulating mechanisms. The difficulties that arise from these regulative mechanisms in games could be an explanation of the diversifying ambiguous nature of games, unable to determine the seriousness, intent, reference or meaning of such games. Although this explorative chapter has provided multiple examples and perspectives that indicate the regulative intentions of games, the design methods and the use of regulative mechanisms, further research is needed to fully address the complexity of games as architectures of disciplined space.



## Chapter 5: Games as mechanisms of economics

In previous chapters, the economics of *biopower* has been mentioned multiple times. The second chapter revealed the population as a calculated account of a group of certified individuals. Chapter three described mechanisms of security, referencing a calculated envisioned reality, while chapter four addressed regulating systems, which included the monitoring of the population and the evidence of necessities. For Foucault, the establishment of *biopower* is involved with the constitution of economic thinking, of accepting human beings as a species. The rise of the calculation of the population turned the sovereign rule into an object of politics, with the purpose of managing the population (see Appendix A for a more detailed description mechanisms of economics). Therefore, this chapter focuses on the following sub-question: what can the analogy between Foucault's notion of *managing society* and the practice of applied games in contemporary culture tell us about the exercise of games in society?

### 5.2 The calculative intent of games

For Foucault, mechanisms of economics are an embedded purpose or intent with which other mechanism are deployed. This intent could best be described as the urge to clarify the *public*: the behaviors and motivations of the population, which is a tendency or intent that can be clearly recognized in games (see Appendix B for a complete description of the public). Eric Zimmerman and Katie Salen (2004) composed a widely used definition of games in their book *Rules of Play*: "A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (2004, p.80). A "quantifiable outcome" indicates that games are involved with measurement. In most entertainment games, these measurements involve points and badges or giving feedback. However, formerly mentioned examples applied games indicate that these quantifying techniques are involved in the mapping of the *public* (e.g. *Plan-it Commander* reveals that quantifying techniques in-game can be employed to gather information on the improvements of players' ADHD conditions). Similar inquiries can be made about most educational and serious games because they are designed to have this quantifiable outcome. Games can therefore be identified as having a basic economic tendency to quantify players' experiences and actions in-game. With applied games, this in-game action largely concerns real world behavior and activities, as was addressed in earlier chapters.

In a wider sense, economics can be invoked with the validation of many applied games. Serious game developers, in close cooperation with science, have an increased tendency to quantify the effects of games and validate their design and development choices. Topics such as behavioral change, education, training and validation are common in most serious or health game congresses. For example, at *Games for Health Europe* in 2012 and 2013, there were whole tracks devoted to validation and quantifying behavioral change. Therefore, the game industry itself is trying to prove its economic value to society, while measuring its own impact on the *public*.

This *public* game data is something apart from traditional demographics. Game data is gathered through the playful attitude of the population, and mostly consists of behaviors, experiences, activities or even achievements that are incorporated within the *game machine*. The quantified outcome of the game is frequently the main goal in the development of games. Gathering social data from the *public* therefore becomes centered on participation. The more participation games have, the

more data and outcomes are generated.<sup>41</sup> Game participation has risen over years, and our population has never gamed so much in history, indicating that participation is becoming a significant commodity within the game industry, as discussed by Mirko Schäfer (2011) in the book *Bastard Culture!*<sup>42</sup>

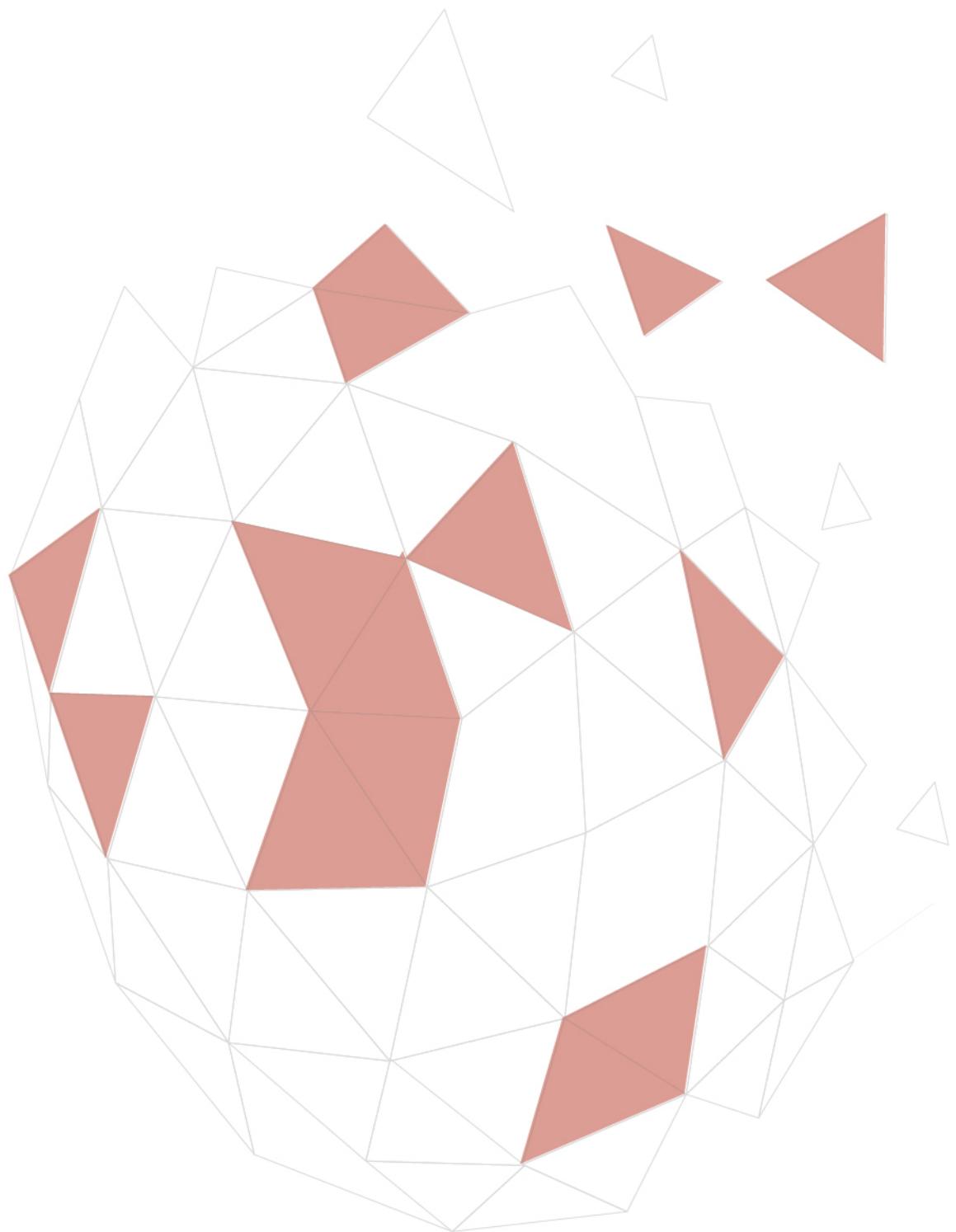
Participation is therefore an important aspect of contemporary economics. Overall, this tendency can be linked to the work of Raessens, referring to the omnipresent impact of play on society. Raessens addresses the work of Jeremy Rifkin, which posits that “play is becoming as important in the cultural economy as work was in the industrial economy” (Rifkin, 2000. p.263 in Raessens, 2011). This indicates that the participation of games in society is becoming a commodity that is vital to our contemporary economy.<sup>43</sup> Participation ensures a continual flow of data about the population, while at the same time providing valuable insights for managing society. Contemporary games therefore monitor, gather and use huge amounts of *public* data to calculate interests, satisfy players, and persuade players in new and innovational ways.<sup>44</sup>

### 5.3 Managing society with games

This chapter showed that games have a fundamental economics basis on which they operate. This claim by itself is totally justified, since games are a highly interactive digital medium that strives towards personalized playful experiences. Without player profiles, game statistics, save games or other quantifying techniques, many contemporary games would not have been possible. However, with addressing the economic intent of games the analysis shifts towards biopolitical mechanisms. For Foucault, it was especially the economic intent that was of importance, the management of society.

*Moodbot* is essentially a data-gathering health game. Patient information is gathered in order to improve individual treatment and generally improve the healthcare of Altrecht. However, the economic intent is emphasized when *Moodbot* appears to be unplayable without providing player data. The rules of the game dictates that players fill in their ‘mood meters’, occupy social surroundings with their mood expressions and work together to move the ‘Mood-vis’ in order to make any progress. Again, Suits’ interpretation of play that “one cannot (really) play the game unless one obeys the rules of the game” (Suits, 1990 in Salen & Zimmerman 2006, p.175) reveals that the mechanisms of regulation and economics employed by *Moodbot* essentially lead to the inevitable outcome of providing data. This revelation gives insight into the highly innovating ways in which games are used as managing instruments to secure and regulate players.

This managing intent appears to be true for many of the previously mentioned applied games in this thesis, suggesting that the mechanisms of economics are the central goal of many contemporary applied games (see Appendix B for more detailed descriptions of the economic intents). Foucault mentions that as mechanisms of economics are installed, how governments make judgements, analyze data and create verdicts becomes vital. This is a tendency that is already visible in games. The educational health game *abcdeSIM*, for example, not only quantifies the decisions of players, but also formulates scores derived from numerous data variables, indicating that *abcdeSIM* single-handedly create verdicts as feedback to players. Similar is the example of *Sharkworld* (Ranj Serious Games, 2008), which provides numerous scores on the player’s management skills after the game ends. Therefore, economic management, exemplified by analyzing and calculating data, is willfully incorporated into games, surprisingly, already turning the management role of government slightly over to games.<sup>45</sup>



## Chapter 6: Games as governmentality

Previous chapters have predominantly analyzed applied games as *biopower* mechanisms, demonstrating multiple similarities between games and mechanisms of security, regulation and economics. Reviewing games based on the Foucauldian analysis of governing demands understanding games as part of a political strategy to manage the population.<sup>46</sup> For it explains the politics that changed the grain laws, made urban planning regulations and constituted health policies. Thereby this chapter analyzes how games fit within *governmentality*, answering the sub-question of how applied games can be identified as a contemporary medium for *governability* (see Appendix A for the complete description of *governmentality*). Games are not necessarily addressed as mechanisms in this way but as a medium for installing *biopower* mechanisms. For, as addressed in the previous chapters, using *biopower* mechanisms in a political strategy is what Foucault characterized as *biopolitics*. The *governability* of games, the intent with which politics uses games, tells much about the rhetoric of contemporary applied games. For while our experiences with games might be ambiguous, the intent could be far more straightforward.

