

Affect Theory and Serious Games

Using Affect Theory to Analyse How Emotions Are Triggered
Through Serious Games



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Abstract

In this thesis I aim to answer the question how affect theory can be used to analyse how emotions are triggered through serious games. In order to explain the relevance of introducing concepts from affect theory into the field of game studies, I critically analyse several theories from the field of game studies. I argue how these theories could potentially be used to analyse how serious games trigger emotions, but how these would ultimately have several limitations. As a reaction to these limitations, I proposed a theoretical framework based on affect theory for the purpose of analysing how specific aspects of a game trigger emotions. The theories of this framework include the work of Melissa Gregg and Gregory Seigworth on the concept of affect in general and the relational aspects of this concept, the theories of Bruno Latour on the body as an interface which can be developed and trained to be affected, and the theories of Anna Gibbs on imitation and mimicry. I first describe this theoretical framework, arguing how it becomes possible to analyse how formal aspects of serious games evoke emotions with the help of four angles. These are the angles of agency, rhythm, temporal development and relationality. I demonstrated how this theoretical framework could be used by conducting a textual analysis of the serious games *The Migrant's Trail*, *Every Day the Same Dream* and *My Cotton Picking Life* with the help of this framework. With these theories as a framework, it becomes possible to analyse which moments of a game are the most likely to trigger affective reactions, and thus which moments are likely to trigger emotions of a higher intensity relative to the rest of the game.

Keywords

Affect, affect theory, emotions, serious games, games for change, moments of potential becoming, agency, rhythm, temporal development, relationality.

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Introduction

Focus and Objectives

How can affect theory be used to come to a better understanding how emotions are triggered through serious games? This is the question which I will try to answer in this thesis. My thesis is based on an experience I had a few years ago while we were analysing the computer game *Bioshock*.¹ This experience was during the analysis of the introductory speech given by the character Andrew Ryan in the game. Our teacher was analysing this game with the help of conventional theories on signification and intertextuality, arguing that, especially the introduction with its acronyms and rhetorics, the game could be seen as a philosophical commentary on the bankruptcy of Ayn Rand's hyper-capitalism.² When I first played this part of the game however, I completely missed all of this, since I was too distracted by the creepy scenery, as well as the monstrous creature who impaled and then ripped a person apart right in front of me, and could probably do the same to me at any second. From this, it seemed as if there was a difference between a more rational meaning conveyed by the game, and a way in which the game conveyed meaning by triggering emotions.

Later on, this idea was affirmed while I was reading the essay of the scholar Brian Massumi, *The Autonomy of Affect* (1995).³ In this essay, Massumi argues that the event of image reception is multi-leveled, consisting out of two autonomous systems.⁴ He describes these two systems as firstly the content of the image, the indexing to conventional meanings such as signification and social-linguistic qualifications, and secondly the affective experience of images, which seems closer to an emotional approach. Although these two systems are related to one another, Massumi claims that they are nevertheless autonomous. This observation can be relevant to the field of serious games as well, since serious games also trigger emotions and feelings. Although the current range of theoretical tools are quite sufficient to analyse the ideological messages as conveyed by the game, they are perhaps less suited for understanding how a game can trigger emotions. Because of this, an approach to games aimed to analyse games with the focus on emotions could be interesting as well, since this would provide insight in the way in which emotions can influence the interpretation of a game. However, before this is possible, it is first imperative to understand how games can trigger certain emotions in the first place. In this thesis, I will therefore answer the question how affect theory can be used to analyse how serious games trigger emotions. Before further explaining the relevance of this topic, and the choice to focus on serious games, I will first explicate the concept of affect and its relations to emotions.

Affect, affect theory and emotions

Being affected means being moved by something. Affect in this sense is the experience of an intensity without necessarily interpreting this sensation as a specific feeling. In this sense, affect is a corporeal state of being which is induced by the stimulation of one's body through its sensory organs, which will lead to a moment of, or a sustained passage of a particular intensity. As such, the concept of affect is a rather intelligible term which refers to a moment of impingement or extrusion, of a momentary or sustained state of relations as well as the passage or duration of forces and intensities over a specific time.

1 2K Boston (2007) *Bioshock*. S.L.: Feral Interactive.

2 This interpretation of the game *Bioshock* is based on the research of the cultural theologian dr. Frank Bosman from the University of Tilburg, during the seminar: De Verhalende Mens: "Verhalen in de Bijbel", Dr. Bosman, F. (18th of november 2014). Nijmegen: Cultural Studies.

3 Massumi, B. (1995) "The Autonomy of Affect", in: *Cultural Critique*, No. 31, The Politics of Systems and Environments, Part II (Autumn, 1995) <http://www.jstor.org/stable/1354446> (29 juli 2013).

4 Massumi, B. (1995): p. 84-86.

Affect theory is the field which studies the intelligible concept of affect in relation to a broad range of potential topics, ranging from topics related to neurology and psychology to topics related to cultural studies or sociology and communication. Most of the current theories from the discourse of affect theory are an attempt to construct an inventory of concepts and angles with which the phenomenon of affect could be analysed and used in various contexts.⁵ This research will mainly be related to affect as analysed through the lens of theories from the humanities and cultural studies. Within this discourse, most theories from affect theory are an attempt at approaching human experience without holding onto structures of constructed meaning or representation from the post-structuralist discourses, instead trying to argue how affect can be used to analyse these experiences. The advantage of introducing affect theory within the field of serious games, is that it can help to come to a better understanding of how computer games can trigger emotions.

With the term emotions, I refer to emotions as unconscious, inherited responses to stimuli in the environment and to changes in inner states of bodily needs and cognitive activity, as described by the scholar Hansen et al (2007).⁶ The relation between emotions and affect in this context is that the first is being caused by the second; being affected leads to the experience of a particular emotional intensity. In this sense, affective reactions occur prior to emotions and are part of the cause for these emotions. This means that analysing how a game might affect a player could provide insight in which parts or which elements of the game might trigger emotions. This could potentially lead to a better understanding of games in terms of emotions.

Relevance

The understanding how games trigger emotions can be especially relevant when it comes to analysing games for change. While looking at the field of serious games, it seems that almost all serious games have in common that their goals can be grouped under the shared goal of education, according to Ritterfeld et al. in their research (2009) *Classifying Serious Games*, as well as the collection of papers of the serious games conference of 2015.⁷ This common denominator of education can further be divided into games with the aim of learning, games who aim to create a change in social or political ideologies, games which seek to provide the player with occupational related skills and knowledge, games with the goal of improving health through behavioural change, and games which are used for their persuasive character in marketing and advertisement situations.⁸

An approach which analyses computer games from the point of view of affect would be especially relevant for the understanding of games which use emotional arguments to persuade their players. The type of serious games which seem to relatively do this the most are games for change. These games often have the strategy of creating awareness of a certain political or social injustice, by using the medium of games to make their players experience these situations themselves, thus allowing them to be capable of emotional awareness. In this case, the persuasive aspects of these games also lay in the emotions and feelings which they trigger, rather than solely in the rational messages which they convey. In order to understand how these games thus generate meaning, it would be equally productive to analyse how these games do this by triggering emotions. In this thesis I want to argue that this is where affect theory can contribute to the understanding of serious games. I will argue how affect theory can be used to analyse how serious games trigger emotions,

5 Gregg, M. & Seigworth, G. (2010) "An Inventory of Shimmers", in: *The Affect Theory Reader*. Durham & London: Duke University Press: p. 6-9.

6 Hansen, F., & Crhistensen, S. R. (2007). *Emotions, Advertising and Consumer Choice*. <http://site.ebrary.com.proxy.library.uu.nl/lib/uniutrecht/reader.action?docID=10465582> (15-06-16): p. 74.

7 Göbel, S. et al. (eds.). (2015) *Serious Games: First Joint International Conference*. <http://www.springer.com/gp/book/9783319191256> (10-05-2016): p. XIII-XV.

8 Ritterfeld, U. Cody, M. and Vorderer, P. (2009) *Serious Games: Mechanisms and Effects*. London: Routledge: p. 10-20.

focussing on serious games for social change.⁹

Research Questions

The main research question which I will aim to answer in my thesis is how affect theory can be used to analyse how emotions are triggered through serious games. This can be divided into several subquestions. I will first need to answer the question how affect is currently discussed within the field of game studies, secondly how affect can contribute to this current range of theories, thirdly how theories on affect can be used to create a theoretical framework and fourthly how this framework can then be used to analyse how serious games trigger emotions.

Status Questionis

These research questions are related to several academic debates and theories. Foremost, it is related to the statement of Massumi that affect is important and should be considered to be an autonomous system of reception. With this, Massumi argues how emotions of the recipient as evoked by an image do influence the interpretation of that image. However, he does not offer a solution for the question how exactly an image triggers certain affective reactions which result in emotions. Affect in this context currently seems to be a relatively underexposed topic within the field of games studies as well, often mentioned or touched upon but never fully developed. As a result, there are several theories which can be viewed as being related to this topic, but which are ultimately unsuited for analysing how serious games trigger emotions.

Ian Bogost discusses in his book *Persuasive Games* (2007), how a game conveys meaning to the player through the use of procedural rhetorics.¹⁰ This is related to my research because it is partially the influence from the game's formal aspects which determines what kind of meaning is conveyed by the game, including meaning in the form of emotions. However, in this theory, Bogost argues that a game can transfer and convince the player of any meaning as intended by the developers of the game. A theory which specifically discusses the influence of the player in how meaning is generated by a game, is Joost Raessens in his text *The Gaming Dispositif* (2009).¹¹ The limitations of this theory is that Raessens argues how the players' disposition determines their interpretation of the meaning of a game, but does not argue how this disposition might result in certain emotions. Another theory related to affect theory and games is the text *Tactics, Rhythms and Social Game Ethnography* by Dan Dixon.¹² In this text, Dixon argues how the analysis of rhythm can yield interesting results related to the experience of a game by the player. Although this comes close to an affective approach to games, Dixon does not argue how these rhythms might result in specific emotions. A scholar who tries to argue how a game creates feelings, specifically focussed on how games generate fun, is Amyris Fernandez in her text *Fun Experiences with Digital Game: A Model Proposition* (2008).¹³ Although this model can be used to discuss how games generate specific feelings, in this case experiences of fun, it does not argue how the collaboration of discussed parameters result in that.

9 Due to the size and limited scope of time, I will focus on serious games for change since these games are the most likely to make use of emotional arguments, arguably making an affective approach to these games useful.

10 Bogost, I (2007) *Persuasive Games: the expressive power of videogame*. Cambridge, Massachusetts: MIT Press.

11 Raessens, J. (2009) "The Gaming Dispositif: An Analysis of Serious Games from a Humanities Perspective", in: *Serious Games: Mechanisms and Effects*. New York: Routledge.

12 Dixon, D. (2011) "Tactics, Rhythms and Social Game Analysis", in: *Social Game Studies at CHI 2011 workshop*. <http://socialgamestudies.org/post/61406077572/social-game-studies-at-chi-2011-workshop-papers> (07-10-15).

13 Fernandez, A. (2008) "Fun Experience with Digital Games: A Model Proposition", in: Leino, O. Wirman, H. and Fernandez, A. (eds). (2008) *Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience*. Lapland: Lapland University Press.

Theoretical Framework

This means that although affect is mentioned and touched upon, it nevertheless seems to be an underexposed topic. In order to address the question how games can be analysed with the help of affect theory, I will thus propose a different theoretical framework. For this purpose, I will use several theories from the field of affect theory. These theories have the common denominator that they try to address the relationality of affect by constructing an inventory or framework with which this relationality can be analysed. Since I am trying to propose a framework for the analysis of emotions as triggered by serious games, many of these theories can provide useful insights. While trying to argue what affect and affect theory entails, the book (2010) *The Affect Theory Reader* by Melissa Gregg and Gregory J. Seigworth can be an important source. In their introduction, *An Inventory of Shimmers*, Gregg and Seigworth argue that affect is a corporeal state; a process which transpires in between moments, and is thus always dependent on various relationships.¹⁴ This corporeal understanding of affect can be a useful starting point for analysing affect in serious games. Another theory which will serve as a framework to answer the main question, are the theories on corporeality by Maurice Merleau-Ponty. In his text, *Phenomenology of Perception* (2002), Merleau-Ponty argues how we experience and perceive space with our bodies.¹⁵ This corporeal understanding of experience is useful for arguing how serious games might evoke affective reactions. A theory which addresses how these affective reactions are dependent on a number of things, is the theory by Bruno Latour on the body as an interface. In his text *How to talk about the body? The normative dimension of science studies* (2004), he explains that the body can be developed to be affected, introducing the important aspect that affect is an ability of the body and which can be augmented and developed over time.¹⁶ This is useful in arguing how a game might aid in evoking affective reactions or might sensitise the player to affects. The final theory which can serve as a framework for arguing how serious games might be analysed through affect theory, is the theory of Anna Gibbs on mimicry and imitation. In her text *After Affect: Sympathy, Synchrony, and Mimetic Communication* (2010), she argues how affect and emotional awareness are simulated through imitation and mimicry.¹⁷ This can be useful for arguing how a serious game might promote emotional awareness or certain emotions through imitation or mimicry, since a game allows the player to perform certain actions. In order to use these theories to answer my research question, I will adopt the following methods.

Methodology

The main research question of my thesis is how affect theory can be used to analyse how emotions are triggered through serious games. In order to answer this question, I will have to address several subquestions. I will first need to answer the question how affect is currently discussed within the field of game studies, secondly how affect can contribute to this current range of theories, thirdly how theories on affect can be used to create a theoretical framework and fourthly how this framework can then be used to analyse how serious games trigger emotions. In order to answer these research questions, I will propose a theoretical framework based on affect theory for the purpose of analysing how specific aspects of a game trigger emotions.

As a necessary step to create a theoretical framework that helps to structure the intended analysis, I will first conduct a critical literature review to identify how affect theory can contribute to the field

14 Gregg, M. & Seigworth, G. (2010) "An Inventory of Shimmers", in: *The Affect Theory Reader*. Durham & London: Duke University Press: p. 1-3.

15 Merleau-Ponty, M. (2002) "The Spatiality of One's Own Body and Motility", in *Phenomenology of Perception*, translated by Colin Smith. London: Routledge: p. 112-125.

16 Latour, B. (2004) "How to talk about the body? The normative dimension of science studies", in: *Body and Society* 2(3): p. 205-229.

17 Gibbs, A. (2010) "After Affect: Sympathy, Synchrony, and Mimetic Communication", in: Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. London: Duke University Press: p. 186-205.

of serious games. I will answer the questions how the current theories from the field of game studies are limited for the purpose of analysing how games trigger emotions or evoke affective reactions. Based on this insight, I will argue how theories from the affect theory might be used to make up for these limitations.