### 6.2 Games as political instrument

While the ancient Roman Empire purposely exercised games on the arena floors to influence the population, it is unclear whether slot machines or contemporary videogames do this with the same intent. While multiple games in this thesis show signs of embedded *biopower* mechanisms, however, the notion of governing games seems to revolve around the intent of the developers, or rhetoric.<sup>47</sup> To clarify this multisided dilemma, the work of Jane McGonigal is addressed again because it provides clear footholds to address the rhetoric of contemporary game developers.

In the book *Reality is Broken*, McGonigal (2011) repeatedly writes about the potential impact games could have on a global scale. In *Reality is Broken*, she uses Herodotus' story of the Lydians as a central case to show that games could be designed to have tremendous impact. For McGonigal, this shows that games do not have to be a meaningless exodus to virtuality, but can also be a purposeful escape from reality (McGonigal, 2011. p6). Herodotus wrote the following:

"When Atys was king of Lydia in Asia Minor some three thousand years ago, a great scarcity threatened his realm. For a while people accepted their lot without complaining, in the hope that times of plenty would return. But when things failed to get better, the Lydians devised a strange remedy for their problem. The plan adopted against the famine was to engage in games one day so entirely not to feel the craving for food... and the next day to eat and abstain from games. In this way they passed eighteen years, and along the way they invented the dice, knuckle bones, the ball, and all the games which are common."  
(Herodotus in McGonigal, 2011. p.5-6)

In reading Herodotus' story in a Foucauldian way, a different intent and rhetoric surfaces. When king Atys saw that scarcity of food would lead to starvation and the death of his people, he needed to come up with a way to prevent this from happening. In his sovereign right, he declared that games would be played, resulting in better chances of surviving the famine. Therefore, Atys uses games as mechanisms of security and economics while establishing a grand architecture of regulation. This regulated space

is not like the obscured or fluid modern *biopower* mechanisms, but a blunt interruption of daily life. It seems that games, however, had the capacity to cover up all the negative effects, bringing both joy and salvation to the Lydians. Besides, Atys must surely have looked at more traditional methods of fighting against the scarcity of food. Presumably, games would not be the first thing that pops into one's head when trying to save an entire nation from starvation. Therefore, Atys chose games out of a calculated decision with a clear goal and purpose in mind, revealing Atys' intentions. At the end of the book, McGonigal again refers to the story of Herodotus:

“We share with the ancient Lydians these three timeless truths about games: Good games can play an important role in improving our real quality of life. They support social cooperation and civic participation at very big scales. And they help us lead more sustainable lives and become a more resilient species.” (McGonigal, 2011. p.350)

Whether the story of the Lydians is true or false is not that important. It is the obscured intent with which these games are executed that matters. The Lydian games are clear examples of extreme governing instruments, implemented by sovereign rule. At the same time, a contemporary researcher refers to these effects as the world’s potential savior. It is important that society does not carelessly install these enormous life-altering mechanisms while developers and publishers seem so naïve to their effects. Today, governments or organizations may apply these methods for developing games that alter the quality of life, support social and civic participation and help improve our lives for their own ends, but these mechanisms could be used by anyone to any extent in the future.

### 6.3 Governing Games

The potential of using games as a governing instrument is recognized by current governments and institutes who have started to acknowledged the significance of games in our society (Eric Bartelson, 2014).<sup>48</sup> *Gamesmonitor*, a large Dutch research publication on the Dutch, European and global game market, highlights the importance of European and governmental funding for the game industry (Rose, 2012). Such political interest in games could be seen as an inquiry by the government for seeing how games suite *governmentality*, assessing how games can be part of governability to shape the contemporary *public*. This could also explain why applied games have gradually ventured into the various unknown political, health, social and cultural domains, trying to prove their significance. The political or strategic intent of applied games is controversial to the way play is experienced, perhaps founding another angle of the ambiguity. For play is commonly described as unproductive and free, in contrast to the applied game examples (Huizinga 1938; Caillois, 1963). However, as previous chapters have revealed, *biopower* mechanisms are applied in order to smooth over any hiccups in the population’s playful state of mind, immersing players into regulated realities.

The political game *September 12<sup>th</sup>* (Newsgaming.com, 2003) shows that such underlying intentions drastically change the rhetoric of gaming. *September 12<sup>th</sup>* is created by the political and news-driven group called newsgaming.com to voice political statements about the idiocy of fighting a war against terrorism. The opening lines state: “This is not a game. You can't win or lose. This is a simulation. It has no ending and it has already begun. The rules are simple, you can shoot or not.” The only input *mechanic* of the game is clicking, which shoots missiles at the pointer of your mouse, always killing terrorists, as well as structures and innocent bystanders, failing the war on terrorism while new terrorists spawn in reaction to the violence (see Appendix B for a more detailed description of

*September 12<sup>th</sup>*). The constructed reality of the game therefore contests the fact that a war on terrorism could be successful. For not interacting with the game, not shooting, does not win the war on terrorism, but rather neglects to fight one. This was undoubtedly the intention of newsgaming.com, in which games show themselves as the perfect mask to hide such unavoidable regulative mechanisms.

*September 12<sup>th</sup>* is a very clear example because the developers' goal was to express their rhetoric, stressing their beliefs about the war on terrorism. However, many of the applied games examples in this thesis have been developed with certain strategic intentions: healthcare (e.g. *Moodbot*, *Plan-it Commander*, *Remission* and *Foldit*), education (e.g. *abcdeSim*), profession (e.g. *Sharkworld*), social expression (e.g. *ChoreWars*) and political expression (e.g. *Freerice*, *Foldit*, *World Without Oil*, *September 12<sup>th</sup>*). Therefore, it becomes clear that applied games can be identified as an instrument for modern governance, possibly defining them as *biopolitics* because it is through these games that politics could get a grip on the well-being of its population, which Foucault saw increasingly as the *governmentality* of modern Western societies (see Appendix A for a thorough description of *governmentality*). This could also explain Deterding (2014), Frissen et al. (2015), Raessens (2006) and David and Chen (2006) findings, who all addressed the gradual growth in educational, training, serious, applied, health and entertainment games.

While over the past years, the impact of games has been explored by venture capitalists who seek new and innovative ways to manage the *public*, games can be employed for many strategic reasons, indicating that games are becoming both a commodity as well as a strategy for managing and regulating the *public*. It becomes clear with these explorative findings that while games have a clear leisure and ephemeral effect that satisfies an individual's needs in society, this is only a part of the entire *game machine*. While the free and ephemeral signify the rhetorics of *frivolity*, *pleasure* or *playfulness*, they are in fact the mask behind which the entire *game machine* operates. Behind the mask, the *game machine* incorporates mechanisms of security, constitutes regulated spaces and manages mechanisms of economics to satisfy their *governmentality*. Therefore, games show great resemblances with *biopolitics*: "the set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power" (Foucault, 1978, p.1).



## Chapter 7: Conclusion

This thesis started out with the introduction of the ambiguous nature of games and play. The different chapters applied games and gently dispelled their ambiguity, while various perspectives and biopolitical mechanisms laid bare their power structures. By exploring the various biopolitical approaches addressed in Foucault's work, this thesis concludes that applied games and *biopolitics* show great resemblances: by the nature of their power, since both deploy strategies to secure or transform the *public* with calculated intent; by the direction of power, as both use regulatory mechanisms deployed within the necessities of the population; and by the control of power, as both are identified as instruments to be used within *governmentality*. Therefore this thesis has indicated how Foucault's theory of *biopolitics* can create insight into the impact of applied games in society.

As feared, by analyzing the various biopolitical perspectives of applied games, this thesis has only diversified the rhetorics of games, even indicating that many previous rhetorics are contested ways of considering games. However, this thesis has managed to directly address games themselves through the *biopolitical* methodologies. This has revealed various insights into the workings of games, distribution of power, newly formed actors, development techniques and obscured intent. With that, this thesis has not only shown how applied games can be seen as *biopolitics* but it has also indicated how contemporary *biopolitics* can be deployed in modern societies.

This thesis thereby provided explorative insight into the ways game development could cope with future *biopolitical* issues and help raise awareness of *biopower* mechanisms. This thesis, however, remains explorative research that hoped to find connections between two coinciding fields of research, which has its downfalls. For example, the thesis did not address the dissimilarities between the contemporary uses of applied games and *biopolitics*. Next, the results may seem to be an almost random assembly of examples and literature; however, as addressed before, Foucault's genealogical methods are rather unsubstantial and heterogeneous. Trying to identify applied games as biopolitical mechanisms does not entail that every game is biopolitical. Foucault did not argue that every policy or the total body of government became an object of *biopower*; he merely showed that management of politics increasingly involved itself with *biopolitics*. The same goes for this thesis. While it provided indications of biopolitical games, it does not indicate that every applied game is involved with *biopolitics*. Lastly, this thesis has only addressed a couple of applied game examples; further research is needed in order to generalize to the entire (applied) game industry. In revealing these unnoticed power relations, this thesis has perhaps raised more questions than provided clear answers. However, it has created multiple introductions for future research into *biopolitical games* or their power relations. While this thesis does not provide clear quantifiable proof, the approach of this thesis introduces possibilities for looking closer at the context of games as well as the participation of emergent digital capital.

Overall this explorative research has grasped a bundle of elusive topics surrounding the impact and workings of games. Addressing applied games as a contemporary artifact of *biopolitics* has helped to reveal intertwining power mechanisms operating in the context and background of games. This revelation is constituted by the resemblance of games with play and the introduction of frivolous and ephemeral rhetorics that satisfy populations' needs. The frivolity is mixed with economic and individual necessities in order to deploy security strategies, constituting regulated spaces. These mechanisms combined with contemporary technical capabilities introduce a level of cunning and intellect that was

previously unrecognizable in games. These games this thesis portrayed as *biopolitical games*, partly obscures the vision of the player while constructing a field of ambiguity, leaving the player in ignorance of its *biopower* workings.

### 6.3 Parting Thoughts

For players and developers, I say that we are on the verge of finding out what role new serious and applied games are going to play within our societies. While developers and new potential markets are slowly warming up to new gamification and serious games techniques, audiences are left wondering how these games could impact our society. This thesis has given some insight into many potential techniques that games can adopt to bring forth change. While this potential power has by some been described as the greatest power of the 21<sup>st</sup> century, others have raised warning signs for potential hazardous consequences. This resonates with the ambiguity that was presented in the introduction of this paper and indicates that games are venturing into uncharted territory in which no one can predict what the actual impact will be. This explorative research has hopefully contributed to partially lifting the ‘fog of war’ for future developers and games.

For researchers in the field of game studies and social politics, this thesis has proposed various indicators of how through *biopolitics* it becomes possible to identify the contemporary power struggles of games. This thesis has been an exploration into what effects these shifts in power relations will bring forth, which can all be seen as suggestions of further research since only time will tell what these movements have in store. However heterogeneous the findings, this thesis has provided multiple methods to analyze and approach games. Hopefully this literacy for critical assessment of the power of games will contribute to further analysis in unravelling the obscured *biopolitical* mechanisms and help raise more awareness in the future.

## Notes

- <sup>1</sup> Most Massive Multiplayer online games mimic real world physics, scale, social structure and culture. A few striking examples would be *Second Life* (Linden Research Inc., 2003), *World of Warcraft* (Blizzard, 2004), *Battlefield 4* (Electronic Arts, 2013) or *Grand Theft Auto 5* (Rockstar, 2013)
- <sup>2</sup> Jane McGonigal writes in her book an extensive report on the growth of the gaming community (McGonigal, 2011, p.3-4) Also Nick Dyer-Witheford and Greig de Peuter write about the growth of the industry and community (Dyer-Witheford & De Peuter, 2009, p xv-xix).
- <sup>3</sup> The Entertainment Software Association brings out multiple reports on the size and expansion of the game industry in America and worldwide. They have been reporting the rise of the industry for years as well as in increase in the influence of the game industry on education, health and business industries. For more details see theesa.com.
- <sup>4</sup> Examples of these are the book *Games of Empire* (Dyer-Witheford & De Peuter, 2009) or *Gaming the Quantified Self* (Jennifer Whitson, 2013) or *Playing with Privacy: Games for Education and Communication in the Politics of Online Privacy* (Barnard-Wills & Ashenden, 2015)
- <sup>5</sup> This change is especially felt in the Netherlands where the last indications show that half of the games developed are serious- or applied- games (Dutch Game Association, n.d.).
- <sup>6</sup> Examples of early educational games are *Museum Madness* (Novotrade, 1994), *Math Blaster* (Davidson & Associates, 1994), *Number Munchers* (MECC, 1980) or *The Logic Journey of the Zoombinis* (Brøderbund, 1996). The rest of my thesis will reference multiple contemporary educational games. Besides that, I personally have been working as a game and asset designer for over 8 years and seen the European serious game industry projects increase in size and budget.
- <sup>7</sup> This is a direct link to Brian Sutton-Smith's work, *The Ambiguity of Play* (Sutton-Smith, 1997), wherein he addresses multiple rhetorics of play; one being the rhetoric of play as frivolous.
- <sup>8</sup> Moodbot won the iZovator Award 2012 for best innovative health game, showing the excitement and potential which it has been given in the Dutch game industry.
- <sup>9</sup> The work of Jane McGonigal is a perfect example of how big the impact of games is or could be. In the book *Reality is Broken* (McGonigal, 2011) McGonigal sets out on a quest to show how and why games could change the world (McGonigal, 2010). Something that is clearly present in McGonigal's earlier work: '*This Is Not a Game*: Immersive Aesthetics and Collective Play' (McGonigal, 2003).
- <sup>10</sup> Between the years of 1977 and 1979 Michel Foucault was enrolled at the Collège de France, where he was required to provide 26 hours of teaching a year. In these particular two academic years he gave a total of 25 lessons which were well documented and taped. This resulted in 2004 in the publication of two books by *Seuil & Gallimard*, which retraced Foucault's lectures as precise as possible. In 2008 Graham Burchell translated both books to English: *Security, Territory, Population* and *The Birth of Biopolitics*.
- <sup>11</sup> In Foucault's lectures he rarely mentions the word 'government', although he does refers to governing or the *raison d'Etat*. In his work he prefers to words sovereign or state rather than government, since for him these do not imply a biopolitical power structure like the word government. (Foucault, 1978, 1979)
- <sup>12</sup> A possible example of this fragmentation is the long lasting argument about the violence effects of videogames. While many scientists approached this topic from various fields of research - thus various rhetorics- (Jeffrey Goldstein, 2005) the media always found new insights or conflicting arguments and therefore never seems to come up with a satisfying answer (Zoe Kleinman. 2015).
- <sup>13</sup> Evangelia Sembou describes that genealogy often is portrayed by and assemblage of seemingly random examples, which all in their particular way bring froth the addressed notion. "However, although these discontinuous series have their regularity, there are no links of mechanical causality or of ideal necessity between the elements that constitute them" (Sembou, 2011, p.7).
- <sup>14</sup> For example, the paper *From Biopower to Biopolitic* traces biopolitics in relationship to 'life and living' (Lazzarato, 2002, p.18). Michael Dillon and Julian Reid set apart how biopolitics is involved with culture and express the changing notion of 'bio'. Stating that "conception of life informing biopower, began to be conceived differently, and thereby opened up strategically to new governing technologies." (Dillon & Reid, 2001, p.49) In the book *The Exploit: A Theory of Networks* biopolitics is compared to network structures in culture and society, wherein Alexander Galloway and Eugene Thacker write: "biology and informatics combine in biopolitics to make it productive, to impel, enhance, and optimize the species - population as it exists within the contexts of work, leisure, consumerism, health care, entertainment, and a host of other social activities." (Galloway & Thacker, 2007, p.74)
- <sup>15</sup> Evangelia Sembou writes about Foucault's perception of power: "Foucault insisted that he did not offer a "theory" but an "analytics" of power" (Sembou, 2011, p.3). In his own words he spoke of "not a substance, fluid, or something that derives from a particular source (...) but simply of power in terms of the set of mechanisms and procedures that have the role or function and theme, even when they are unsuccessful, of securing power." (Foucault, 1978, p.2)
- <sup>16</sup> Referring to Critical Theory, they write: "to be critical therefore means to be able to identify and discern between different ways in which the media, their use and their content affects relations of power in society" (Stocchetti & Kukkonen, 2011, p.14).
- <sup>17</sup> Stocchetti and Kukkonen address multiple theories and methods to address media critically. The distribution of power and responsibility is a key point in these analyzes, which is partly derived from Foucault's entire works (Stocchetti & Kukkonen, 2011, p.121-135).
- <sup>18</sup> Dyer-Witheford and De Peuter explain a social machine as "a functionally connected assemblage of human subjects and technical machines, people and tools" (Dyer-Witheford & De Peuter, 2011, p.70).