Based on this I will propose a theoretical framework on affect with which it becomes possible to argue how serious games trigger emotions and how these emotions can be analysed. To illustrate how this theoretical framework can be used to analyse how aspects of a game trigger emotions, I will conduct a textual analysis of three serious games, as described by Clara Fernández-Vara (2015).¹⁸ Fernández-Vara describes that a textual analysis in this context can have three different overlapping building blocks: the context of a game, the game overview and the formal aspects of the game.¹⁹ For the purpose of this research, it would make sense that I mainly focus on analysing the formal aspects of a game. The formal aspects are described by Fernández-Vara as “the system of the game and its components (rules, the control schemes), as well as how the system is presented to the player (interface design, visual style)”.²⁰

Since I want to analyse how emotions are the result of certain stimuli from the game, analysing the formal aspects of the game would allow me to identify specific structures or elements which create meaning in an emotional sense. In my case, this analysis of the formal aspects of the game will be based on the previously suggested theoretical framework. This would allow me to analyse how specific aspects of a game can create affective reactions and trigger emotions as a result of this.

Reflections on the suggested methods

A limitation of the suggested method of a textual analysis with the focus on the formal aspects of a game, is that this has the danger of overlooking the context. While this method does allow me to argue how specific aspects of the game might create emotional reactions, it does not allow me to analyse how the players' own unique dispositions and discursive context have influence on the creation of emotions. This does have the consequence that I leave out any analysis of factors like age, gender, experience playing games, and so forth, as well as their cultural context, which are arguably equally important elements which influence the way in which a game triggers emotions since these elements influence the interpretation of a game as well. Although I am aware of the importance which contexts such as cultural disposition, age, gender and factors like these have on the experience of the game, giving the limited amount of time for this research I decided to focus on analysing the way in which formal aspects generate emotions, since this would provide relevant insights as well.

Thesis Overview

As a result of this method I will adopt the following structure for my thesis. My thesis will have three different chapters. In the first chapter I will conduct a critical literature analysis to answer the questions how the previously mentioned theories from game studies are limited for analysing how serious games trigger emotions, as well as how these limitations could be solved with the help of affect theory. Based on these limitations, I will propose a new theoretical framework which can be used for this purpose. In the second chapter I will discuss the theories from this framework and argue how this new framework can be used to analyse how emotions are triggered through serious games. Finally, in the third chapter, I will conduct a textual analysis of three games to demonstrate in which manner this framework could be used to draw new and insightful conclusions on how emotions are triggered through serious games.

18 Fernández-Vara, C. (2015) *Introduction to Game Analysis*. London: Routledge: p. 1-19.

19 Fernández-Vara, C. (2015): p. 13-17.

20 Fernández-Vara, C. (2015): p. 15-16.

Chapter 1: Game Studies and Affect Theory

In this chapter I will conduct a critical analysis of several theories while trying to answer the question how current theories from the field of game studies might be insufficient for analysing the way in which games generate emotions. I will discuss theories which have the shared domain of analysing how games convey meaning and how games can construct meaning through the formal aspects. This is relevant, since the players' emotions are partially a result from the input they receive from the game in the first place, meaning that analysing how a game conveys meaning is important as well for understanding the players' affective reaction and the resulting emotions. I will also discuss the theories which I feel are being closely related to the goal of analysing how affective responses might be addressed in games. I will argue how these existing theories might be used for this purpose, but are ultimately insufficient in analysing the affective responses which a game might evoke in the player, and argue how theories from the field of affect theory might offer effective complementary angles to solve these limitations. Before doing this however, I will briefly discuss the term emotions and the difference between emotions and feelings.

Emotions versus feelings

While talking about emotions, I refer to emotions as unconscious, inherited responses to stimuli in the environment, as described by the scholar Hansen et al. in the book *Emotion, Advertising and Consumer Choice* (2007).²¹ The relation between emotions and affect in this context is that an affective reaction as the result of a stimulus of one or multiple sensory organs will lead to an emotion as a response. The difference between emotions and feelings in the context of affect is described by Hansen et al. as the difference that emotions are basic unconscious reactions to stimuli, whereas feelings are generally understood as the conscious interpretations of these emotions.²² Making this distinction is useful here because I will mainly address emotions in the sense of arguing how the formal aspects of a game result in these basic reactions. Because I mainly focus on the formal aspects of the game it becomes possible to argue how these will result in emotions, whereas talking about feelings would entail an analysis of the specific context of the game, the players' disposition, demography and cultural discourse. As a result of this, the suggested method is only useful for making claims about the influence of the formal aspects of the game, how they generate affective reactions, and how these might result in emotions.

A further distinction can be made between basic emotions and complex emotions. While referring to emotions in this thesis, I will mainly talk about the basic emotions. Hansen et al. describe these basic emotions as being happiness, disgust, fear, anger, sadness and surprise.²³ The complex emotions, or socially acquired emotions are derived from these baser emotions. Making this distinction here is necessary since my method only allows for the analysis of the influence of formal aspects of the game in the creation of emotions. Since social emotions are acquired during a process of learning, a method for analysing social emotions would also entail an in depth analysis of the the players, rather than focussing solely on the formal aspects. As a result of this, I will mainly speak about emotions in the sense of basic emotions. As a result of this, I will then have to argue how specific formal aspect of a game can trigger emotions. In the following paragraphs I will conduct a critical literature review of theories from the field of game studies, which have the shared domain of analysing how games convey meaning and how games can construct meaning through the formal aspects.

21 Hansen, F., & Crhistensen, S. R. (2007). *Emotions, Advertising and Consumer Choice*.
<http://site.ebrary.com.proxy.library.uu.nl/lib/uniutrecht/reader.action?docID=10465582> (15-06-16): p. 74.

22 Hansen et al. (2007): p. 74-75.

23 Hansen et al. (2007): p. 112-113.

1.1.- Critical Analysis of Related Theories

1.1.1: Procedural rhetoric

There have been many theories from the field of game studies who analyse how the game can transfer meaning to the player. One of the most influential writers on this particular topic of game studies is the scholar Ian Bogost. In his book *Persuasive Games: The expressive power of videogames*, Bogost argues that games persuade its players through its procedural rhetorics.²⁴ According to Bogost, every medium has medium specific characteristics through which it conveys a message. For games, one of these characteristics are described by Bogost as the “procedural rhetorics” of a game. Bogost describes this term within the context of persuasion through games on the topics of politics, advertisement and learning. He argues that computer games - in contrast with for example paintings or literature, which transfer their meaning through composition or through a specific choice of words - transfer their rhetoric through its procedure as a medium specific characteristic. By making a player perform a certain set of actions in order to reach a goal, the game transfers a certain ideological message through its procedure. Although it is also possible for other media to transfer an ideological message in a similar fashion, it is the medium of computer games which seem to have this as an inherent characteristic. The concept of procedural rhetorics can be a valuable point of view to analyse in which way a game can transfer a message and how this message is given shape.

The problematic part about Bogost's theory is that he seems to assume that these underlying ideological messages in the game's procedures are always interpreted as intended by the developers of the game, and also seems to assume that these meanings created by the procedures are always interpreted exactly the same, by every player. These flaws in Bogost's theory have already been pointed out by the scholars Simon Ferrari in his text *The Judgement of Procedural Rhetorics* (2010), and Miguel Sicart in *Against Procedurality* (2011).²⁵ According to Ferrari, Bogost's theory seems flawed because it seems to interpret the game from a rather reconstructive point of view, having the bias that the player interprets and plays the game exactly as intended by the developers of the game. In this he underestimates the player's creativity, as well as their ability to manipulate the intended rhetoric by the developers. Moreover, Miguel Sicart argues that Bogost puts too little value in the player's expression during and through the game. Although Bogost's theory is thus useful for analysing how the procedural rhetorics of the game might transfer ideological messages to the player, it seems to be an oversimplification to assume that every player will blindly accept this message as posed by the game, or even understand this message in the same way as any other player. Affect theory could, especially in the case of this last limitation, offer a more nuanced approach by arguing that this message transferred through the procedural rhetorics is also dependent on several other factors, such as the the player's unique disposition, as well as the specific point in time or progression through the game.

1.1.2: The gaming dispositif

A scholar who does discuss how a game can construct meaning in relation to the player unique disposition is Joost Raessens in this text *The Gaming Dispositif: An Analysis of Serious Games from a humanities perspective* (2009). In this text, Raessens proposes to introduce the concept *dispositif* from film studies into the context of game studies, to analyse how the player is politically and ideologically positioned by the game. Queries into the political-ideological meaning of a specific serious game can only be answered by taking into account all the elements of the gaming dispositif, which are the “(1) technical base of serious games that help shape (2) specific

24 Bogost, I. (2007) *Persuasive games: The expressive power of videogames*. Cambridge: MIT Press: p. 1-46.

25 As summarized by Teresa de la Hera in: de la Hera, T. (2014) *Persuasive Structures in Advergaming: Conveying Advertising Messages through Digital Games*. <http://dspace.library.uu.nl/handle/1874/291047> (08-03-2016): p. 71-73.

positionings of the player, based upon (3) specific unconscious desires to which correspond (4) different game forms or texts with their specific modes of address, and (5) different institutional and cultural contexts and playing situations”.²⁶ Raessens argues that by adapting Baudry's concept of the *dispositif* for analysing serious games it becomes possible to articulate the how the making of meaning is deeply influenced by the way in which configurations of technology, user positioning, desire, media text, and context take shape in specific games.²⁷

Although Raessens' theory can be used to argue how the player's positioning and its interrelationships with these five elements influences the construction of meaning, it is perhaps less suited for arguing how emotions and affect fit within this process. The five suggested elements do potentially overlap with an analysis of games from the perspective of affect, since Raessens discusses several unconscious desires from the philosopher Slavoj Žižek while discussing how the player relates to the symbolic order of a game. However, he only discusses which of the four reactions to cyberspace, but not how the resulting types of affective reactions from the player might be analysed to argue how emotions are triggered by the game. Furthermore, while looking at the discussed serious games, another limitation of this concept seems to be that it doesn't take into consideration that serious games and games in general have the (technological) characteristic that they are experienced over a specific duration of time, during which a player's interpretation of the meaning of the game can potentially change. Since the affective reactions of the players are a constant process, thus happening over time, the concept of the *dispositif* does overlap with this angle but is in this regard not completely sufficient in analysing the way in which a serious game generate emotions through affective reactions.

1.1.3: Tactics and rhythms

An interesting theory related to affect theory and games, and one which does take into consideration that the experience of players is a process happening over time, is the text *Tactics, Rhythms and Social Game Ethnography* (2011) by Dan Dixon.²⁸ Dixon starts off this short essay by claiming that there has been a myriad of theories on game mechanics, but precious little research into the player from a social context. In his essay he sketches a short outline for ethnographies for analysing the player behaviour, in order to gain insight into the different rhythms of the players in a computer game. Dixon makes use of the theories by Henri Lefebvre on rhythm analysis, and the theories of Michel de Certeau on strategies and tactics. Strategies and tactics from the theories of de Certeau can be translated into the context of games as well, where strategies are the “effectively the situations, rules and frameworks that shape and constrain our lives”.²⁹ This means that these are both the physical constraints, as well as cultural and social constraints which shape the way in which players act. Dixon names internet access or game rules/mechanics as examples of strategies in games. Tactics on the other hand, are the way in which users or players interact with these strategies in an everyday context. Examples of these are the way in which the player utilises the gameplay to achieve a certain goal within a game.

Dan Dixon also refers to the book of Henri Lefebvre, (2004) *Rhythmanalysis*, making use of Lefebvre's theories on analysing cultural phenomenons with the help of rhythms.³⁰ Rhythm in Lefebvre's terms is highly intuitive and rather vague according to Dixon, who then explains that at

26 Raessens, J. (2009) “The Gaming Dispositif: An Analysis of Serious Games from a humanities perspective”, in: Ritterfeld, U. Cody, M. and Vorderer, P. (2009) *Serious Games: Mechanisms and Effects*. London: Routledge: p. 490-491.

27 Raessens, J. (2009): p. 506-507.

28 Dixon, D. (2011) “Tactics, Rhythms and Social Game Analysis”, in: *Social Game Studies at CHI 2011 workshop*. <http://socialgamestudies.org/post/61406077572/social-game-studies-at-chi-2011-workshop-papers> (07-10-15).

29 Dixon (2011): p. 2-3.

30 Lefebvre, H. (2004) *Rhythmanalysis: Space, Time and Everyday Life*. London: Continuum.

its most basic form, rhythms in Lefebvre's work are based on repetition and difference. Lefebvre furthermore distinguishes two basic types of rhythms, namely cyclical and linear rhythms. Dixon describes these as “Cyclical rhythms continuously repeat and these rhythms tend to be tied into larger, often natural, systems. Linear rhythms have a beginning and an end. These rhythms are artificial and human created. They tend to be tied into the rhythms of the social and mechanical world”.³¹ There are furthermore individual rhythms which are hard to analyse and only become apparent in their interrelation to one another, according to Dixon. He claims that the “ideas of eurhythmia and arrhythmia are extremely important especially when investigating games”.

These observations, as well as Dixon's suggestion of using the concepts of eurhythmia and arrhythmia to analyse the players' reactions to the game, are useful for analysing the relations between different moments of affection, since a change in different rhythms can also lead to an affective response in the player. The problem with this is that Dixon's comments are based on methods related to ethnography, which means that this theory cannot be used for an analysis of the creation of emotions by serious games without observations from an ethnographic research observation. Although this would mean that Dixon's theories on rhythm can be used to analyse how these rhythms might evoke affective responses, these theories are limited to the context of specific games and a specific audience, being unable to make claims on how emotions in games might be analysed in general.

1.1.4: The experience of fun in digital games

A scholar who also approaches games with the underlying idea that games exist predominantly in time, is Amyris Fernandez, by constructing a model for analysing experiences of fun in computer games.³² She proposes this model in her text *Fun Experiences with Digital Game: A Model Proposition* (2008). Her proposed model is based on three main ideas, firstly that games exist in time, meaning the experience happens both during the actual play of the game, but also after this period. Secondly, that there are many different elements which together constitute the end experience of the game, in this case the experience of fun in various degrees, or no fun at all. Thirdly, that fun is the end result but that it depends on how all the main elements act upon one another.³³

Fernandez then continues to describe her model as consisting out of three parts. The first part is related to the analysis of the so called antecedents, in which the audience is taken into consideration in the form of user profiles, comprising of the user demographics, internet and handheld related issues, as well as previous game activities and experiences. The second part is an analysis of the processing of the game by the players. Fernandez argues that this game experience happens through the games pragmatic attributes in the form of the usability of the interface, as well as hedonic attributes such as interactivity, the game's world and technological attributes which increase the player's aesthetic pleasure. Finally, the third part is the analysis of the consequences of the previous parts. Fernandez argues that the interrelationships of the antecedents and processing result in certain cognitive and emotional responses.³⁴

The advantages of this model are that it does take into consideration that games exist in time and that the experience of the game by the player is created through the interplay of both the game's characteristics as well as the player's personal background. In this sense, it could be used to analyse

31 Dixon (2011): p. 3.

32 Fernandez, A. (2008) “Fun Experience with Digital Games: A Model Proposition”, in: Leino, O. Wirman, H. and Fernandez, A. (eds). (2008) *Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience*. Lapland: Lapland University Press: p. 181-190.