- <sup>19</sup> "Games and game design elements are increasingly harnessed to improve everything from productivity to marketing, from learning to user experience, from health, happiness, and creativity to civic engagement and governance "(Deterding , 2014 , p.2)
- <sup>20</sup> Foucault talks about the constitution of the concept of population: "The relation between the individual and the collective, between the totality of the social body and its elementary fragments, is made to function in a completely different way; it will function differently in what we call population. The government of populations is, I think, completely different from the exercise of sovereignty over the fine grain of individual behaviors." (Foucault, 1978, p.66)
- <sup>21</sup> "Foucauldian genealogy is an history of tracing 'origins' and, as such, it questions the idea of origins or deeper meanings" (Evangelia Sembou, 2011, p.2)
- <sup>22</sup> This is fortified by Jeffery Goldstein, who writes that "a behaviour that is present in the young of so many species must have an evolutionary advantage, otherwise it would have been eliminated through 'natural selection'" (Goldstein, 2012, p5).
- <sup>23</sup> In *Homo Ludens: A Study of The Play-Element in Culture* Huizinga shows the element and role of play in poetry, philosophy and even in the art of warfare. Revealing that play is rooted within many elements and activity of our culture. (Huizinga, 2006)
- <sup>24</sup> In the book Rules of Play, Salen and Zimmerman describe how games are a part of play while at the same time play is a part of games (Salen & Zimmerman, 2004, p.72-73). Analyzed through Marshall McLuhan's work on *extensions of men*, games can be understood as an extension of the playfulness of the human species (McLuhan, 1964).
- <sup>25</sup> According to Critical Media Analysis, media strategies provide insight into the impact of media on the distribution of power as well as the role of the media in social change.
- <sup>26</sup> Huhtamo refers to the work of David Nasaw, who writes about early slot machines: "Here was the perfect diversion for city folk, a momentary break from routine that was so unobtrusive it could be seamlessly interwoven into the fabric of daily life" (Nasaw 1999, p.159 in Huhtamo, 2005, p.10)
- <sup>27</sup> The effects are directly in line with what Stocchetti and Kukkonen describe as escapism with the introduction of mass media: "It was technically possible to reach almost everyone in a society, and political regimes exploited this to encourage the production of popular fiction which would distract people from social problems" (Stocchetti & Kukkonen, 2011, p.40)
- <sup>28</sup> Huizinga writes that entering the magic circle constitutes an alternate reality. He writes about play: "Play are temporary worlds within our own" (Huizinga, 1938, p.10).
- <sup>29</sup> The *magic circle* is a contested concept. Jesper Juul stressed the importance of interacting social connections ingame: "What aspects of "life" of the game playing context, are potentially relevant to the playing of a game, and thereby relevant to the negotiation of the magic circle?" (Juul, 2008. pp. 62) Mia Consalvo criticizes the magic circle as well: "Structures may be necessary to begin gameplay, but we cannot stop at structures as a way of understanding the gameplay experience. Because of that, we cannot say that games are magic circles, where the ordinary rules of life do not apply." (Consalvo, 2009)
- <sup>30</sup> The 'fog of war' is a reference to a much applied game mechanic, where part of the vision in the game is obscured from the player. Leading towards experiences of uncertainty or ignorance while playing.
- <sup>31</sup> Note that, as addressed earlier, Foucault even identified *biopower* "when they are unsuccessful, of securing power." (Foucault, 1978, p.2). Dictating that even if contemporary games are unsuccessful of these changes, they can still be identified as having the function or strategy to do so.
- <sup>32</sup> Suits concludes that "one cannot (really) play the game unless one obeys the rules of the game" (Suits, 1990 in Salen & Zimmerman 2006, p.175)
- <sup>33</sup> Roger Caillois writes "There is also no doubt that play must be defined as a free and voluntary activity, a source of joy and amusement" (Caillois, 1963, in and Salen, 2006. p.125). Also Johan Huizinga as well as Katie Salen and Eric Zimmerman dictate that forced play is no play anymore (Huizinga, 1938/1951, Salen & Zimmerman, 2004)
- <sup>34</sup> *World of Warcraft*'s guild-system is a clear example of constructed social networks within gameplay. The guild-system is a mechanic which connects players together in *World of Warcraft*, in order to play and achieve bigger things together. You can create guilds with your friends or with family and together defeat the dangers of the virtual world that would individually be impossible. This can go as far as guilds battling each other with hundreds of players at a time.
- <sup>35</sup> One particular example is the football game-series *Madden NFL* (Electronic Arts, 1988-2014). In order to develop the series, EA sports division spent thousands of dollars to copy the real world characteristics of real NFL players. Developers measured players based on numerous statistics and created animations supported by hours of video analyzes just to create the most realistic virtual game possible (Dyer-Witheford & De Peuter, 2009, p.46-48)
- <sup>36</sup> This can also be brought into context for serious games. Ranj Serious Games does multiple analyzes in finding the right styles and concepts for specific target-groups. I did such analyzes for *Tech-ed* (Ranj, 2008) and *Check-Out!* (Ranj,2009). Most of the time users wanted "real as possible" or interaction that mirrors that in the real world. Games like *Sharkworld* of Ranj proof that indeed 'real world like' interaction does raise the excitement and experience of a game.
- <sup>37</sup> Ever since the rise of the *mod-culture* and the making of *machinima*, game developers have incorporated the desires and comments of the surrounding game culture, thereby embracing their participation (Lowood, 2005)
- <sup>38</sup> McGonigal writes about the size and magnitude of the WoWWiki: the wikipedia for *World of Warcraft*. McGonigal writes: "There are still more than 65,000 WoW players who are registered contributors to WoWWiki, currently the world's second largest wiki after Wikipedia." (McGonigal, 2011, p.232)
- <sup>39</sup>The sites like Twitch become massive online portals for showing incredible gaming skills and hosting challenges and events. "Twitch is the world's leading video platform and community for gamers with more than 45 million visitors per month. "We want to connect gamers around the world by allowing them to broadcast, watch, and chat from everywhere they play." ([twitch.tv](http://twitch.tv), [www.twitch.tv/p/about](http://www.twitch.tv/p/about)) This is added to reports that the *League of Legends Esports Final 2013* was watched by 32 million viewers worldwide (McCormick, Rich, 2013),

- <sup>40</sup> "Gamification is rooted in surveillance; providing real-time feedback about users' actions by amassing large quantities of data and then simplifying this data into modes that easily understandable, such as progress bars, graphs and charts." (Whitson, 2013, p.163)
- <sup>41</sup> McGonigal writes that, by estimate, the global game society spends over 3 billion hours a week on gaming (McGonigal, 2011, P27).
- <sup>42</sup> The value and power of participation will become greater in the future, if, according to Schäfer: "The media practice that emerged in the past two decades consists of many aspects that improve and promote our society. It would be grossly negligent to risk these values by aligning the cultural practice to dubious business objectives and populist politics" (Schäfer, 2011. pp.175)
- <sup>43</sup> That games already produce many different forms of capital can be shown by a few examples: the book chapter *Biopower Play: World of Warcraft* (Dyer-Witheford & De Peuter, 2009, p123-153), James Boyle's work on laws and ownership of newly formed capital in the information society (Boyle, 1996) or Jillian Dibell's inquiries into virtual property in games or what he calls the act of 'ludocapitalism'.
- <sup>44</sup> Clear examples of these systems are social media games, such as *Farmville* (Zynga, 2009), *Dragon City* (Socialpiont, 2012) and *Candy Crush Saga* (King, 2012) which mostly thrive by participation and management of economics. To give an indication of how widespread this participation design has grown, *Candy Crush Saga* has over 150 million players on *Facebook* (January, 2014), while *League of Legends* has 67 million active monthly players. League of Legends reports that: "by player numbers: 67 million playing every month, 27 million playing every day, and over 7.5 million playing at the same time during each day's peak play time." (Riot, 2014)
- <sup>45</sup> This seems like a logical step for game design, given the fact that games mostly provide instant feedback to players.
- <sup>46</sup> While various examples in this thesis can be understood as managing the population, it remains unclear if these effects are purposely implemented.
- <sup>47</sup> A striking example of the inevitability of such biopolitical structures in games is provided by Andrew Baerg. In his article on *Neoliberalism and the Digital Game*, Baerg addresses that it is hard to escape the procedural representations and rhetoric which are programmed into games (Baerg, 2009, p.125).
- <sup>48</sup> In recent years, the European Commission has started to perceive games as a worthy member of the creative industries, recognizing their cultural impact. This was made particularly clear when the European Commission decided on an exceptional tax regulation in a move to stimulate the European game industries (European Commission, 2012; Rose, 2012, p.65). Another example is Horizon 2020, a large European research and innovation program, wherein game development has been given its own calls among all traditional research and innovation branches. The pursuit of clarification this significance is visible in the game industry itself. Many developers validate games in order to streamline production but also to prove their value to institutions and governments. Besides development, are there a host of scientific topics that correlate to identifying the impact of games: behavioural change, persuasion, immersion, cultural representation and digital identities.

## Keywords and definitions

### Aesthetics

"Describes the desirable emotional responses evoked in the player, when she interacts with the game system." (Hunicke, LeBlanc and Zubek, 2004, pp.2)

### Ambiguity

Generally refer to the uncertain nature of a phenomenon or object. In this thesis the notion of ambiguity as addressed by Brian Sutton-Smith is applied. (pp.7, 8)

### Applied games

A collective term for games which are 'applied', meaning used for other purposes than entertainment. For instance the used for health, education, training, behavioral change, politics etc.

### Biopolitical games

Games which are acting or functioning as biopolitical mechanisms. (pp.37)

### Biopolitical mechanisms

The installment of mechanisms in order to produce biopower. The thesis mainly refer to three highlighted mechanisms: mechanisms of security, regulation and economics (Appendix A pp.50-52; pp.15-16, 10)

### Biopolitics

Are sets of mechanism which purposely deploy a strategy of power over the population. (Appendix A pp.49; pp.9, 15)

### Biopower

The exercise of mechanisms and procedures regarding the basic biological features of the population that distribute power. (Appendix A pp.49; pp. 12)

### Critical media analysis

Is a critical approach to media formulated by Matteo Stocchetti and Karin Kukkonen in which they formulate methods to critically analyse the impact of media on society. (pp.12)

### Digital Labour

The production or work inside digital technology. In games this refers to the production of knowledge, social capital or virtual property.

### Dynamics

"Describes the run-time behavior of the mechanics acting on player inputs and each other's outputs over time." (Hunicke, LeBlanc and Zubek, 2004, p.2)

### Game machine

Stands for the entire assemblage of both technical and social *machines*, as well as the activities, agents and subjects connected to it. (pp.13)

### Games

This thesis primarily addressed games as being video games: digital games which mostly relay on visual (video) feedback. More precisely this thesis focusses predominantly on applied games.