33 Fernandez, A. (2008): p. 186.

34 Fernandez, A. (2008): p. 184-188.

how emotions can be evoked by the game through affective reactions. However, the problematic part of this model is that Fernandez' description of the relationship and interplay between the antecedents, processing and consequences seems highly intuitive. Fernandez does not explicate what the exact definition of “fun” is in this model, nor does she explain what type of cognitive or emotional responses might be the result of the specific combination of antecedents and processing of the game. This would make this model applicable but only while combined with a specific audience and ethnographic observations to make up for the vague terminology and definition of the parameters.

1.2.- Affect Theory

From this I want to argue that although there currently exist many theories which can be used to partially analyse games from the perspective of affective reactions, and thus make claims about the emotions resulting from this, many of these theories still lack in their ability to adequately address how serious games trigger emotions through their affective influence on the player, either disregarding the creativity and influence of the player, lacking in the ability to argue how affective responses might be evoked by the game as a result of the player's disposition in combination with the technological characteristics of the game, or by being too vague in the exact relation between the game's processing by the player and the unique disposition of the player. Because of this, I want to argue that a theoretical framework comprised of theories on affect might be beneficial as a complementary theoretical approach for the limitations of the current theories from game studies.

The first theory which I will discuss is on the topic of the definition of affect, as well as on the relationality of affect, by Melissa Gregg and Gregory Seigworth.³⁵ Their take on affect can be used to explain that affect is a *process* of shifting corporeal states, which has the consequence that the meaning which a game conveys is also dependent on these corporeal states. This in turn can be used to explain the importance of analysing the *relationship* between different moments in order to analyse how a situation conveys or evokes a specific meaning, in this case in the form of an affective reaction. The second theory is on the importance of temporal development, as described by Bruno Latour in his text on the body as an interface which can be gradually developed.³⁶ This theory is useful for arguing how the gradual progression of a player through the game might influence his experience of the game, because the game gradually sensitises the player to different types of stimuli. The final theory which can help in the analysis of emotions is the theory by Anna Gibbs on mimicry and imitation as a form of mimetic communication.³⁷ This is related to affect in that Gibbs argues that through imitation of a situation or action, the performer can gain insight into the emotions of the person he or she imitates or creates a mimicry of. This can help to explicate the importance of the performative actions which the players' perform in a game, and how this can lead to certain emotions or how this facilitates emotional awareness. I will discuss these theories in the next part of this chapter.

1.2.1: Affect and relationality

The collection of texts and essays on affect, (2010) *The Affect Theory Reader*, by Melissa Gregg and Gregory Seigworth is the most recent and detailed overview of the field of affect theory. In their introduction, Gregg and Seigworth give a short overview of dominant theories within the field, as well as giving an outline of the concept of affect.³⁸ Although many of these interpretation of affects are not aimed at the analysis of computer games, since many of the essays discuss topics of general

35 Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. Durham & London: Duke University Press.

36 Latour, B. (2004) “How to talk about the body? The normative dimension of science studies”, in: *Body and Society* 2(3): p. 205-229.

37 Gibbs, A. (2010) “After Affect: Sympathy, Synchrony, and Mimetic Communication”, in: Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. London: Duke University Press: p. 186-205.

38 Gregg, M. & Seigworth, G. (2010): p. 3-6.

cultural discourses, these theories are nevertheless useful for this research as well since they offer a general interpretation of the concept of affect, as well as offer various approaches in discussing and analysing affect.

In the first introductory chapter, *An Inventory of Shimmers*, Gregg and Seigworth argue that affect and cognition are not separable, since cognition itself is a bodily capability, and thus cognition is embodied. With this they adopt the idea that affect is also something corporeal, in this case a bodily capacity. Moreover because our corporeal state constantly changes while our body is affected by others and our surroundings, being affected is therefor interpreted as a process, rather than an absolute state of being. This is why Gregg and Seigworth describe affect as a process of “becoming” for the body; the body constantly affected and is thus in a permanent state of becoming. Gregg and Seigworth describe the perpetual *becoming* of a body: “Cast forward by its open-endedness, affect is integral to a body's perpetual becoming (always becoming otherwise, however subtly, than what it already is), pulled beyond its seeming surface-boundedness by way of its relation to, indeed its composition through, the forces of encounter.” This means not only that the affect of the body is constantly reconstituted, but also that this happens through the body's relation with its context, which is described by Gregg and Seigworth as “relatedness”, where each encounter or “force” reconstitute the affective state of the body. This understanding of affect is useful as a starting point since it allows for the argument how the game might influence the body and create an affective relation.

The idea of relationality is further expanded by Gregg and Seigworth through the work of Roland Barthes. In one of his later essays (2005) *The Neutral*, Barthes talks about interval between two moments of affection, which he describes with the term “neutral”. Barthes argues that there are no concrete structures, but “Only intervals, only the relation between two moments, two spaces or objects. In these in-betweens, or blooming intervals, intensities are continually divulged in the supple relations between a world's or a body's interleavings and their vector of gradience – where gradient is 'progressive accentuation, spatial or temporal, in the intensive dimensions [concentration, speed] of a stimulus [gradient of odor, gradient of luminosity] or of a comportment [gradient of goal]’”.³⁹ With this statement, Barthes stresses the importance of the relation between two things, arguing that instead of being a concrete entity, the nature of the body should be seen as something that can also be seen as a relation or process between two intervals, the intensities between two separated moments. By adapting this thought into the context serious games, it becomes an important way to argue how affect should be seen as emerging from the relation between the player's body and the stimulation of their body by the game, of which the process happens over time.

Gregg and Seigworth further explain the idea of relationality by using the theories of Baruch de Spinoza, in order to include elements of “relationality” to their arguments about affect, distinguishing two arguments made by Spinoza about the body and affect.⁴⁰ The first statement is Spinoza's claim that “The capacity of a body is never defined by a body alone but always aided and abetted by [...] its force-relations”. This means that how the body can be affected, is not just dependent on the capacity of the body itself, but also on the context in which the body is affected, described by Spinoza as “force-relations”, also described by Brian Massumi as well as Gregg and Seigworth, with the synonym “intensity”. This in turn leads to the second statement, which is that “The 'not-yet' of 'knowing the body' is still very much with us in the present”, since there is no clear limit to the range in which a body can be affected in different situations. Especially this second

39 Barthes, R. (2005) *The Neutral: Lecture Course at Collège de France*. New York: Columbia University Press: p. 196.

40 Gregg, M. & Seigworth, G. (2010): p. 3-4.

statement is relevant in the question how the body can be affected, since it would be a strange thing to claim that even now since there are definitely limits to the way in which the body can be stimulated through its sensory organs, and thus it should be more or less clear what the limits of the possible affective reactions are.

1.2.2: The body as an interface

An interesting point of view on these limitations is described by Bruno Latour through his idea of the body as an interface which can be *developed*, and gradually *learned to be affected*, as well as expanded to increase the capabilities of its sensory apparatus in order to be affected. In his text (2004) *How to talk about the body? The normative dimension of science studies*, he explains how affect is something corporeal, and more importantly how this is a constant process where the body can learn to be affected.⁴¹ He starts his argument by claiming that: “To have a body is to learn to be affected, meaning affectuated, moved, put into motion by other entities, humans or non-humans. If you are not engaged in this learning you become insensitive, dumb, you drop dead”. This claim was made as a reaction to the rather cognitive interpretation of emotions, where one tries to transcend one's own body in order to reach a higher form of awareness. This would achieve quite the opposite according to Latour. Because we have a body, we can be moved in the first place, either by other humans and non-humans as well. Having no body would simply result in being insensitive to any sort of affect, rather than achieving a purer form of affect. Affect, as Latour argues, is something that is possible only through one's body, and, is something which can be developed.

Bruno Latour argues that the body is “an interface that becomes more and more describable as it learns to be affected by more and more elements”. He continues on to explain that “there is no sense in defining the body directly”, since the body is not a static entity, but one which keeps developing itself to be affectuated. Instead the body should be seen from the perspective of “rendering the body sensitive to what these other elements are”. While explaining what he means by his claim that a body has to “learn to be affected”, he uses the example of training so called “noses” for the perfume industry. The process in which these prospective “noses” are trained to recognise and distinguish different types of smells from others, whereas normally these different samples would all affect them in the same way. In order to register all these different contrasts, weeks of training is required. It is through processes like these that the body can also be “trained to be affected” by input from outside.

However, aside from the physical training of the body, the body can also be complemented by objects outside of its sensory apparatus. In the example of the perfumery, Latour talks about the so called odour kit, which arranges all the samples from contrast to contrast, allowing for more precise recognition of the smell. In this sense, Latour claims that “it is not by accident that the person is called 'a nose' as if, through practice, she had *acquired* an organ that defined her ability to detect chemical and other differences. [...] Thus body parts are progressively acquired at the same time as 'world counter-parts' are being registered in a new way. Acquiring a body is thus a progressive enterprise that produces at once a sensory medium *and* a sensitive world.”

With this essay, Bruno Latour makes two interesting claims, firstly that the body can be learned to be affected, so affect is a matter of practice. In other words, affect can be *practiced* and *acquired*. This is an important observation, since the corporeal nature of affect suggests that being affected by something is a constant process, meaning that there is a development within the corporeal state of the body. Secondly, he makes the claim that in the process of this, the body learns to be affected, producing both a sensory medium (consisting of both the body or other tools to aid the sensory

41 Latour, B. (2004) “How to talk about the body? The normative dimension of science studies”, in: *Body and Society* 2(3): p. 205-229.

organs), as well as a sensitive world. In other words: you see what you know. This is what Latour describes as “articulation”, namely “being affected by differences”. Bruno Latour gives a pathological description/interpretation of the body: “The body as an interface that becomes more and more describable when it learns to be affected by many more elements.” Seems comparable to the playing a game for a longer period of time, so that the player becomes more and more aware of its bodily capabilities through their digital avatar in the game, or their agency as a player in the game in general. This is interesting since it opens up the analysis of a game while taking into consideration that one's experience might change over time as the body gets affected by different things, or is less affected by others.

The problem with Latour's argument is that he doesn't take into consideration that, when a body can be trained to be sensitive to different sort of experiences, and learns to be affected, the body can equally become insensitive to other stimuli in the process. Latour makes it seem as if this is a linear process, where the body is eventually able to be affected by almost anything, even more so since the use of tools to augment one's bodily perception allows the body to broaden it's perception indefinitely. The problem is that, while the body becomes able to experience other things and be affected by them, it is equally possible that because of this ability to register differences, a person might become more and more insensitive to other experiences. This is comparable to the development of a blasé attitude, where the body blocks out certain stimuli in order to protect the person from an overflow of information. These claims of Latour that the body is an interface which can be trained and developed to be affectuated, in combination with the addition that it is not unthinkable of this process working the other way around, where a recipient becomes less sensitive to certain stimuli, can serve as an important foundation while arguing how serious games can evoke emotions by making the players more aware of certain sensory stimuli, as well as in arguing how the gameplay or story world of serious games allow a player to become more sensitive to certain affective stimulations, as well as how the player's affective experience of a game may change over time.

1.2.3: Empathy and mimicry

The final contribution which affect theory can make in order to analyse how serious games can create emotional awareness, are the theories of Anna Gibbs on mimetic communication and mimicry. In her essay, *After Affect: Sympathy, Synchrony, and Mimetic Communication*, Gibbs analysis the aspect of relationality of affects with the help of concepts related to mimesis, in the forms of sympathy, synchrony and the various forms of mimicry and imitations.⁴² According to Gibbs, mimetic communication is “a pervasive 'sharing of form' that seems to be 'the fundamental communicational principle running through all levels of behaviour', through both human and animal bodies, and connected to other rhythmic processes in the natural world”.

With this, Anna Gibbs tries to describe how the performance, or imitation in the form of mimicry in Gibbs' words, of a certain actions might allow for an understanding of these situations, thus creating the possibility of emotional awareness in the performer of these actions. The advantage of using these theories in the field of serious games, is that the concept of mimesis, imitation and mimicry in Gibbs' theory allows for the argument that games produce a similar situation, in which the player imitates or adopts a mimicry of another person or role from a different situation. Adapting these concepts to the field of serious games would allow for the argumentation of how certain performative actions might allow for the simulation of affective reactions in the player, which would contribute to their ability to emotional awareness as a result of this.

⁴² Gibbs, A. (2010) “After Affect: Sympathy, Synchrony, and Mimetic Communication”, in: Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. London: Duke University Press: p. 186-205.

Before moving on to the next chapter, I will briefly summarise the findings of this chapter. In this chapter I answered the question how current theories from the field of game studies address overlapping topics while analysing how emotions are triggered through games, and argued how these theories might be insufficient. I did this by conducting a critical literature review of these theories from the field of game studies. Based on the limitations which I identified with this analysis, I proposed how several theories from the field of affect theory could be used to complement these other theories in order to address the question how emotions triggered through serious games could be analysed.

Ian Bogost's theory on procedural rhetorics addresses the question how games generate meaning, but seems to neglect the players' own creative influence in this process, arguing that players can be moulded by the procedural rhetorics of a game in any way the developer attempts to.⁴³ The concept of the dispositif by Joost Raessens shows how the specific disposition of the player in combination with the technological characteristics of a game, as well as the unconscious desires of the player and the specific context in which a game is played, will definitely have an impact in how the players will experience a game.⁴⁴ However, this theory is also insufficient in addressing how games trigger emotions since Raessens does not argue how the unconscious desires and the specific attitudes toward the games which result from this might evoke affective reactions. Dan Dixon's theories on rhythm, although useful as a starting point for arguing how the difference or similarity between the rhythm of the players' actions and the rhythms of the game itself creates affective responses, cannot address the question how games trigger emotions without being based on ethnographic observations, making this theory unsuited for the specific purpose of my research.⁴⁵ Finally, I discussed the model proposed by the scholar Amyris Fernandez in which she analyses how the experience of fun is created by looking at the various antecedents related to the player, the processing of the game by the player, and the consequences of the relations between these phases.⁴⁶ However, Fernandez does not sufficiently argue how the relation between the different parameters which make up these phases act together to create an experience, thus being unsuited to be used unless combined with additional research.

In order to compliment these theories, I proposed a new framework of several theories from the field of affect theory which can be used to analyse how games evoke emotions. These theories would allow for the analysis of emotions triggered by serious games through affective reactions. I firstly discussed the work of Melissa Gregg and Gregory Seigworth,⁴⁷ who analyse the concept of affect and the relational aspects of this concept. After this, I discussed the theories of Bruno Latour, who argues that the body can be interpreted as an interface which can be developed over time and trained to be affected.⁴⁸ Finally, I analysed the theories of Anna Gibbs,⁴⁹ who discussed the relation between affect and emotional awareness with concepts related to mimetic communication,

43 Bogost, I. (2007) *Persuasive games: The expressive power of videogames*. Cambridge: MIT Press: p. 1-46.

44 Raessens, J. (2009) "The Gaming Dispositif: An Analysis of Serious Games from a humanities perspective", in: Ritterfeld, U. Cody, M. and Vorderer, P. (2009) *Serious Games: Mechanisms and Effects*. London: Routledge: p. 490-491.

45 Dixon, D. (2011) "Tactics, Rhythms and Social Game Analysis", in: *Social Game Studies at CHI 2011 workshop*. <http://socialgamestudies.org/post/61406077572/social-game-studies-at-chi-2011-workshop-papers> (07-10-15).

46 Fernandez, A. (2008) "Fun Experience with Digital Games: A Model Proposition", in: Leino, O. Wirman, H. and Fernandez, A. (eds). (2008) *Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience*. Lapland: Lapland University Press: p. 181-190.

47 Gregg, M. & Seigworth, G. (2010) "An Inventory of Shimmers", in: *The Affect Theory Reader*. Durham & London: Duke University Press: p. 1-3.

48 Latour, B. (2004) "How to talk about the body? The normative dimension of science studies", in: *Body and Society* 2(3):205-229.

49 Gibbs, A. (2010) "After Affect: Sympathy, Synchrony, and Mimetic Communication", in: Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. London: Duke University Press: p. 186-205.

specifically the concepts of imitation and mimicry. In the next chapter, I discuss the implications of using these theories, and argue how the insights into the concept of affect provided by these theories can lead to several different angles in which serious games can be analysed in order to make claims about the way in which these games trigger emotions or allow the player to have emotional awareness.

Chapter 2: Toward a Theoretical Framework

In this chapter I will answer the question how the discussed theories on affect can be combined into a theoretical framework, as well as argue how this framework might contribute to a better understanding of serious games in relation to emotions. I will first briefly recapitulate the definition of affect, the difficulties of using this concept in the context of serious games, and the limitations of such an approach, before moving on to the implications of using this approach to analyse serious games. After that I will discuss how, based on the insights of these theories into affect, various angles might be adopted to analyse how the game can affect the player and how these angles can be used to analyse how a game triggers emotions.

Affect is the shifting corporeal state of being, as influenced by the stimulations of the body through its sensory input.⁵⁰ The difference between affect and emotions is that affect is a corporeal state, while emotions are a result from these affective reactions. In this sense, affect is a corporeal stimulation which leads to a moment of, or a sustained passage of a particular intensity. This is described as a moment of potential becoming.⁵¹ The difficult part about gaining insight into the specific emotions triggered by a computer game, is that it not only requires insight in the way in which a game affects the player, but that it also requires an extensive knowledge of a person's character, previous experience from playing games, cultural discourse, ideological point of views and opinions, his or her prior experiences of certain similar situations as well, which will all colour the specific experience of a situation as well. This means that an analysis of the players' emotions as triggered by a game, will have this limitation, unless combined with specific counterparts to analyse the individual character and background of the player.

Although it is thus imperative to conduct research to the unique disposition and history of the player in order to come to a full understanding of how a game might affect a player, due to the limited time for this research, I will focus on arguing how the game can trigger certain emotions by analysing the way in which the formal aspects of a game create affective responses. As such, this chapter should be seen as a first attempt at a complementary approach to the currently existing theories for analysing serious games in terms of emotions, and is thus limited. It is however possible to argue how a game might trigger emotions by analysing how a player is able to perform and experience a situation, through an analysis of the game's formal aspects. You are being affected by something; to feel something is to be affected or moved by something, which implicate two things.

Firstly, you are *physically moved* by something, which means this physical context can be analysed. Because the physical context of playing a game is a fairly concrete situation, it is possible to analyse the physical capabilities of the game to affect the player. It is possible to analyse the specific qualities of the game, which senses are being addressed through the game, and thus argue how the game might affect the player. Secondly, because you are moved *by something*, it also means there is this “something” which can be analysed as well. In the context of games, this would mean

50 This definition is suggested by Gregg, M. & Seigworth, G. (2010) “An Inventory of Shimmers”, in: *The Affect Theory Reader*. Durham & London: Duke University Press: p. 1-6.

51 Gregg and Seigworth (2010): p. 1-3.

identifying the moments in which the player is influenced and affected by the game, in order to argue how these moments shape the players' emotions. In this chapter I will suggest several angles with which these moments of potential becoming can be identified, and with which it can be argued how these moments create affective reactions.

The advantage of approaching games from the perspective of affect is that we can analyse how and when a player can *potentially* be moved by the game through these moments of potential becoming, without having to interpret these resulting emotions as specific feelings, in order to gain insight in the relation between games and emotions. Talking about potentiality has the advantage that it is more flexible, as opposed to simply claiming which moments affect the player. This take on analysing emotions in a game pertains a general principle since it is based on formal aspects of a game, yet also takes the creativity and subjective position of the player into consideration. I will discuss the implications of these two points in the next paragraphs.

2.1.- Implications of an Affective Approach

2.1.1: The sensory apparatus of the body

While talking about the physical context of affect in computer games, it is important to take into consideration that the sensory input from a normal situation differs greatly from a gaming situation. A game can physically move the player, but the situation in which this happens is nevertheless different from affect in the everyday life. I use the term affect in this context to refer to the constantly shifting state of the body as the result of it's sensory input.⁵² Since affect is something physical, this is a *process* as the sensory apparatus of the body is constantly being stimulated by influences outside the body. This means that while arguing how the body is affected by something, the context of the sensory apparatus of the body has to be taken into consideration first. Before I will discuss the possible angles from which a game can be analysed in terms of affect, I will try discuss this difference in the sensory input with the help of Maurice Merleau-Ponty's concepts of the body schema and the body image.⁵³

In his essay (2002) *The Spatiality of One's Own Body and Motility*, Merleau-Ponty compares the body to a compendium, consisting of the "body schema" and "body image".⁵⁴ The body schema is comparable to the perceived affordances of our body; we have more or less a clear outline of what our body is capable of. Aside from the body schema, we also have a so called body image, which is the actual experience of our body during our actions. We know where our body is located within a space. This combination of body schema and body image allow us to do many things automatically, such as walking or using our hands. However, both this body schema and the body image are greatly disrupted through the medium of computer games. We no longer have a full idea of our affordances, especially at the beginning of a new computer game, since we have no idea how to control our digital character nor of the full extend of our ability to interact with the game. Neither do we have a body image, since we cannot directly sense the location of our digital avatar's body in his or her digital surroundings. This normally creates quite a difference in the experience of corporeality in a game, in turn influencing how our body can affectively be influenced in the first place. The importance of the player's corporeal state for being affected, together the dissolution of the body schema and image in this context is also described by Mark Hansen (2006) *Bodies in Code: Interfaces with digital media*.⁵⁵ This change in sensory input is important while thinking about affect as a corporeal state and process of the body.

52 Gregg & Seigworth (2010): p. 1-2.

53 Merleau-Ponty, M. (2002) "The Spatiality of One's Own Body and Motility", in *Phenomenology of Perception*, translated by Colin Smith. London: Routledge: p. 112-125.

54 Merleau-Ponty (2002): p. 113-118.

55 Hansen, M. (2006) *Bodies in Code: Interfaces with digital media*. New York: Routledge: p. 25-53.

In a normal situation, the body makes use of all six senses, while in computer games, the player is immersed into the medium which is as of now largely unable to stimulate the body in other ways than through haptic, visual and auditive feedback. Although the medium computer games are able to increasingly address the player through other senses as well, most computer games still mainly address the player through the senses of sight and hearing, while the other senses are being turned “off” in a sense. The game immerses the player into a story or process of play, thus producing a process in which there are many moments of potential becoming. In order to achieve an effective analysis of which of these moments are the most likely to be actualised into affective reactions, and thus how the player might experience a game, this change in sensory apparatus should be taken into consideration. This means that before attempting to analyse the game and it's potential effect on the player, it should be taken into consideration which of the sensory channels of the player the game is able to address in the first place.

2.1.2: Moments of potential becoming

After analysing how a game can affect the player in the first place - by analysing how the game is able to address the player's sensory organs - it becomes possible to argue at which points in the process of play these affective influences might take place. The player's corporeal state of being is constantly being influenced by the game during play, which means that the moments in which the player is being affected could be analysed. These moments of affection are described within the discourse of affect theory as moments of “potential becoming”.⁵⁶ Moments of potential becoming, are translated into the context of computer games, the moments in which the game stimulates the player's sensory organs and potentially causing the player to be physically moved by what he or she registers. The problem here lies in the difficulty to claim whether or not an event could be a moment of becoming. After all, it differs from person to person which events or moments in a game leave a sufficient impression that they move the player and are considered to be events. Because of this, it seems more useful to speak of moments of *potential* becoming. Speaking of moments of affect would assume that these moments are the same for any other player, which is hardly the case. This in turn would however introduce the problem that this take would be awfully intuitive and nevertheless depend on the observer's own emotional and subjective preferences.

There are however leads to analyse these moments of potential becoming in a more neutral, structured approach. Although a game is certainly open to many different interpretations, games are nevertheless limited in the potential affective experiences they can evoke. The first limitation is found in their limited ability to affect the player through sensory stimuli, since most games can only address the player's sensory apparatus through the channels of sound, vision and to some extent haptic feedback, making interpretations regarding smell, taste or touch unlikely. The second limitation is found in the actual design of the game, or more broadly speaking, the formal aspects of the game.⁵⁷ Although the player is able to be affected by things not intended by the developers, the formal aspects still play a large role in which way and on which moments the player *can* be affected in the first place.

An example of these formal aspects is when the developers of the game will set out several different paths for the player to follow, scripting in different encounters which will be much more likely to evoke an affective response with the player, simply because they were intended to do so, meaning that all the possibilities of a game are being utilised for this purpose. Although these design choices can have unintended effects, it are mainly these scripted moments which are the most likely moments of potential becoming to be actualised, much more so than other moments. An example

⁵⁶ Gregg and Seigworth (2010): p. 1-3.

⁵⁷ Fernández-Vara, C. (2015) *Introduction to Game Analysis*. London: Routledge: p. 1-19.

can be found in the first version of the *Tomb Raider* series reboot.⁵⁸ While Lara is slowly working up her way to the old WW2 bunker, she will eventually encounter the first enemy with a shield, making him almost impervious to her bullets. This moment of encounter will likely affect the player the most, since it is highlighted in many ways by the game. Although the path leading up to this point might also affect the players, each in unique or less unique ways, it are mainly these moments which spark the most reaction, because they were created especially for this by the developers. This seems to indicate that although the game has a lot of room for interpretation when it comes to the formal aspects, they are nevertheless limited while viewed in relation to one another.

2.2.- Potential Angles for Analysing Affect

Taking these implications of an affective approach into account, we have two things which can be analysed, namely the change of the sensory apparatus, as well as the way in which the game might evoke emotions through these affective moments of potential becoming. While trying to analyse how these moments of potential becoming might result in emotions, various point of views or angles can be adopted to further differentiate between the relations of these moments. In the next paragraphs, I will try to argue that the most important angles to analyse these moments are the players' agency, rhythm, temporal relations or developments, and relationality.

2.2.1: The player's agency

The ability to act within and interact with the game is perhaps the most important angle to look at games in relation to emotions, since the range of actions which the player is potentially able to perform within a game in the first place, will determine the players' mindset and take toward the situations. When the game affords a player ample of possibilities to interact with their surroundings or objects in a situation, the player will experience this situation in a whole different way as opposed to, for example, when the player is only able to walk but is otherwise unable to interact with his or her surroundings, in turn resulting in very different emotions.

Serious games with a political motive often have the goal of changing a player's behaviour or opinion by immersing them in a different situation, allowing them to experience different situations from a different perspective. This way the player becomes familiar with a situation, not just by watching, but by doing. They, in a sense, imitate a certain performative actions linked to a situation, in order to gain insight into the affective influence of that situation. Because of this, the agency of the player determines the range of potential actions which a player can take to solve a situation in the first place, in turn determining how this situation is experienced.⁵⁹ Because the player's agency and performance in a situation is crucial for their experience of that situation, I propose using the terms mimesis and mimicry as an angle to offer insight into the workings of this immersion from an affective point of view.⁶⁰

I speak about the term “mimesis” in the sense of a corporeal form of imitation, as used by the scholar Anna Gibbs to describe various phenomena related to mimetic communication.⁶¹ One of these phenomena are imitation and mimicry. Gibbs talks about mimesis from the context of mimetic

58 Crystal Dynamics (2013) *Tomb Raider*. S.l.: Square Enix.

59 For example, if a player is confronted by a non-player controlled character with a weapon, and sees that this npc is about to attack him. The way in which the game affords the player to act upon this situation, determines how the player will perceive this situation. If for example, the game allows the player to counterattack and defeat this npc, the player would arguably not perceive this situation as threatening. Arguably, the player would thus be less affected by this situation as he or she would be if, in this same situation, the player would in fact be unable to attack. In this case, the player would experience the situation in a whole different way.

60 Gibbs, A. (2010) “After Affect: Sympathy, Synchrony, and Mimetic Communication”, in: Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. London: Duke University Press: p. 186-196.

61 Gibbs A. (2010): p. 186-196.

communication, as a “pervasive form of sharing”. By imitating, or in this case sharing the actions of another person, the performer gains a (corporeal) understanding of the other. Although a false becoming, since the imitator and imitation is in essence fake, it can nevertheless lead to an understanding of the thing which is imitated. Gibbs argues that the difference between the two sensory modalities, one being translated into the other, facilitates a process of gradual recognition. In this moment of increasing awareness, two subjective worlds come into momentary contact, even though the meaning of this contact and its experience may differ due to the limitations of the sensory stimuli offered by the game.

However, aside from the ability to gain insight into someone else's position and emotions through the performance of their actions, agency also influences which events in a game stand out to the player and which events don't. This has to do with how the player's agency influences the player's own confidence in his or her ability to act in or react to specific situations, in turn influencing how certain actions might be interpreted in the game: what situations/events are dangerous and might evoke worry while others might leave the player largely unfazed, which events are interpreted in a positive way or perhaps in a negative way. For example, while the player finds him or herself in a combat situation, the game might restrict the player from actually fighting back, potentially causing the player to feel that much more vulnerable in comparison to a situation where the player can actually retaliate. This sense of affordances thus play an important role in which situations the player might be affected by the game.

2.2.2: Rhythm

Rhythm is another important angle which needs to be taken into consideration in order to gain insight in the player's affective experience of a game. Because playing a game is a process rather than a coherent, synchronous or singular experience, the analysis of the changing situations in the process of playing should be taken into consideration as well. This is based on the idea that a game is a process, thus exists over the duration of a certain amount of time: the player starts to play a game at a certain moment, and stops to play at a certain moment, meaning this player's experience of the game is shaped during this period of play. Between these points in time, the player can experience many different situations, which in turn have the potential to actualise certain emotions in the player. The differences between these situations and the differences between their changing relations can be analysed through the concept of rhythm.