### Gamification

The definition used in this thesis is the one derived from the work of Sebastian Deterding, Dan Dixon, Rilla Khaled and Lennart Nacke: "the use of game design elements in non-game context" (Deterding, Dixon, Khaled & Nacke, 2011). (pp. 26)

### Governability

The abilities of a state or government to rule over the population. In Foucault's work this generally refers to the ability of the state to implement biopolitics. (pp. 15)

### Governmentality

According to Foucault the business of the state or the rationale with which the state carries out its governability. (Appendix A pp.53-54; pp. 15)

### Ludification of culture

A concept by Joost Raessens which indicates that society is becoming increasingly playful. (pp. 17)

### Machine

A theoretical approach created by Gilles Deleuze and Félix Guattari's towards objects and subjects. *Machine* states that an object, is always part of a larger assemblage of multiple social subjects and other objects. (pp. 12-13)

**Magic circle**

The magic circle in relation to play describes the temporary world in which play takes place. In relation to games the magic circle consists more of a playful mental state which is established by the player. (pp.18)

**Mechanics**

“Describes the particular components of the game, at the level of data representation and algorithms” (Hunicke, LeBlanc and Zubek, 2004, p.2)

**Mechanisms of economics**

A characteristic of *biopower* which entails the calculation of the population and thereby linked with economic thinking. (Appendix A pp.51-52; pp. 16)

**Mechanisms of regulation**

A characteristic of *biopower* which concerns itself with constituting regulated space to control and surveillance of the population. (Appendix A pp.51; pp. 16)

**Mechanisms of security**

A characteristic of *biopower* which tries to realise calculated future scenarios. Thereby applying strategies to secure the population's interpretation understanding and behaviours. (Appendix A pp.50-51; pp. 15)

**Pervasive gaming**

Is a game development method created by Markus Montola, Jaakko Stenros and Annika Waern, which describe pervasive gaming as: “a game that has one or more salient features that expand the contractual magic circle of play spatially, temporally, or socially.” (Montola, Stenros & Waern, 2009, pp.12). (pp. 26)

**Play**

Is in this thesis addressed as one of the basic biological features, behaviours, of the human species. (pp. 17)

**Police state**

Is described by Foucault as a form of governmentality in which the population are disciplined through the fabric of society: managed by mechanisms of security and regulation. (Appendix A pp.53; pp. 16)

**Population**

Foucault defines the population as a number of human beings, a notion constituted when sovereigns started to acknowledge the population as a way to rule over their subjects. Population is therefore a calculation of a group of specified individuals. While games mostly do not address an entire nation, they are made for specified target audiences. Therefore, population in games can be seen as the targeted group of gamers, or even the actual players themselves. (pp. 13, 22)

**Raison d'État**

Directly translated to ‘reason of the state’, is a concept of Michel Foucault to address the fundamental principles on which the government decides its course of action. (pp. 53)

**Regulated Space**

Is an assembly which Micheal Foucault's uses to talk about an environment which is regulated by mechanisms of regulation. In Foucault's work the regulated space is an assembly of territory, milieu and transformable framework. (Appendix A pp.51; pp. 25)

**Rhetorics**

Are generally referred to as the way in which a person or has the capability to inform, persuade, or motivate their audiences of its cause. (pp. 7, 8)

**Rhetorics of games**

Is a reference to the work of theorist Brian Sutton-Smith (rhetorics of play) Sebastian Deterding created the rhetorics of games. (pp. 7)

**Social construction of reality**

the way in which society constructs their understanding of reality through social interaction (Stocchetti & Kukkonen, 2011, p.21-24). The concept of the *social construction of reality* is originally constituted by Peter Berger and Thomas Luckmann in their book *The Social Construction of Reality* (Berger & Luckmann, 1966). (pp. 12)

**The Public**

Foucault used the concept of *the public* to address the conceptual ideology the government envisioned for the population. (Appendix A pp.52; pp. 30)

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## **Appendix A – Foucault’s methodologies**

*In this appendix A structural and descriptive analysis is given of the Foucault’s notion of biopolitics.*

*While clear definitions of Foucault’s concepts and theories have been provided in another section this section focus on the creation of the four central methodologies used in the thesis. Next to that this appendix will provide a broader foundation and understanding of Foucault’s genealogy.*

### Foucault’s notion of power

Foucault hardly referred to *biopolitics* in his research, but refers to *biopower* instead because he wanted to understand the processes that bring forth *power*, rather than tracing its effects. The four highlighted aspects of *biopolitics* in this thesis are presented as different mechanisms, although Foucault saw them as one, which he referred to collectively as *biopower*. Foucault defines *power* as:

“not a substance, fluid, or something that derives from a particular source (...) but simply of power in terms of the set of mechanisms and procedures that have the role or function and theme, even when they are unsuccessful, of securing power.” (Foucault, 1978, p.2)

*Biopolitics* therefore result from the exercise of *biopower*, which refers to the mechanisms and procedures that bring forth power. This insight into the relationship between *biopower* and *biopolitics* helps us to understand what Foucault meant by the definition of *biopolitics*, which are:

“the set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power, or, in other words, how, starting from the eighteenth century, modern western societies took on board the fundamental biological fact that human beings are a species.” (Ibid. p.1)

*Biopolitics* are powers, or sets of mechanisms, which function as a political strategy pertaining to people within society, based on an understanding of humans as a classifiable species. In the pursuit of tracing *biopower*, Foucault revealed how the idea of government was formed and transformed from the sixteenth to the twentieth century. Foucault finds that early sovereigns started to apply the concept of *population*, acknowledging and calculating large groups of certain human individuals. Foucault talks about the constitution of the concept of population as:

“The relation between the individual and the collective, between the totality of the social body and its elementary fragments, is made to function in a completely different way; it will function differently in what we call population. The government of populations is, I think, completely different from the exercise of sovereignty over the fine grain of individual behaviors.” (Ibid. p.66)

Sovereigns started to recognize the population as the source of a state’s power, which for Foucault constituted the first liberal ideologies for equality within society. These liberal ideologies set in motion movements through which the calculation and management of the population became an object of

strategy, a strategy which was, according to Foucault, exercised by the implementation of biopolitical mechanisms in society.

## Mechanisms of Security

Foucault situated security as *biopower* mechanisms that can be applied in order to delay or marginalize certain events. Through the concept of *biopolitics*, security is understood as mechanisms which marginalize natural phenomenon within the population or nullify aspects of human behavior. To give a better indication of this *biopower*, Foucault uses multiple historical examples.

One of the examples that Foucault addresses was the construction of the town, as an expanding structure of planning and architecture in the eighteenth century (Foucault, 1978, p.1-29). The strategy of planning involved minimizing health risks and ensuring the trading and circulation of goods (Ibid. p.18). This strategy of architecture involved social and cultural zoning, as well as the construction of city centers (Ibid. p.18-19). The impact of these two strategies changed urban life and living conditions forever, though the traces of the changes caused by them can still be found in contemporary society. Foucault indicated that these strategies revolve around securities because they minimized diseases, improved trade and transport and created socially-accessible living conditions, resulting in fewer expenses, better life expectancy, more profit and happy citizens for local authorities. Another example of security focuses on the mercantilist laws maintained in France between the seventeenth and eighteenth century. At that time, France upheld laws to ensure an abundance of grain. Mercantilist laws set the price of grain on the market and controlled the selling and trading of grain and, according to Foucault, “this anti-scarcity system [was] basically focused on a possible event, an event that could take place, and which one [wanted to try] to prevent before it [became] reality” (Ibid, 33). In the case of grain, this event entailed the prevention of starvation or revolt due to a shortage of grain. The *Physiocrats*, a liberal and political group at that time described by Foucault, analysed and calculated the behavior of farmers and traders in France. They revealed freedom of commerce as a better system for maintaining the security against a scarcity of grain, which reformed the economy.

Both examples indicate that by calculating population—quantifying behaviors, actions and motivations—it becomes possible to install mechanisms of security. According to Foucault, mechanisms of security have multiple features. They “maximiz[e] the positive elements, for which one provides the best possible circulation, and minimiz[e] what is risky and inconvenient” (Ibid. p.19). They are also subject to economic thinking. Mechanisms of security envision an abstract reality, which is extrapolated by calculating an estimated population.

“The mechanism of security works on the basis of this reality, by trying to use it as a support and make it function, make its components function in relation to each other. In other words, the law prohibits and discipline prescribes, and the essential function of security (...) is to respond to a reality in such a way that this response cancels out the reality to which it responds – nullifies it, or limits, checks, or regulates it. (Ibid. p.47)

Therefore mechanisms of security envision a reality in which there is no scarcity of grain and only impeccably-constructed towns, creating mechanisms in order nullify unaccepted tendencies of the population while constituting security mechanisms.

## Mechanisms of Regulation

In tracing *biopower*, Foucault stresses that *biopower* cannot be viewed according to the workings of real laws and rules since mechanisms of security control society by managing future realities and not by controlling the current reality.

"All these mechanisms, unlike those of law or of discipline, do not tend to convey the exercise of a will over others in the most homogeneous, continuous, and exhaustive way possible. It is a matter rather of revealing a level of the necessary and sufficient action of those who govern." (Foucault, 1978, p.66)

Mechanisms of security are therefore involved in the management of the population, by calculating what the population entails. For Foucault, this is one of the main aspects of *biopower* which still signifies modern government (Ibid. p.34). Governments cannot uphold countless laws and therefore create mechanisms to *regulate* the population. Looking back to the grain laws and construction of the town reveals mechanisms of regulation rather than discipline. The French population was shown the necessity of wider streets, connecting roads and tailor-made housing, which were all beneficial to the population. Along with these mechanisms of security, enormous changes to society were being introduced.

If the population understands the necessity of regulations, it loses the will to critically judge mechanisms. Obscuring other mechanisms as for instance, urban planning: which changed cities, architecture and living conditions forever. What was created, according to Foucault, was "an architecture of the disciplined space" (Ibid. p.29), which he also refers to as a territory, milieu or transformable framework (Ibid. p.19-23). Foucault identifies that a space, in which the population is subjected to mechanisms that lead towards a different way of thinking, is necessary in regulating the population. In relation to *biopower* mechanisms, this regulated space goes unnoticed by the population, whilst playing a role in nullifying behaviors or scenarios, revealing that *biopolitical* mechanisms are obscured from the population's perception. This obscurity is part of *biopower* and can be generally described as being introduced through necessity while nullifying the version of society in which the problem which created the necessity occurred. As such, the entire notion of the problem is almost eliminated.

## Mechanisms of Economics

All the previously addressed *biopower* mechanisms incorporate a manner of economic thinking. This is coherent with the fact that Foucault described these individual mechanisms as parts of the entire *biopower* mechanism. Within *biopower*, Foucault addresses economics mainly as the intent with which other mechanisms are deployed. In Foucault's historical analyzes, these intentions started with states recognizing the population. With the population slowly seen as the root of the

state's power, the purpose of the early governments became to measure the population: their work, their activities and behavior (Foucault, 1978, p.67). This meant that mechanisms through which the population were measured became increasingly important as methods for managing society. Accessible information about the population became the source of improving management by analyzing, reflecting and calculating numbers (Ibid. p.71), thereby putting forth rational and calculated *governmentality*, the business of the state.

Economics and the measurement of mechanisms of security were therefore the sole purpose of the early economic governments. Calculating scenarios mostly resulted in a change of *governmentality*, guiding the management of the *public* (Ibid. p.108-110). The concept of the *public* was the central contested concept in these negotiations:

"The public is the population seen under the aspect of its opinions, ways of doing things, forms of behavior, customs, fears, prejudices, and requirements; it is what one gets a hold on through education, campaigns, and convictions. The population is therefore everything that extends from our biological rootedness through the species up to the surface that gives one a hold provided by the public." (Ibid. p.75)

Government therefore became aware that mapping the *public* could be used to manage society. These are the fundamentals of our economic thinking according to Foucault, and as quoted earlier; "mechanisms through which the basic biological features of the human species [the public] became the object of a political strategy" (Ibid. p.1). Therefore, *biopower* employs mechanisms of regulation and security upon the population to strategically change what the *public* entails. This way of governing is unlike that of sovereign rule because it entails less individual belief and more calculated change. Governments therefore became an object of management: controlling *public* data. For Foucault it therefore became important to identify how governments made normative judgements, analyzed data or created verdicts forming the economy.

"The idea that the economy is basically a game, that develops as a game between partners, that the whole of society must be permeated by this economic game, and that the essential role of the state is to define the economic rules of the game and to make sure that they are in fact applied" (Foucault, 1979, p.201)

Foucault shows how the economic analysis of the public became dominant over the natural course of society. In other words, governing has become something more limited to control rather than something that resides in the freedom of individuals (Ibid, p.62). This general change of governing introduced *biopolitics*, which applied mechanisms of economics for gathering and analyzing the basic biological data of the public. Mechanisms of economics can therefore be identified as the means through which mechanisms of security and regulation are deployed and verified.

## Governmentality

Foucault started addressing governing with the introduction of the idea of population, the change from sovereign rule to the governing of the population. For Foucault, this is essentially a change in the *raison d'État*, or 'reason of the state'. *Raison d'État* is used throughout Foucault's work and it entails the fundamental principles on which the government decides its courses of action (Ibid. p.237-241). After the change in *raison d'État* due to the introduction of the idea of population, Foucault addresses the historical period of the German *police state*, which again altered the *raison d'État*. *Police* is not to be seen as our modern notion of 'police' but rather a verb, to police something. The population were 'policed' by mechanisms of security and regulation which were employed by the government. Our modern notion of police stems from the latter nineteenth- and twentieth-century notion, according to Foucault. Foucault addresses the *police state* as a method in which the population is disciplined through the fabric of society; they are managed by mechanisms of security and regulation.

"From the seventeenth century "police" begins to refer to the set of means by which the state's forces can be increased while preserving the state in good order. In other words, police will be the calculation and technique that will make it possible to establish a mobile, yet stable and controllable relationship between the state's internal order and the development of its forces." (Foucault, 1978, p.313).

In the *police state*, the state looked after the splendor of society because it was in favor of the development of its forces. Training people for a profession made individuals more productive in society thereby creating and calculating set of controls (mechanisms of security) which ensured that men had something meaningful to do throughout their lives (Ibid. p.321). While the *police state* carried on in history, it developed health policies, professional education and all sorts of control mechanisms to ensure the power of the state. Therefore, "police is basically concerned with society" (Ibid. p.326). The underlying *raison d'État* of the *police state* is described as the creation of circumstances for individuals to do 'better than just living'.

"This felicity, as the individual's better than just living, must in some way be drawn on and constituted into state utility: making men's happiness the state's utility, making men's happiness the very strength of the state." (Ibid. p.327)

According to Foucault, it is this ideology which has served as the foundation for our modern government in western society (Ibid. p.338). This urge for individual well-being created more involvement of the state in the population's daily lives, which in turn gave rise to more intertwined mechanisms of discipline and security. This complexity constituted politics: "a way of analyzing, reasoning, calculating, and conceiving of what a government must do and on what form of rationality it can rest" (Ibid. p.246). Politics slowly transformed the *raison d'État* into *governmentality*: the practice of perceiving the population through the policies of the government. *Governmentality* therefore revolved around choosing the right course of action between bluntly interrupting individual well-being and allowing freedom.

"This is a crucial change that brings us face to face with an essential element of the history of the eighteenth, nineteenth, and also twentieth century, that is to say: What should the

state's game be, what role should it play, what function should it perform in relation to that fundamental and natural game of private interests?" (Ibid. p.346-347)

Foucault argues that main objective of the modern government therefore evolves around the management of society. Managing society entails something apart from upholding discipline, which signifies a change in politics from the *police state*. While a state ruled over its people, the government now governs over the concept of a city or country, based on the knowledge of its population (Ibid. p.123). Foucault analyzed the *governmentality* of governments, states and leaders at length during the remainder of his lectures in 1978. Different notions of governing where addressed by Foucault. Religion, just like mechanisms of security implemented by the government, proposes ways to educate children, convey property and prescribe how to lead ones individual daily lives (Ibid. p.228-230). Besides religion Foucault also looked at how multiple countries differ in their forms of governmentality in those periods.

With the rise of politics, Foucault speaks as if the state has transformed into an object of knowledge and analysis, giving way to strategic thinking and governing as a field of practice (Ibid. p.247). Throughout these many changes in governing, Foucault detects an increase in the exercise of *biopower* mechanisms for managing society: the practice of *biopolitics*.

## **Appendix B – Game Analysis**

*In appendix B there are more in depth analysis of the most frequently addressed applied games in the thesis. The analysis is done according to the MDA-framework as described by Robin Hunicke, Marc LeBlanc and Robert Zubek. The framework creates a method to specifically address the workings of games by classifying different elements of games as mechanics, dynamics and aesthetics:*

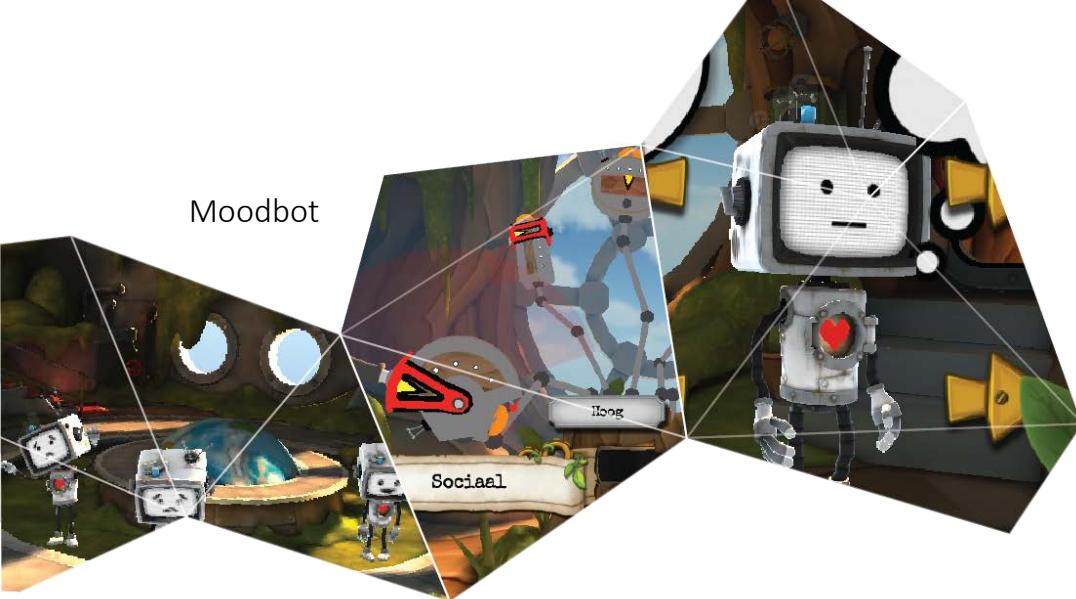
“**Mechanics** describes the particular components of the game, at the level of data representation and algorithms.

**Dynamics** describes the run-time behavior of the mechanics acting on player inputs and each othersí outputs over time.

**Aesthetics** describes the desirable emotional responses evoked in the player, when she interacts with the game system.”

*(Hunicke, LeBlanc and Zubek, 2004)*

*A full MDA-analysis of the games cover much more ground than needed for this thesis. That is why in this appendix the same dividing structure as has been use in the thesis is applied: mechanisms of security, mechanisms of regulation, mechanisms of economics and governmentality.*



*Moodbot* is an innovative health game developed by the Applied University of Arts in Utrecht together with Altrecht, a facility for mental health treatment<sup>1</sup>. The game “will be designed to facilitate the communication between psychiatric patients and healthcare workers.” (HKU.nl, 2013). To get a better understanding of what *Moodbot* is and how it works a description written by the developers of the game is provided:

“Every player owns one room in a large airship [The Mood-Vis]. Players progress in the game by collaboratively making this vehicle go forward. Players collect action points [Dust-Bunnies] by performing action in their own rooms and also in the other player's rooms. With his/her own room, a player expressed how (s)he feels that day. A player has three ways to do this: by adjusting their moodbot - a small robot depicting its mood by facial expression and posture, by setting a wallpaper or moodtube and by setting their dashboard [Mood-meter]. For the latter, they set up to five sliders that have meanings that connect to their personal goals, e.g. their current level of tiredness, fear or aggression.” (HKU.nl, 2013b)

The game's backend monitors players and keeps track of achievements and status of all the mood-meter setting, Dust-Bunnies gains, achievements and social contacts, all over time. *Moodbot* is thereby made to help psychiatric patients become better and help healthcare workers or to provide better healthcare.

**Security & regulation:** In the game the connotations of your mental anxiety of disorder has been partially stripped; players are not represented themselves but can anonymously express their feelings and emotions by predetermined features; in the game world there are only players with the same problems; in the game you can only progress or be productive. This all indicates that the *Moodbot* changes the connotation around the mental conditions regulating the players but also tries to secure and maintain a happy and safe environment, nullifying and containing the actual emotions and feelings.