Rhythm in this context can be understood in a concrete sense of the word where rhythm is related to a single sense, for example the music or soundtrack in the background providing an audible rhythm for the player. However, rhythm can also be understood in more abstract sense, where rhythm can be related to of many mixed experiences, summarised as the experience of a *changing* situation, based on repetition and differences. This can be concrete events within the story world of the game, like the occurrence of a problem, an obstacle to be overcome, an event, an enemy, or even a slight change in the player's situation when the game urges the player to act upon a situation, can all be interpreted as a change in rhythm. These changing situations can also be related to non-diegetic elements of the game, such as the switching between different interfaces, or the changing of the agency of the player to fit into a different situation.

The rhythm in which these moments of change occur, and the way in which the different rhythms are related to one another can provide further insight into the potential effect of the game and on the player's affect in return. Dan Dixon describes this in his text *Tactics, Rhythms and Social game Ethnography*, by describing the importance of Eurhythmia and Arrhythmia in games.⁶² Eurhythmia

62 Dixon, D. (2011) “Tactics, Rhythms and Social Game Analysis”, in: *Social Game Studies at CHI 2011 workshop*. <http://socialgamestudies.org/post/61406077572/social-game-studies-at-chi-2011-workshop-papers> (07-10-15): p. 3.

is when the multiple rhythms of the game and the player work together harmoniously, for example when the player in a side scroller is moving his or her character to the side of the screen by pressing buttons, and the game generates the environment without hindering the player. Arrhythmia on the other hand is when there is a break between the rhythm of the game and the rhythm of the player. For example in the case of the side scroller, an example of arrhythmia would be when the game starts to spawn waves of enemies, and the player is forced out of his or her original rhythm and has to react to this new rhythm. It are events and moments of change like these which colour the player's experience, and constitute the final experience of the game, because these are the moments in which the player is challenged, nudged toward using his or her agency within the game to react to these events. The frequency of these moments and thus a different rhythm, can be used to argue which parts of the game are more likely to affect the player, revealing the various moments of potential becoming in a game.

These moments of change in the form of events can be both intended/constructed by the game developers, but also created independently by the player, by using their ability to interact with the game, by consciously interpreting situations in the game, or by unconsciously perceiving a situations in a different way than intended by the developers. Although there could be many different ways in which the player can interpret the game differently as opposed to the influence of the developers of the game, almost all of these interpretations are nevertheless based on what they perceive in the game. This means that the game can still be analysed in terms of *potential* moments of affection, and how these moments relate to one another through an (conscious or unconscious) sense of rhythm.

2.2.3: Temporal relations and developments

Rhythm is one angle to analyse the way in which a game can potentially evoke an affective response in the player. The problem with this is that it does not take into consideration that a player's experience of events can change over time while playing the game, thus resulting in a different perceived rhythm. This means it is equally important to take the influence of the temporal relation between the player and the spatiality of the event into account: the amount of time the player has spent in the game, as well as the player's position in time related to the story world of the game. The player's temporal position within the game world is important since many games with an elaborate incorporate plot twists or other stylistic tools in an attempt to evoke strong emotions with the player. Almost every game furthermore has a form of story syntaxis, either incorporated into the gameplay by the developers or by the player's own imagination.

The first time playing, the player is not yet (fully) aware of the agency of his avatar, or his agency in the game in general, meaning that most of the game is new, feeling closer to arrhythmic at first, while gradually developing into a rhythmic experience. As the players progress through the game, they become more and more aware of the rhythms in the game: they start noticing different things while filtering out the “normal” flow of the game as being “business as usual”, being able to focus more on the moments in which this rhythm gets disrupted by an event.

Trying to take this into consideration is, however, quite problematic, since it requires that the one analysing the game in a temporal perspective needs to have played the entire game, while also remembering a specific rhythm at a specific point in time. Since this relationality relies on a comparison between different moments in time, this angle also has the prerequisite and bias of having to look at the game from an eagle eye perspective. However, it can be argued that the way in which situations affect the player are dependent on how long the player has been playing the game, in relation to a different range of agency, even if the player does not know the full context of the rest of the game yet.

This can be explained with the help of to Bruno Latour's notion of “articulation” and his understanding of the body as an interface which can be developed over time. In his text he claims that affect is a bodily capability, the capacity to be physically moved by something. This means that being affected is a constant process. Latour adds to this by claiming that the body's capacity to be affected, can in fact be learned and developed over time, explaining this with the example of training one's nose in the perfume industry. Similarly to the gradual development of the senses of the body to register subtle differences of smell, thus being affected by them, the body can also be trained to be affected by different situations in a game. Once the player starts playing a game, the player's senses, predominantly the eyes and ears, will be bombarded with stimuli from the game. Over time the player will learn how to interpret this overflow of information, make more effective assessments of the importance of certain elements over the other, his or her affordances in situations, and the potential outcomes of the potential actions, in turn leading to a different experience of these moments. This can also mean that overtime, the player will become insensitive to certain stimuli as well, adopting a blasé attitude by dismissing them either consciously or unconsciously as irrelevant details.

2.2.4: Relationality of affects

Somewhat tying in to the previously discussed angles, is the angle of relationality, another important point of view to analyse how games can create affective reactions. With the term relationality, I refer to the context of the game world in which an action or situation takes place. Because a game creates it's own “magic circle” in Johan Huizinga's terms, creating it's own system of logic, many of the actions or any form of agency and experiences, is interpreted by the player within that specific system of logic.⁶³ This would mean that the meaning of any interaction with the game is dependent on context. Part of this context, mainly the expectations which the player has of this context, is the player's subjective disposition, as claimed by Joost Raessens in his text about the *dispositif* in games, or by Amyris Fernandez as she talks about the antecedents.⁶⁴ However, the other part of this context is dependent on the game world and any actions within this world. This would mean that any action is interpreted and experienced by the player *in relation with* the rest of the logic of the game.

Especially the player's agency within the game is subject to the contextuality and relationality of the game's own system of logic. Especially the perceived significance of a player's actions are experienced within the concrete context of the game's situations and events. Because a game has a different reality and a different logic, the player will quickly develop expectations based on what he or she has experienced so far from this separate reality. This has the consequence that a player will interpret their actions and the resulting effects in the game differently, depending on the situation of the game: what is an achievement in the everyday life might only be a recurring procedure or formality in a game, eventually leading the player to interpret it as such. While a player has expectations of the outcome of a certain action based on numerous things outside of the game world, he or she will gradually also learn to separate and develop a new set of expectations based on his or her experience from the game. However, having to explore this new reality means that the player is not always aware of the full limits of his or her agency within the game, and many games actually use this in order to affect the player. An example is leveling up, where the agency of the

63 Huizinga, J. (1949) *Homo Ludens: A study of the play-element in culture*. London: Routledge & Kegan Paul: p. 1-27.

64 Raessens, J. (2009) “The Gaming Dispositif: An Analysis of Serious Games from a Humanities Perspective”, in: *Serious Games: Mechanisms and Effects*. New York: Routledge: p. 486-512. and: Fernandez, A. (2008) “Fun Experience with Digital Games: A Model Proposition”, in: Leino, O. Wirman, H. and Fernandez, A. (eds). (2008) *Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience*. Lapland: Lapland University Press: p. 187-190.

player gradually increases.

It also means that these moments of potential becoming are relative to the expectations of the player of the game. These moments only have meaning in a juxtaposition with other moments. It is possible to analyse affect by looking at these potential moments of becoming, and their relation to one another. Explicable through the metaphor of a pointillist painting. The dots in and on themselves are fairly meaningless, but in relation to one another the spectator blurs these dots into a whole. These dots are comparable to these moments of potential becoming in computer games. In relation to one another they can be used to explicate the affective workings of certain events (moments of becoming). Affect in this case, originates from the perceived relationships between these actions and events in the game, and affect in this case is dependent on the actualisation of these relationships, or perhaps the breaking of these expectations.

In this chapter I answered the questions how affect theory might help in creating a new theoretical framework for analysing emotions in serious games, and how these theories on affect can then be used to analyse how games trigger emotions through its formal aspects. I created a theoretical framework and argued how these theories on affect might be used to understand how a game can evoke emotions. After this, I discussed several possible angles based on this framework with which affect could be used as a complementary approach for a better understanding of serious games related to emotions.

I argued that games allow the players to experience situations outside of their daily experiences, by placing the player in the situation of another person, and making them perform actions related to these situations. Through this process, the game can potentially affect the player, allowing them to experience the situation as the other person would, therefore becoming capable of emotional awareness and having emotions related to those situations. Affect theory in this context can be used as a means to analyse how a game creates these moments, making an approach based on this relevant for serious games which use emotional arguments.

Affect in this context is being physically moved by something, interpreting affect a process of changing corporeal states of being. The relation between affect and emotion in this context, is that specific affective reactions as a result of certain stimuli by the game, can in turn result in emotions. The term emotions in this sense refers to the unconscious results of stimuli from the surroundings of a person, and does not entail the interpretation of certain experiences as opposed to the term feelings. Talking about emotions only entails arguing how a person is experiencing certain emotions as a result of being moved by something, without necessarily interpreting these as specific feelings. This approach has the advantage of circumventing the problem of having to interpret every action in specific labels of feelings, but still maintaining its ability to analyse emotions while recognising the influence of the players' creativity in the analysis as well.

After this I argued that there are two implications of using affect theory to analyse how a game can trigger certain emotions. The first one is that this particular interpretation of affect has the bias that it is dependent on the input from the senses, meaning an affective approach to analysing games should take the change in the sensory apparatus as described by Maurice Merleau-Ponty, into consideration.⁶⁵ By looking at the way in which a game can influence the player through the stimulation of these senses, it is possible to argue at which points in the game these stimulations or intensities are the strongest, and thus which points in the game could be seen as moments of potential becoming. In order to argue which of these moments of potential becoming might be

⁶⁵ Merleau-Ponty, M. (2002) "The Spatiality of One's Own Body and Motility", in *Phenomenology of Perception*, translated by Colin Smith. London: Routledge: p. 112-125.

actualised into affective reactions, I proposed four different angles with which this could be analysed.

These four angles include agency, how the game affords the player to interact with it in the first place, rhythm, referring to the changes in situations and the rhythm which can be experienced as the result of these changes, the temporal relations or developments, which influence how rhythm and agency are experienced differently over the duration of playing the game, and finally relationality, which refers to the players' experience of their agency, rhythm and temporal development against the background of the game's system of logic and/or story world. In the next chapter I will demonstrate how an approach with these four perspectives can be used to analyse emotions, by conducting a textual analysis of the formal aspects of three serious games which arguably have the goal of persuading their players of a certain message through the creation of emotions or feelings.

Chapter 3: Affect and Serious Games

In the previous chapter I argued how affect can be used to create a theoretical framework with which it becomes possible to analyse how serious games trigger emotions. In this chapter I will try to illustrate this approach by using it to conduct a textual analysis of three serious games.⁶⁶ I will use the serious games *The Migrant's Trail*, *Everyday The Same Dream*, and *My Cotton Picking Life* as case studies.⁶⁷ All three of these games have a political motive and seem to share the common goal of persuading their players of that ideological message, with the help of emotional arguments. These games either place the player into the shoes of another person in order to show and make them experience their daily routines, or offer the player insight into the other person's emotions. As such they seem interesting to analyse from the perspective of affect to see how this approach might help in a better understanding of these games.

I will briefly introduce these games and their purpose as described on the websites of the developers, after which I will analyse them with the help of the angles of agency, rhythm, temporal development and relationality. I will identify moments of potential becoming by analysing the game with the help of one or a combination of these angles, and arguing why these specific moments might be actualised into emotions. While looking at these three games in terms of sensory apparatus with which these games are able to evoke affective responses in the first place, all three games mainly use the channels of hearing and sight. Although the agency in the game *My Cotton Picking Life* is also being able to potentially affect the player through haptic signals, the analysis of the moments of potential becoming will be based on the input from the channels of hearing and sight. Continuing on from this, I will then argue where the moments of potential becoming might be located in the game by analysing them in terms of agency, rhythm, temporal relations, and relationality. I will first analyse the game *The Migrant's Trail*, continuing on with the game *Everyday The Same Dream*, and end with the game *My Cotton Picking Life*.

3.1.- Case Study I: The Migrant's Trail

3.1.1: Introduction of the game

The game *The Migrant's Trail* is a part of *The Undocumented* transmedia campaign, aimed to raise

66 Fernández-Vara, C. (2015) *Introduction to Game Analysis*. London: Routledge: p. 1-19.

67 Respectively: Gigantic Mechanic (2014) *The Migrant's Trail*. <http://theundocumented.com/> (12-04-16).

Molleindustria. (2009) *Every Day the Same Dream*.

<http://www.molleindustria.org/everydaythesamedream/everydaythesamedream.html> (15-04-14).

GameTheNews (2012) *My Cotton Picking Life*. <http://gamethenews.net/index.php/my-cotton-picking-life/> (05-06-16).

awareness of the humanitarian crisis at the borders of the United States and Mexico.⁶⁸ It is a single-player simulation game, with the aim to examine both the point of view of the undocumented migrants who are trying to cross the border, as well as the perspective of the police officers who patrol the border to stop these refugees. The game entrusts the player with the responsibility of various characters, depending on which side the player chooses. If the player chooses the side of the border patrol, they will get to select several characters with which they will patrol the border and look for migrants. If the player selects the side of the migrants, the players will be given a character who wishes to cross the border, and which the player has to guide to the other side of the border along with a group of other migrants.

This game is an interesting case study to analyse because of its use of emotional awareness, making use of a lot of contextual information on the contemporary situation at the border, for example through the form of *The Undocumented* project's information on migrants, their motives, and the amount of casualties occurring at the border every year. The game is only able to transfer its message to the player through the stimulation of the senses of hearing and sight, although the game has the possibility to transfer haptic signals as well since the player has to click and use the keyboard to navigate through the game, though the use of this aspect by the game to transfer meaning seems unintentional. Based on this, we can say the following things about the moments of potential becoming in the game, based on the agency, rhythm, temporal development and relationality.

3.1.2: Agency

The agency of the player depends on which side they choose. The player can choose between two sides: the undocumented migrants who are trying to cross the border, and the police officers on border patrol. The goal of the migrants is to cross the border while trying to avoid the border patrols as well as the natural hazards, while the goal of the border agents is to apprehend these migrants, provide first aid should the migrant be injured, or if they are too late, recover the remains and inform the family members.

Each side is limited in their ability to act by several factors. When the player picks the side of the migrants, the player is tasked with selecting clothes and supplies for the journey through the desert. After this, the player gets a top-down view of the group of migrants as well as their own character as they are traveling through the desert. The player can direct the group into a certain direction once they reach a crossroad, as well as decide to turn around and start moving the group into the opposite direction at any given time. As the player assists the group of migrants while they are traveling, the player should pay attention to the energy bar, hydration bar, physical condition bar, and finally the willpower bar. Each of these bars will slowly decrease, and increase with a set amount depending on the hazards the migrants faces in the form of events. Once the physical bar or the willpower bar is depleted, the player's character will be unable to continue and the player will lose the game. The player can prevent these bars from dropping by making their character use specific supplies which they bought earlier, such as cans of water, or canned beans to fill the hydration bar and energy bar. The player will also end the game if their group gets apprehended by a border patrol.