**Economics & governmentality:** As addressed above, the game incorporates many features to quantify and measure ingame behaviours and actions, alongside constant monitoring. This is done with intent, in order to deduct meaning out of that data and hopefully see progress or detect positive behaviour. This intent however it also quite literally making money: in the form of Altrecht optimizing its mental healthcare system without constant physical presence of healthcare workers.

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<sup>1</sup> *Moodbot* won the iZovator Award 2012 for best innovative health game, showing the excitement and potential which it has been given from the industry.



Plan-It Commander is developed by a consortium of knowledge and game partners, &Ranj, Janssen Pharmaceutica/Healthy Solutions, Yulius Academie and the Flemish Society for Parents of Children with ADHD. The game targets children with ADHD in order to help them with their day to day activities and planning. In the game characters play a space explored wandering around the game's planets. On these different planets you can play games with increasing difficulty. By playing these game to games hopes to improve the skill and awareness of the ADHD players. "Within the overall narrative, the player practises dealing with problematic aspects of ADHD in subgames"<sup>2</sup>. These subgames are *Explorobot* (planning, planning ahead, time constraints) *SpaceTravel* (social contact, planning, coordination, team work) and *Labyrinth* (coordination, time, planning and calmness while stressed)

Besides the game mechanics and dynamics, players can contact their ingame coach but even show off their newly found or bought spaceship upgrades at the community centre 'Ruimteclub', or translated 'Spaceclub'. In the Spaceclub players can communicate with each other and exchange experiences.

**Security:** The game practices the unfavourable skills and abilities of ADHD children. However the game keep players motivated through the game narrative; ingame coach which can guide them if players get stuck; small mission goals gradually increasing; and a compelling and enthusiastic story line. Therefore the game tries to nullify unwanted behaviour and is constantly aiming for good behaviour and progress.

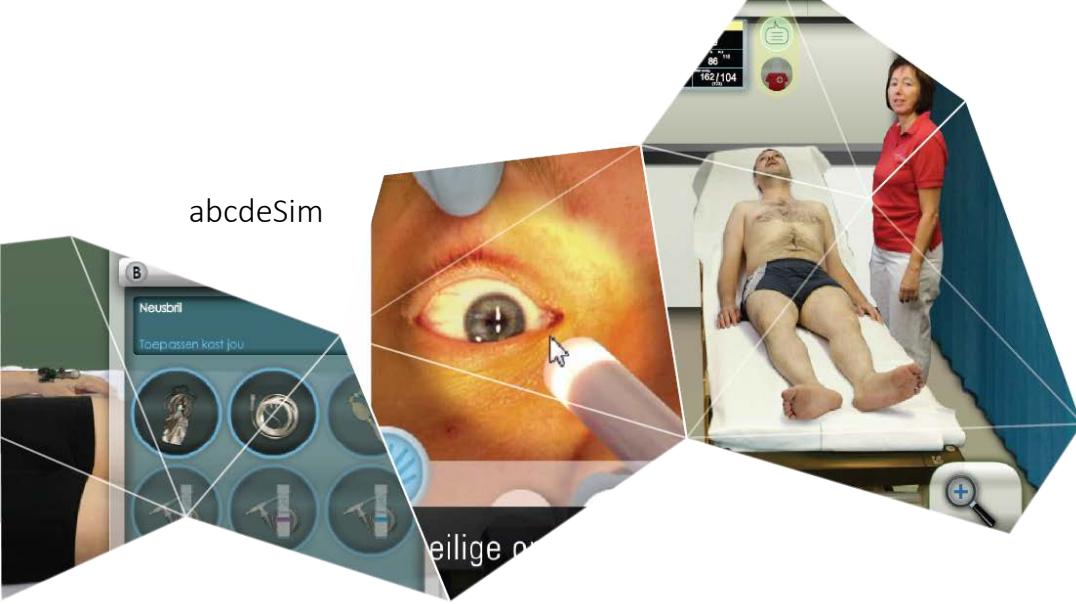
**Regulation:** The game does not seem to have clear regulating mechanisms.

**Economics:** The game creates scores, has an internal system of quantifying behaviour and measure outcomes. This all in order to keep the player challenged and progressing. However if these calculation are right is yet to be determined, which is exactly what the consortium is doing: "A clinical follow-up study will measure the progress of a new group of over 200 children within the full version of the game."<sup>1</sup>.

**Governmentality:** There are clearly medical purposes and strategies involved. Firstly, that a pharmaceutical company is investing in the worth of such games, looking for alternative means to medicine. Besides that, Plan-it Commander is developed as an instrument to change behaviours of patients and eventually demise 'ADHD problems' in patients. Therefore these companies are using games as an intended healthcare instrument.

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<sup>2</sup> [www.ranj.com/content/werk/plan-it-commander](http://www.ranj.com/content/werk/plan-it-commander)



The *abcdeSIM* is developed by IJsfontijn in cooperation with SBOH and the Erasmus Medical Centre in 2012 to teach medical personal the abcde-methods applied to newly arrived hospital patients. The game consist of various stages; it starts with e-learning modules; then an exam to confirm the player's knowledge; lastly the players are put inside a virtual emergency room and asked to diagnose patient. This last stage I is described by IJsfontijn as "Players have 15 minutes to stabilize a virtual patient. The problem is, like in real life, unknown. To find out what the complications are, and which ones have to be treated first, the players have to follow the ABCDE method properly"<sup>3</sup>. In the game multiple *mechanics* copied from real life medical tools and equipment are available to the players allowing them to analyse the patients. However what the patients have is unknown, creating a dynamic in which the player is challenged to use the abcde-methods in order to diagnose the players before it's too late. Thereby the games tries to mimic the aesthetics of the real ER-environment of stress combined with precision to make the right diagnoses.

**Security:** The educational setting of the games shows that the developers wanted to secure the level of knowledge and skill of their medical personal. Using a game environment to test this knowledge could better mimic the real life environment in real life ER's.

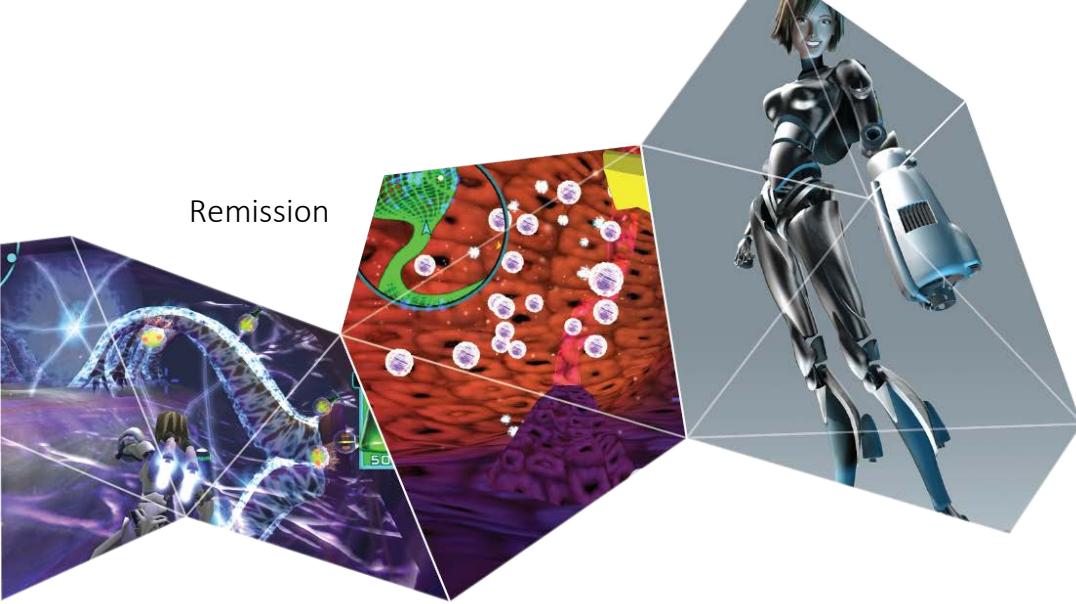
**Regulation:** While not extremely present in the game, the game pretends to represent real life situations as the website read "The game offers a true-to-life simulation of the human blood circulation to be able to imitate complications."<sup>2</sup> However, the mechanics of the game and the proposed pressure are off course a simulation of the real treatment, diagnosis and stress. The game is also pre-programmed, not being able to cope with all the variables of real life.

**Economics:** The games creates scores based on the actions of the player. Therefore simulated patients also come with predetermined scores for procedures and diagnoses. The game is also basically about the scores players achieve, there are even high scores on the webpage of the game ([www.abcdesim.nl/highscores](http://www.abcdesim.nl/highscores)). The subset of the scores are said to be available to teacher of the abcde-method.

**Governmentality:** The game has the intent of improving medical care and the knowledge and expertise of medical personal. Which communicated quite transparently to players up front.

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<sup>3</sup> [www.ijsfontein.nl/en/projecten/abcdesim-2](http://www.ijsfontein.nl/en/projecten/abcdesim-2)



*Remission* is a health game made by Hopelab in collaboration with many Universities and Medical centres in 2008. *Remission* is made to improve the adherence to the treatment of cancer by adolescent patients. The game was researched for medical purposes which created a tremendous impact on both the medical and game industries. The conclusion of the randomized trial of *Remission* showed the following: "The video-game intervention significantly improved treatment adherence and indicators of cancer-related self-efficacy and knowledge in adolescents and young adults who were undergoing cancer therapy" (Pamela Kato et al., 2008, p.305).

In the 3D-shooter you play as Roxi, a nano-bot which gets injected into patients' bloodstream. Once inside, it's the player's job to shoot the cancer cells while leaving the healthy ones. Levels become harder and gradually change while Roxi fights against different forms of cancer cells using different weaponry.

**Security:** Not enough knowledge or motivation by patients for maintaining adherence to cancer treatment. This could result in the death or serious injury of the patient. Therefore, the game tries to nullify the negative and demotivating factors of the treatment and motivate the positive elements and show victorious outcomes only.

**Regulation:** Players who played the game, gradually changed their thinking. Taking a pill, eating healthy food, walking to be active or relaxing to calm the nerves, everything was set into the game's perspective. Roxi is also in your body right now, fighting her way through your bloodstream! Fighting cancer therefore became overlaid by the aesthetics of the game, and a bit less about the serious treatment of a terrible illness. While in the meantime the scarcity is nullified, even removed: "Neither the nanobot [the playable game character Roxi] nor any of the virtual patients "die" in the game. If players "fail" at any point in the game, then the nanobot powers down and players are given the opportunity to try the mission again. Players had to complete missions successfully before moving on to the next level." (Pamela Kato et al., 2008, p.307)

**Economics:** The game itself has no real quantifying or calculative features.

**Governmentality:** By reducing the amount of patients with low treatment adherence, the game aims to improve medical healthcare: reducing costs by quicker, better and more effective treatment. But above all an intent of saving players lives, making *Remission* a very goal minded game to enhance or improve medical healthcare.



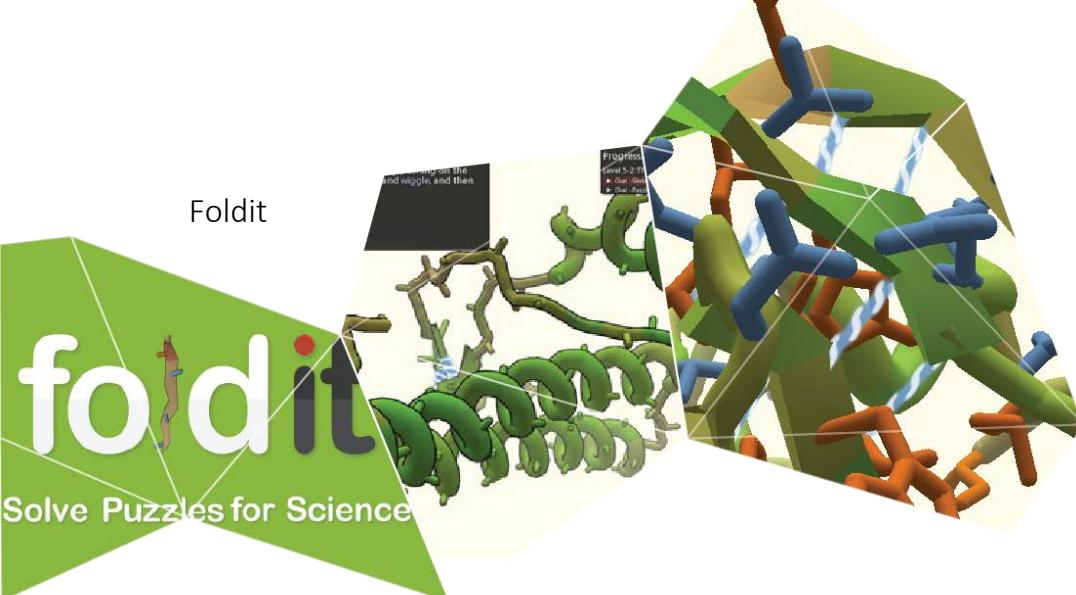
*ChoreWars* was designed by the freelance game designer Kevan Davis in 2007. Being a gamification means that the game lets players take real world activities or objects and put them into the game world surroundings. In *ChoreWars* you do this by going to the website and start adding activities, mainly chores, to the list of things to do. Besides this you can invite your whole household to create game characters. Then the *dynamics* of the game begin. While playing *ChoreWars* people can do actual real world chores that have been listed in the online website. If you have done that chore, you will get the predetermined amounts of experience points with which your character can start to level. As such the whole purpose of gamification is to transform the *aesthetics* of real objects and chores into more pleasant and meaningful task to undertake while at the same time cleaning up in and around the house.

**Security:** Overall we can say that gamifications are implemented due to a scarcity of motivation or meaning to undertake certain tasks. In the case of *Chore Wars* this can be exemplified with the following statement: I did not want to do the dishes before, but now that I know I will receive 1000 points, I am motivated to do the dishes. Or as one player, JS in London, states: "a magical thing happened yesterday and today. I introduced my house to *Chore Wars*. I set up an account for us last night, and set some "adventures"... when I got up this morning everyone in the house was cleaning." ([www.chorewars.com/testimonials.php](http://www.chorewars.com/testimonials.php)) You can see that while the game tries to secure motivation it also tries to nullify bad behaviour because this doesn't get rewarded and left behind.

**Regulation:** As written earlier, the whole purpose of gamification is to transform the meaning of objects and activities. Transforming the meaning of objects and activities requires the incorporation of these objects and activities within the structures, theme or architecture of the game.

**Economics:** Not directly present in *ChoreWars*, however, these mechanisms could be combined with countless other interests or organizations strategies leading to much digger quantifying or calculative powers. For instance Jessy Schell's concept of the *gamepocalypse* addresses such gamifications (Shell, 2010).

**Governmentality:** Again, not directly in *ChoreWars*, however, the strategy or intent is provided by the user itself, since they can fill in all the chores and activity with predetermined intent. Gamifications can create motivation for many activities in life. What if these games were connected to brands or companies? Would I shop differently if I would earn rewards for buying specific products? (Shell, 2010)



*Foldit* is a genetic puzzle game created in order to solve complex protein folding formulas with human brains instead of expensive super computer. In the game the player gradually learns how he can use the interface in order to fold proteins by using different particles and techniques. These consists of multiple mechanics which the simulation software allows you to do use. While slowly creating a better understanding of the parameters and players can start solving puzzles which can be downloaded. However these puzzles become harder and harder, and harder, to a point that even a super computer would take a very long time. This is where group *dynamics* comes around in which players can work together in order to solve protein puzzles which actually help advance medical science as some of the puzzles presented could be solutions to medical science. This is also a clear drive and motivational aesthetic which drives forth most players, besides that fact that many players seem to come from this medical field of research.

**Security:** Computers are very costly machines as well as research projects. Frustrated with the continuous lack of funding or continual progress scientists of the University of Washington created a game in order to let other scientists help with the folding. This eventually led to a global game in which every player could participate.

**Regulation:** While you could argue that the set parameters or mechanics is regulating the player's ability to solve this, it seems very diminutive. Besides the lack of regulation in the game, *Foldit* does seem to operate under a clear necessity; help yourself, and us, advance medical science.

**Economics:** *Foldit* is a brilliant example how you could use the power of participation for predefined purposes. It also clearly manages this by coming up with new puzzles and challenges.

**Governmentality:** The intent or strategy of *Foldit* are also its origins, since the game is created out of desire of not being depended on huge subsidies or money for research or super computers. In this way they used games as a strategy to use people to provide this value through other means.



*Freerice* is a game developed by the United Nations World Food Programme in October 2007 to both educate players and provide rice to people in need. In the game revolves around two big *mechanics*; firstly the mechanic that players can answer questions on the online website; secondly the mechanic that by answering questions right your score is represented by some grains of rice. However, the rice score represents real rice grains which are going to be donated by sponsors of the website to the United Nations World Food Programme. The website reports that over 98.500.000.000 grains of rice were donated through the website ([freerice.com/frmisc/totals](http://freerice.com/frmisc/totals)).

The question range from humanities, English, math, chemistry, geography, language, etc. which gradually become easier or harder through a *dynamic* that changes the player's difficulty level based on the previous answers the players had given. This creates a motivation to do better since higher levels are harder and can earn more rice.

Overall the *aesthetics* of the game are wonderfully simple but effective. While players get rewarded by being smart or learning, represented by going up levels, making them feel good about themselves. However being good or smart, also means that you are earning a lot of rice. Rice that will be brought to real people who are starving or hungry, making the player feel even better. Creating a game that just makes you feel good about yourself and playing it.

**Security:** both the awareness and prevention to world food problems.

**Regulation:** -

**Economics:** First off, you will get a lot of data on the intellect and knowledge of users on the site. Secondly, you are using a passive medium (website) to actively reach interested people while making them feel good about themselves. Registered players can track their scores over time, but also provide a user base of data.

**Governmentality:** The strategy works on multiple levels. The United Nations World Food Programme reaches out to many good doers in the world while raising its own branding and status. On the other hand the site provides great opportunities of companies to show their good side for a better world, raising more money. And finally using the players, the population, as the driving force behind the spirit and success of the site, which eventually went viral.



September 12<sup>th</sup>

The political game of *September 12<sup>th</sup>* was created to show the idiocy of fighting a war against terrorism. The game was created by a political and news driven group called newsgaming.com. The opening lines state: "This is not a game. You can't win or lose. This is a simulation. It has no ending and it has already begun. The rules are simple, you can shoot or not". Only to find out that by playing the game the player's only has one option, the *mechanic* of shooting: clicking. With shooting it is only possible to fail the war on terrorism, never to win it. This is because the *dynamics* in the game are programmed to always cause innocent bystanders or structures to fall casualty to the player's shots. This sets in motion the second *mechanic* of the game, innocent deaths turns random outraged pedestrian into new terrorist. Meaning that eradicating all the terrorist becomes futile.

By obscuring the meaning of the option of not shooting this game accentuates the questions why Amerika is fighting this war. But the biggest change is made by hiding the fact that a war on terrorism could be successful. *September 12<sup>th</sup>* shows that the *aesthetics* of the game is more important than the actual result of the game. Clicking becomes being in favour of the war and not clicking implies being against it. During the game it prompts us to think there are two options, when in fact there is only one.

**Security:** Secure critical thoughts and beliefs about the hopelessness of the war on terrorism.

**Regulation:** Transforming the meaning of shooting into a fake measurement of being into a favour or against the war on terrorism.

**Governmentality:** By obscuring the notion of a successful or positive belief on the war on terrorism the game regulates the possible belief or opinion on the war. Therefore, the game succeeds in always letting the player experience the negative side of the war on terrorism. What is precisely the intention of newsgaming.com and lays bare its strategy.