When the player picks the side of the border patrol units, the player won't have to select clothes and supplies, but has to select a patrol agent instead and drive through the desert in a patrol vehicle. While performing the duties of the border patrol agents, the player doesn't have to worry about dehydration or running out of food, but the player only has a limited amount of time to scout the desert to look for the migrants. The player does have the option to lend first aid, or to investigate a trail further, but this will all consume more time. In order to find refugees, the player has to watch

68 Gigantic Mechanic (2014) *The Migrant's Trail*. <http://theundocumented.com/> (12-04-16).

the green radius of his character's vehicle, and when there is anything of interest nearby, this will be displayed by the radius turning red. However, for this to work, the object of interest has to be within the radius of the vehicle. The player can change the speed of the vehicle, where going faster means a smaller radius but covering more ground, and going slower means a better view thus a greater radius, but the border agent won't be able to cover as much terrain, thus potentially missing migrants. These specific actions which the player is able to perform, in combination with how the game confronts the player with specific problems or objectives creates a specific rhythm.

3.1.3: Rhythm

The game has three different overarching phases, in which the player has to do different things. The first part of the game is the prologue, in which the player can read about the migrant's or border patrol agent's motivation and personal backstory. If the player chooses to experience the story from the perspective of one of the migrants, the second part of the prologue will be the shopping screen, in which the player has to equip the migrant with clothes and supplies for the journey through the desert. After this, the second phase starts, in which the player either has to help his border patrol agent to search the desert for migrants or clues, or the player has to guide their group of migrants through the desert through the perspective of their character. The final phase is the epilogue, in which the player is presented with the outcome of their actions.

During the first phase of the game, the rhythm is entirely dependent on the player, as he or she simply needs to read the texts which inform the player about the background of their characters, and needs to equip their character. This phase does not have any time limit, so the amount of time spend on this depends on the player. This in turn, will result in a relatively synchronous, eurhythmic experience, without being potentially interrupted by feedback from the game itself. The only potential arrhythmic moment being when the player tries to buy supplies, but is out of money or notices the backpack of their character is too heavy. The third phase is similar to the first phase, since it only offers the player with the text which explains the result of their actions, no longer requiring any input from the player. During each of these phases, a looped soundtrack will play in the background, further enhancing the sense of a continuous rhythm.

The second phase of the game on the other hand, has many different events which the player cannot choose to evade or spark themselves, creating a somewhat arrhythmic experience whenever these events occur. The overarching flow of this phase is centred around walking or driving through the desert, which the player will experience as a synchronous rhythm, since the player cannot interrupt this rhythm, other than by turning around. However, this rhythm is often interrupted by many different scripted events. These moments are events in which the player is confronted with a problem. While playing as a migrant for example, the player has to choose between walking around a hill, or climbing over it. These type of moments will cause the player to experience the rhythm of the game from a harmonious flow of walking, to an asynchronous, arrhythmic flow, interrupted by these moments in which the player barely has any influence, aside from choosing how to react to these problems. Other moments which break the rhythmic flow but which are dependent on the player's own choice, are picking the direction at a crossroad, and choosing when to use their character's supplies.

3.1.4: Temporal relations

As the game progresses, it is mainly the sense of agency which changes, in the form of the player becoming gradually aware of their limited agency in the game. This sense of agency can change in different ways, depending on which side the player picked. The change in the perception of agency while playing as migrants will gradually shift to an awareness of how little the player can actually

do to intervene with the problems which his or her character faces while crossing the desert. The game seems to be designed in such a way that there is a structural lack of supplies for effectively making it to the other side of the desert. In order to make it to the other side, the player would have to be extremely lucky, since avoiding border patrols is very hard, and even if the player manages to do this, their character will likely die due to the lack of food or water as the result of their escape.

For example, when the player first starts playing the game as migrants, the player will get to know their first character, who is a young, athletic and smart man in his twenties, who, in comparison to some of the other characters who are mostly physically impaired, should have the best chances of crossing the border. However, due to the player's lack of knowledge of the gameplay and the events about to come, they will be unlikely to take the proper equipment, and even if they do, the trip across the desert will cause the player to use their supplies in the wrong way and make wrong decisions, resulting in him either being captured, or dying due to a lack of supplies. Another example is the event in which one of the fellow migrants gets injured from a thorn in his foot. The player will have to make the decision whether to leave this person behind to die, or continue on with a severely impaired walking speed, resulting in almost imminent defeat (Image 1). These experiences, together with the crossed out portrait of the character with their fate written below, will constantly remind the player of their lack of agency to effectively tackle situations.

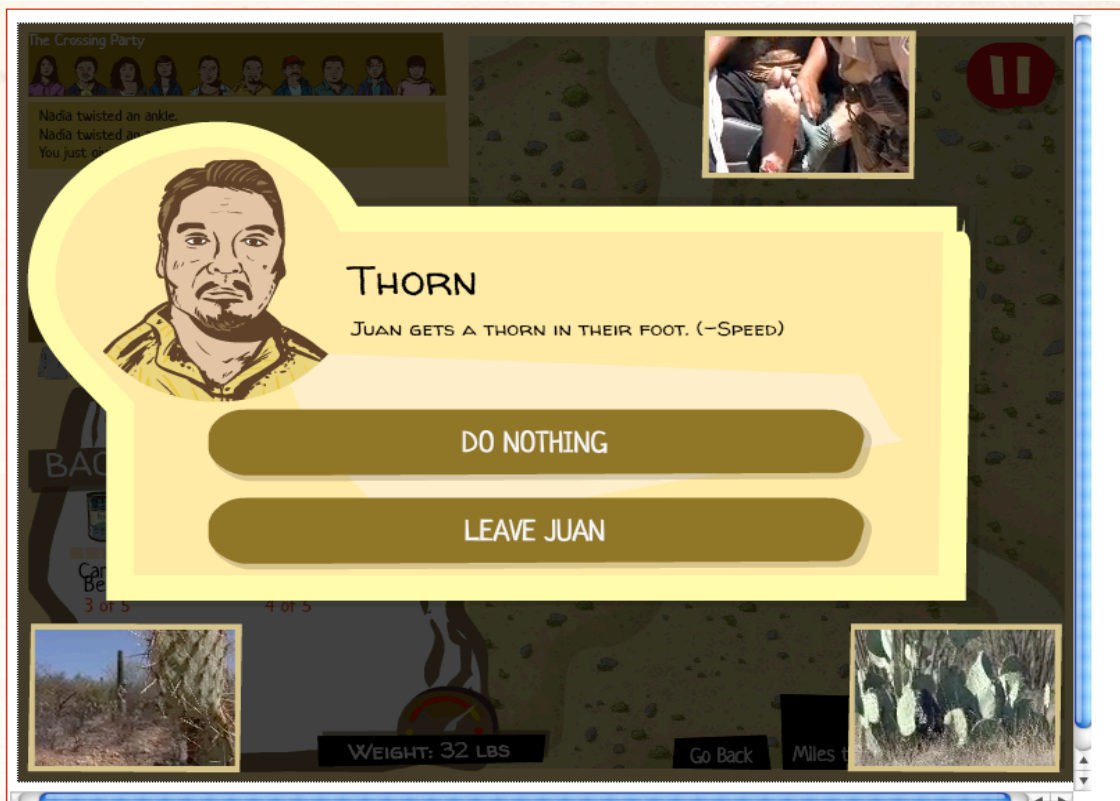


Image 1: This image shows an example of one of the difficult moral decisions the player is confronted with while playing as a migrant. Because Juan has a thorn in his foot, he will either significantly slow the whole group down should the player decide to do nothing, resulting in a higher chance to be apprehended by the border patrols, as well as in a waste of supplies, or the player will end up leaving Juan in the desert, resulting in his death.

The influence of passing time while playing as a border patrol will result in the awareness that even though the players do not have to worry about their character's physical health, their actions won't amount to much either. Neither does the player has the agency to keep looking indefinitely, nor does the player's actions amount to much once he or she finds a migrant, since helping this person would

require too much time. While playing as a border patrol, the player will gradually come to understand that driving faster might allow him or her to cover more ground relative to their limited amount of time to do this, but will cause them to miss clues which could potentially lead to other refugees. Overall, even when the player drives at the lowest possible speed, the chances of meeting any refugees is very slim. However, the most demotivating point is when the player reaches their time limit, displaying how many migrants the player saved, how many remains were found, and most importantly, how many of them died. This last number is dependent on how many migrants the player found, meaning that any migrant which hasn't been found by the player, will automatically end up dead (Image 2). Especially this moment will result in both an affective reaction that will lead to the emotions of surprise and sadness.



Image 2: An example of a possible epilogue while playing as a border patrol agent, showing the contrasting numbers of the amount of migrants saved, versus the amount of dead migrants as the result of the players' actions. Especially during the first time in which the player sees these contrasting numbers, the game will evoke a sense of surprise and sadness, since the player does not have the expectation of seeing this much difference.

3.1.5: Relationality

While analysing the aspect of relationality, the game seems to add a sense of urgency to the player's performance, while at the same time gradually evoking the emotion of sadness in the player, slowly making them realise that their efforts are futile in the end. This sense of urgency combined with sadness is being shaped through the relation between the player's agency, and the additional information which the game provides the player with, about their characters. The game gives the player a description of all the characters, as well as their backstories, combined with photographs of real people, adding a level of realism which will potentially promote personal engagement between the player and their characters (Image 3). This will allow the player to see these characters as human beings instead of characters, since their stories could, in potential, be a reality.

This is even more the case since the player will be shown the photo's and animations of the character's daily life, but also confronted with the photo's of dried-up, withered and bleached

remains of a migrant, accompanied with a subdued, sorrowful soundtrack in the background, should the player fail to transport them to the border safely (Image 4). Failure or death is furthermore permanent in the game. This in combination with the inability to try again without restarting the entire game will add to a sense of urgency and lead to an important form of pressure for the player. This in combination with a very likely loss of their first, or even the first few character, will provide the players with the foresight of a list with characters, who can all potentially end up dead in their futile attempt to cross the border, should the players' performance prove to be inadequate, in turn resulting in the emotion of sadness.



Image 3: This is an example how the game creates a sense of realism. The game will display a backstory of each character the player is able to control, combined with photo's and video footage. In this case, the game shows the background story and motivation of the border patrol agent Anderson (left image), and the migrant Diego (right image).

As the game progresses however, the player will gradually come to the understanding that amount of agency which the game allows them, is not enough to effectively deal with the problems imposed by the different scenario's. The migrants will rarely be able to outrun the border patrol, and even doing so will result in fatal loss of supplies and energy. Almost any event in the scenario's of the migrants, has to be taken serious as they will impair the player's already limited agency even more. A migrant stepping in a thorn will result in the choice to either leave this person behind to die, or continue on with him, but having the group's speed severely impaired. The border patrol on the other hand will always cope with a limited amount of time, while constantly being confronted with an amount of saved migrants which can be counted on one hand, while the number of casualties, supposedly due to the failure of the players' performance, reaches well into the hundreds. Almost everything in the game seems to be aimed at gradually creating more and more affective reactions at the points where the players realise their lack of agency, creating emotions of surprise which lead to sadness.

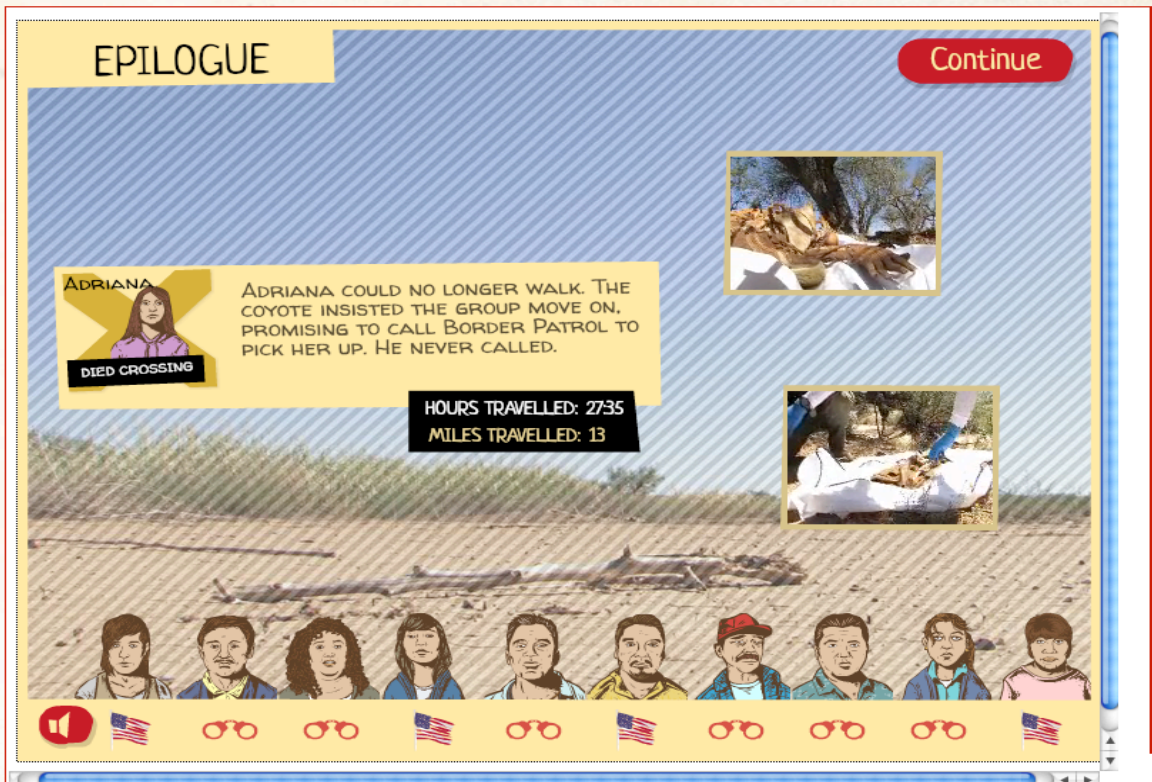


Image 4: This is an example of the consequences of the players' inability to assist a migrant to safely cross the desert. Not only will the game display the story of how these people died, in this case the character Adriana, but will also confront the players with photo material of dried up remains of migrants, which are found at the border every day.

3.1.6: Conclusion

Based on this analysis, *The Migrant's Trail* can arguably be seen as an example how the aspect of relationality, the insight gained from the temporal development as the player plays the game, as well as the player's agency, play an important role in the way in which this game tries to create emotional awareness and trigger emotions. The game first of all does this by combining the player's agency with the insight of their character's background and motivation to either cross the border, or work as a border patrol. Emotions and emotional awareness are thus potentially triggered by the game by giving the player direct insight into the feelings of the characters in the game, by displaying them as realistic persons, instead of fictional characters with little to no history. These moments in the prologue can be noted as the first moment of potential becoming, as the player gets confronted with the insight that the characters he plays, could in fact be real.

Secondly, as a result of this, the game triggers emotions in the player by connecting this insight into the character's history and feelings, to the sense of urgency for the player to perform their duties well by either escorting the migrants or by searching for them to rescue them. This sense of urgency lies in the fact that the player cannot retry a scenario, and the results of their actions will stay with them for the rest of the game, either in the form of a list of crossed out persons who didn't make the trip, or in the form of a list displaying several rescued migrants versus a humongous number of migrants who died at the same time. These moments can also be noted as important moments of potential becoming which have a higher probability to be actualised in emotions of surprise and sadness.

Thirdly, the game creates emotional awareness by offering the players insight into the hopelessness of both side's situations, in the form of a growing sense of sadness as the player gradually becomes aware of their severely limited agency in the game, created through moments of potential becoming

which lead to surprise. At the start, the player is presented with a fake sense of being in control, since they can select their characters, and equip these appropriately. Likewise when the player starts playing as a border patrol agent, the player will get a similar feeling of being in control, picking up a few migrants a time. However, this expectation is quickly eliminated and replaced with moments of surprise as the player will come to realise how little their preparation and effort mattered in the end. The moments of potential becoming which arguably lead to this sadness happen during the events in the desert, where the players see their chances to successfully complete a scenario dwindle into nothingness as the game goes on, creating the emotion of surprise as they come to realise their limited agency. Finally in the epilogue screen, where the players constantly get confronted with their inadequacy to act during the second part of the game, in the form of the death of their character, or in the form of a list of hundreds of anonymous casualties, these moments of potential becoming result in another moment which can lead to the emotion of sadness.

3.2.- Case Study II: Every Day The Same Dream

3.2.1: Introduction of the game

The game *Every Day The Same Dream* (2009) is a single-player game made by the Italian game studio Molleindustria.⁶⁹ This game is an interesting case study since it brings about a very rhythmic experience to it, making use of repetitive actions and recurring actions to evoke affective reactions, which makes it suitable to illustrate the angle of rhythm. The story of the game is about an office clerk, becoming estranged from his work or labour and with it, estranged from his own life. The player controls this nameless player character, who gets up each day to go to his work, wakes up again and repeats this.

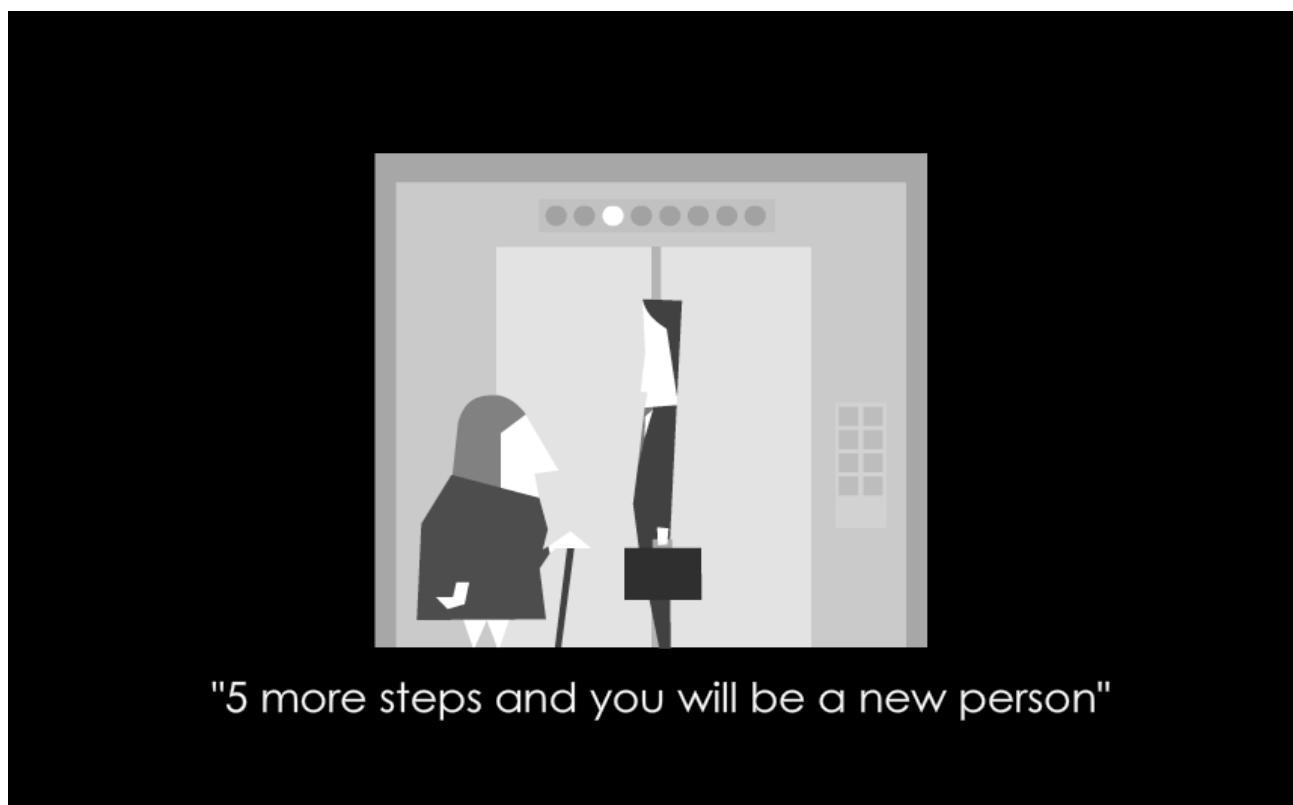


Image 5: The objectives of the player in *Every Day the Same Dream* as told by the elevator lady. The player will encounter this lady every day in the elevator on the way to their work office. Depending on how many of the objects or “steps” the player has found, this lady will inform the player how many of these objects are left. Once the player has found all the objects, he or she can move their character to the office one final time without meeting this lady.

⁶⁹ Molleindustria. (2009) *Every Day the Same Dream*.

<http://www.molleindustria.org/everydaythesamedream/everydaythesamedream.html> (15-04-14).

The player is tasked to look for certain events, which “will make them a new person”, as phrased by the game (Image 5). In order to achieve this, the player will have to look for certain characters or objects with which he or she can interact in order to trigger one of these five events. According to the goal of the game studio, the game should be seen as a critical commentary on the nature of our contemporary labour or broader the socio-economical situation.⁷⁰ Emotions can be important here, because the game places the player in control of an office clerk and allows the player to experience what the developers perceive as the flaws of the current socio-economical situation by performing this character's daily routines.

3.2.2: Agency

One of the characteristic features of this game is the players' lack of agency in this game. The players' only way of interacting with the game is either by moving their character across the screen from left to right by pressing either the left or the right arrow key, or through the interaction with a limited number of specific objects or characters in the game world, by pressing the spacebar once the players' character gets close enough (Image 6). This leaves the players with a gradual realisation of having barely any agency within the game, nor having much room for creativity on their own. The players can only press the buttons required to either move or interact, but cannot modify the speed in which their character walks, nor can the players choose how to react to any dialogue, or how to use the object. The players simply press the buttons and have to undergo the feedback from the game.

This will turn the only moments in which there is interaction between the player and the game, into framed, emphasised moments where the potential of affect is the strongest. These moments are concentrated around the objects and characters with which the player can interact. In this sense, the game forces the player into a mould of a very limited agency, limiting the player to the set actions and forcing the player to repetitively do the same actions over and over again, by letting them search for these moments. This in turn will produce a certain rhythmic experience of the game, consisting out of these specific actions, only interrupted by the arrhythmic events of finally finding one of the hidden objects or characters the player can interact with.

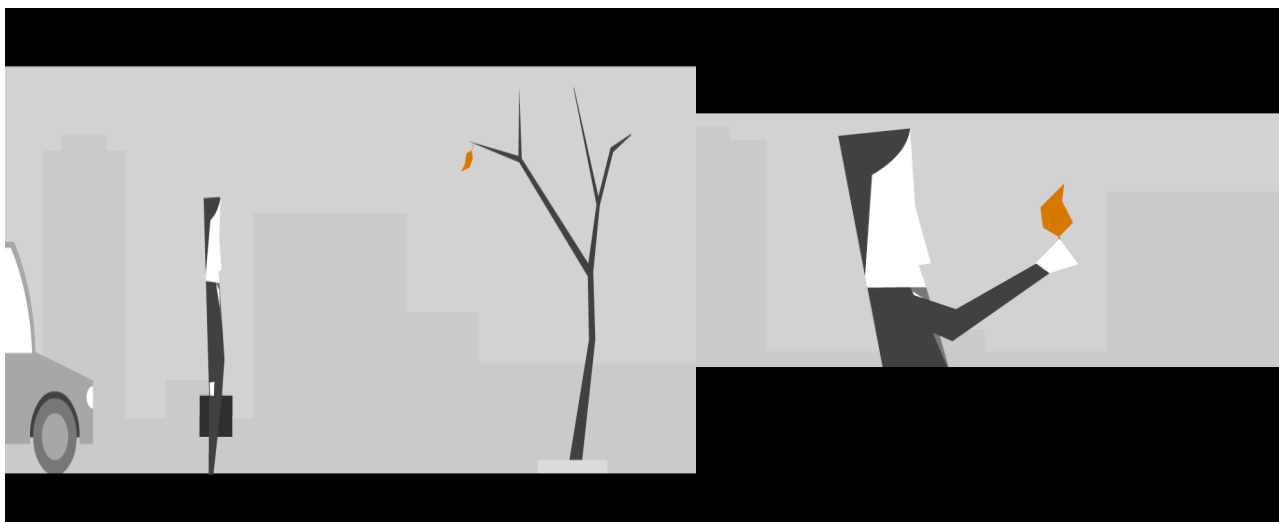


Image 6: An example of one of the only objects with which the player can interact, and which the player needs to find in order to complete the game. Unless the player finds one of these objects, the player will view their character from the same perspective (as displayed on the left frame). Once the player finds one of the objects or characters and interacts with them, the game will take over and switch to a different point of view (as displayed on the right frame), or take the player to another room and scene, making these moments stand out in terms of rhythm and expectations based on the players' agency and the context of their agency in the game.

⁷⁰ As described by the developers on the blog of their website. <http://www.molleindustria.org/blog/about/>

3.2.3: Rhythm

This rhythm will take shape in the game through the movement of the player, and the relation between the player and the rest of the game. Because there is so little room for agency, the player will spend most of their time walking from one room or scene to the other, trying to interact with other things. This will cause the game to feel quite eurhythmic most of the time, the only disruptions of this rhythm occurring when the player finally finds one of the objects or characters in the game with which he can interact. However, these objects and characters are hidden in the sense that the player has to guess which ones can be interacted with, and which ones are simply part of the scenery and which objects can be interacted with, but do not advance the player further into the game.

Finding these object will eventually become the player's goal since finding all of these is the only possible way to complete the game. The only way to find these objects or characters to interact with is to reach a specific "room" or scene, sometimes being unreachable once the player walks in another room. For example, once the player moves his character to his car, it is impossible to go back to their bedroom, kitchen, hallway, elevator, street, and parking lot. The only way to return to these rooms is for the player to go to their office workplace, sit down in their cubicle to work, and wake up in their bed again. This will nudge the player to keep following the pattern of getting up, and going to your work, only to repeat the entire process yet again in order to find these small moments in which their rhythm is broken.

The music in the background arguably adds to this sense of repetitive actions, being just one infinitely looped soundtrack without any variations. The soundtrack will remain the same during the entire game, only stopping once the player has finally found all of the objects and characters, resulting in the highlighting of this point of the game, since this sudden change will break the daily rhythm of walking and trying to interact. This in combination with the players' limited agency will result in the player gradually becoming stuck within these performative actions of having to walk to their office in search for variations in their otherwise repetitive patterns.

3.2.4: Time

The development of time will also have an influence on the experience of this rhythm in the game. At first, the game will result in an arhythmic experience since the players are unaware of their (lack of) agency, and have yet to discover their full capabilities. As time moves on and the players get to know that there are distinct limits to their agency, the game seems to fade to a blur where only specific actions will stand out, since the players will have the perform the other actions over and over already, becoming accustomed to them. Over time the player will discover the limitations to their agency, namely that they are only able to walk and interact with specific objects and will find themselves trapped into the performative mould of having to go to their office over and over, constantly looking for small things which lift them from their daily grind.

This will create a distinct rhythmic flow while the player moves their character from one side of the screen to the other, with specific points of arhythmic actions. Unless the player manages to figure out one of these objects to interact with, this rhythm will only be broken by the action of turning off their alarm, getting dressed, turning off the TV, opening the elevator, talking to the lady, getting in their car, moving to their cubicle and starting over. Eventually, the player is so aimed at trying to escape from this rhythm and complete the game, that this pace of interacting with the game becomes a rhythm in itself, no longer seeing as the described actions as arhythmic occurrences, but as an integral part of this rhythm.

3.2.5: Relationality

There are several relations between the players' agency, rhythm and temporal development which are worth mentioning. The visual impressions which the game can make are not very diverse either, since the game is mostly in shades of grey, with the occasional highlights of objects which can be interacted with. The channel of hearing is only stimulated through the soundtrack in the background. However, during these moments, the game does stimulate the player through the channel of sight, by switching to a different point of view during these events. Several of the centred objects which lead to these moments of potential becoming, are also highlighted by colour in addition to this. An example is the leaf outside the player's office building. These things in combination with the player's limited sense of agency, will put further emphasis on these moments, generating a different intensity during these situations.

Because of the rhythmic experience of the game, combined with the lack of agency, the only moments of interaction become outstanding experience in relation to this. Catching a leaf from the tree, or petting a cow will come to function as moments of particular intensity, because they are the only moments in which the player is able to interact in the first place. Because of this, these moments become highlighted to the player. These moments, in the real world, would be considered as benign since they are such small occurrences, while in the game, they mean the difference between an unbroken rhythm of going to the office and going back to sleep, causing the player to be stuck within a potentially endless cycle unless these small moments of discovery result in a break from this rhythm. Furthermore, as the player discovers these objects or characters, the player can only interact with these objects once, after which they will disappear. The disappearing of these moments of interaction will enclose the player even more into these repetitive actions. Finally, after the player finds all these five objects by having to repeat the same patterns over and over again, and finds him or herself in an almost empty world, the only way in which the player is rewarded for their effort, is by presenting the player with the bankruptcy of their character's office company, displaying the last coworker committing suicide, with the player's character next in line. This will result in an affective reaction leading to sadness.

3.2.6: Conclusion

In this analysis, I argued that the game *Every Day the Same Dream* seems to trigger emotions, or in fact, create an absence of emotions, through a distinct rhythm and the specific combination of agency, the relations of this agency with the rest of the story world, and the specific temporal development which occurs over the course of the game. Together these aspects of the game create a sense of eurhythmia in which various specific moments of potential becoming standing out.

The game affords the player very little agency. The only way for the player to interact with the game in the first place, is by walking and activating very specific objects, which will help the player advance and eventually finish the game. As the result of the passing of time and the limited ways in which the player can interact with the game, the players' actions will gradually fade into a rhythm of repetitive performance. Because the game will remove the objects with which the player can interact after they have been discovered, the game will feel more and more empty, leaving the player with less and less objects and characters to interact with, resulting in the player being progressively locked into the same performative patterns of having to walk to their office, looking for ways to interact with the game.

This in turn means that almost all of the potential moments of becoming are situated around the five objects and characters with which the player can interact in the first place, because they are highlighted by both the agency, in combination with the rhythm and temporal developments as well as the relationality which makes the specific types of agency stand out. Due to the context of the

rhythm and agency, the ending of the game can also be named as a moment of potential becoming. This in turn leads to the possibility of emotional awareness in the player, being able to experience the same monotonous experiences through these affective reactions, and finally the realisation that this monotonous existence will only end in sadness.

3.3.- Case Study III: My Cotton Picking Life

3.3.1: Introduction of the game

The final game which can serve as an interesting example is *My Cotton Picking Life*. The developers wanted to use this game as an attempt to raise awareness of the painful situation in Uzbekistan, as indicated by the textual elements in the startup screen.⁷¹ The game is about the annual event where the population of Uzbekistan, including children, are forced to work in the fields to pick up 50kg of cotton. According to the developers, anyone who refuses to partake in this activity will be punished, either by beatings, treats, or longer lasting consequences for their jobs or access to education. The developers of the game frame this event as morally unjust and try to depict “the monotony of this job” through their game. For this reason, empathy seems to be important here, since the developers want to use this game to depict the harsh and unfair situation through the gameplay, thus putting the player into the shoes of a citizen from Uzbekistan, who has to partake in this activity every year. This means that the development of empathy, so that the player would understand the position these citizens find themselves in every year, is a major goal of the game.

The game places the player in control of a character who partakes in the annual event of picking cotton. Through this character, the player is tasked with picking cotton in the fields, and gathering the required quota of 50kg. The game is able to physically affect the player mainly through the senses of sight, hearing although depending on the duration played, the game is able to influence the player through haptic feedback as well.

3.3.2: Agency

What is interesting about this game is that it, similar to *Everyday the Same Dream*, affords the player with very little agency. The only way for the players to interact with the game is by pressing two “pick cotton” buttons with the mouse to make the player's character pick the cotton from the field. Every time the player presses these buttons, the character will pick up a handful of cotton, equaling between one and two gramme of cotton for each time the buttons are pressed. The buttons can only be pressed once before there is a short cool-down of one second before the player can press the buttons again. The player is unable to resist against this, nor does the game offer any possibilities to go about this a different way, for example by allowing the player to run or hide. This way the game forces the player within this mould, either having to pick cotton, or click the button when they “have had enough” (Image 7).

3.3.3: Rhythm

The severely limited possibility of the player to interact with the game, will gradually create a sense of eurhythmia in the form of constantly having to click the two buttons in order for the player's character to keep picking of cotton. Because the player will either have to keep doing this until they have made the quota, or until they decide to give up, this action will be the only thing the player is doing in this game. This will eventually turn the game into a eurhythmic, yet monotonous experience, with nothing happening, aside from the audible wind blowing in the background, or the pointing finger of the overseer scolding the player to continue working.

71 GameTheNews (2012) *My Cotton Picking Life*. <http://gamethenews.net/index.php/my-cotton-picking-life/> (05-06-16).

3.3.4: Time

The passing of time has several influences on the experience of the game. Since the player is limited in such a way that the only way to interact with the game is to pick cotton or “give up”, the player will eventually become aware of the slight cool-down of the two “pick” buttons for gathering the cotton. As time goes on, the bar at the top will barely fill at all, unless the player keeps clicking both buttons at the same time for seven hours long. Because the game does nothing to stimulate the player, neither by rewarding their effort, nor by using any animations, graphics or soundtracks to make the constant monotony of clicking worth it, the passing of time will eventually seem slower. This is even underlined by the game's ability to allow the player to feel the physical strain of having to click over and over, thus putting a physical strain on the player's index finger, eventually urging the player to give up. Because the player has to click so often, assuming that the player will actually try to complete the game without just giving up, they will eventually come to experience the physical strain of having to click non-stop for every second in order to get the most out of it.

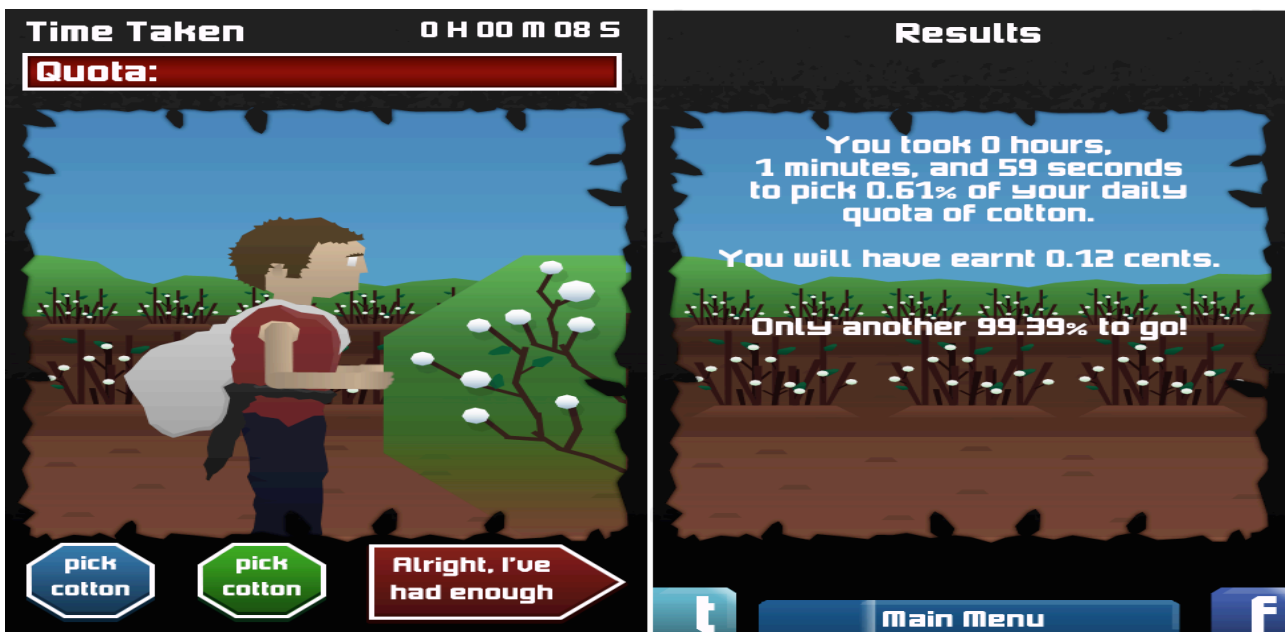


Image 7: This image (left frame) shows the interface of the game as displayed once the player has pressed the start button. The player can either click the blue or green “pick cotton” buttons to make their character pick the cotton from the bush, while trying to fill the quota bar on top of the screen. Once the player thinks he or she has picked enough cotton, or is bored of having to click over and over, they can press the “alright, I've had enough” button to end the game.

Image 8: This image (right frame) shows what the players will see once they have clicked the “alright I've had enough” button. The game will confront the players with how many hours they worked, the percentage of the required amount of cotton they picked during their play, how much money they would have made with their work, and how much of the quota they have left to pick. In this case, I clicked for two minutes straight, and yet I haven't even picked one percent of the required amount of cotton.

3.3.5: Relationality

What makes the game especially discouraging however, is the relation between the players' agency and the goal set by the game, in combination with its context. The player has barely any agency to begin with, and in relation to the objective of the game, namely gathering 50kg of cotton, the only agency the player has in the game will barely make any difference while trying to complete this objective. The amount of cotton picked for each click is only between one or two grammes while the total required quota is 50kg. This huge difference in numbers means that the player would need to click at the most favourable condition 25.000 times, and at worst 50.000 times to actually fill the quota. Since there is also a cool-down on the buttons for picking cotton of one second, the player

will have to keep doing this for a minimum of seven hours and a maximum of fourteen hours before they will reach the quota.

Furthermore, the way in which this difference between the players' agency and the objective of the game is displayed, as well as the juxtaposition of the players' effort and the result of the players' effort at the end of the game, will further add to a sense of frustration. The game award them with almost nothing in return, except for the slightly filled quota bar, but even this is only a minimal amount of reward since it won't visibly fill at all unless the player keeps clicking every second for fourteen hours straight. What is more, the game will literally put the player's effort into context, by displaying the result of their effort once they have given up and clicked the "ok, i've had enough" button (Image 8). Once the player presses this button, the game will literally mock the players' effort and comment on their desire to give up with the sentence "It's ok for you, quitting isn't a luxury these kids have!". After this, the game will display the final amount of cotton picked by the player in the form of the percentage of the required quota. Unless the player had been clicking for hours to reach the quota, they would have only earned a few cents for their effort and the game would display how much of their quota the player had completed.

3.3.6: Conclusion

Based on the analysis of *My Cotton Picking Life*, I want to argue that it is mainly the agency and context in of this agency within the system of logic in the game, which create the affective reactions in this game. Because of the severely limited ways in which the player can interact with the game, the game has very little moments in which there are affective moments of potential becoming to begin with. What is more, because of the lack of these moments, the player will come to experience a rhythm over the course of the game because they are constantly tasked with doing the same performative action over and over, adding to a sense of monotony due to the lack of events, other than the player having to click, or the hand pointing toward the player's character and scolding them to continue on.

Furthermore, gaining the required quota is extremely difficult, since this would require a minimum of 25.000 clicks or at worst 50.000 clicks. With a cool-down of one second for each button, this would take the player approximately seven to fourteen hours of constant clicking over and over, the player will likely end the game by giving up. This in relation with the way in which the game frames the players' effort, will result in the end screen in which the players are confronted with their failure, the end screen is one of the most important moments of potential becoming. This way, the game creates the ability to emotional awareness by allowing the players to experience a similar form of monotony as well as a moment of surprise in the form of the end screen.

Conclusion

Summary

I started this thesis with the question how affect theory can be used to analyse how emotions are triggered through serious games, focussing on serious games for social change. The relevance of this question is that Brian Massumi indicated that there are two autonomous systems of image reception, one having to do with signification and rational processing, while the other is related to affective reactions and emotions. Serious games for change often make use of emotional arguments, rather than solely rational arguments while trying to convince their players of an ideological message. Knowing how these emotions in turn influence the players' interpretation of the game would lead to a better understanding of these type of games. However, in order to understand this influence, it is imperative to know how games are able to trigger emotions in the first place. In this thesis I argue that the proposed theoretical framework based on affect theory could be used to offer

insightful results for answering this question.

I tried to answer how serious games could be analysed with the help of affect theory by using the following methods and sub-questions. In the first chapter of the thesis, I answered the question how several related theories from the field of game studies might be related to this, but how these theories are still not completely sufficient for this purpose. I critically analysed the theories of Ian Bogost on procedural rhetorics,⁷² Joost Raessens theory on the gaming dispositif,⁷³ Dan Dixon's theories on the advantages of rhythm analysis in games,⁷⁴ and finally the model of Amyris Fernandez for analysing the experience of fun in games.⁷⁵ I argued how these theories might be limited in their use for analysing how emotions are triggered through games which helped me to identify in which ways affect theory could contribute to the field of game studies for this purpose. As a reaction to the limitations, I proposed how several theories from the field of affect theory can be used as a framework in order to complement these theories and make up for these limitations. These theories included the work of Melissa Gregg and Gregory Seigworth,⁷⁶ who discussed the concept of affect and the relational aspects of this concept, the theories of Bruno Latour on the body as an interface which can be developed and trained to be affected,⁷⁷ and the theories of Anna Gibbs,⁷⁸ who discussed the relation between affect and emotional awareness with concepts related to mimetic communication, specifically the concepts of imitation and mimicry.

In the second chapter I answered the questions how these theories on affect could be used as a theoretical framework for analysing how serious games trigger emotions. I described the limitations of this approach, and argued that there would be two implications of using affect theory in the context of serious games. The first one is that this particular interpretation of affect has the bias that it is dependent on the input from the senses, meaning an affective approach to analysing games should take the change in the sensory apparatus as described by Maurice Merleau-Ponty, into consideration.⁷⁹ By looking at the way in which a game can influence the player through the stimulation of these senses, it is possible to argue at which points in the game these stimulations or intensities are the strongest, and thus which points in the game could be seen as moments of potential becoming for emotions. In order to argue which of these moments of potential becoming might be actualised into affective reactions and thus emotions, I proposed four different angles based on the framework with which this could be analysed. These four angles include agency, how the game affords the player to interact with it in the first place, rhythm, referring to the changes in situations and the various rhythms which can be experienced as the result of these changes, the temporal relations or developments, which influence how rhythm and agency are experienced differently over the duration of playing the game, and finally relationality, which refers to the players' experience of their agency and rhythm against the background of the game's system of logic

72 Bogost, I. (2007) *Persuasive games: The expressive power of videogames*. Cambridge: MIT Press: p. 1-46.

73 Raessens, J. (2009) "The Gaming Dispositif: An Analysis of Serious Games from a humanities perspective", in: Ritterfeld, U. Cody, M. and Vorderer, P. (2009) *Serious Games: Mechanisms and Effects*. London: Routledge: p. 490-491.

74 Dixon, D. (2011) "Tactics, Rhythms and Social Game Analysis." *Social Game Studies at CHI 2011 workshop*. <http://socialgamestudies.org/post/61406077572/social-game-studies-at-chi-2011-workshop-papers> (7-10-2015).

75 Fernandez, A. (2008) "Fun Experience with Digital Games: A Model Proposition", in: Leino, O. Wirman, H. and Fernandez, A. (eds). (2008) *Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience*. Lapland: Lapland University Press: p. 181-190.

76 Gregg, M. & Seigworth, G. (2010) "An Inventory of Shimmers", in: *The Affect Theory Reader*. Durham & London: Duke University Press: p. 1-3.

77 Latour, B. (2004) "How to talk about the body? The normative dimension of science studies", in: *Body and Society* 2(3):205-229.

78 Gibbs, A. (2010) "After Affect: Sympathy, Synchrony, and Mimetic Communication", in: Gregg, M. & Seigworth, G. (2010) *The Affect Theory Reader*. London: Duke University Press: p. 186-205.

79 Merleau-Ponty, M. (2002) "The Spatiality of One's Own Body and Motility", in *Phenomenology of Perception*, translated by Colin Smith. London: Routledge: p. 112-125.

and/or story world.

I tried to explicate these angles in the third chapter by conducting a textual analysis of three serious games, *The Migrant's Trail*, *Everyday the Same Dream*, and *My Cotton Picking Life* as case studies. Through these case studies, I tried to show how each game creates different moments of potential becoming, each resulting in a different emotions. *The Migrant's Trail* is interesting in respect to the angles of agency and relationality of the player's agency, since this allows the game to develop a sense of sadness in the player, thus allowing them to understand the situation both the migrants as well as the border patrols are in.⁸⁰ *Everyday the Same Dream* is interesting in that it mainly creates moments of potential becoming by developing a sense of eurhythm by locking the player into the moulds of repetitive and limited forms of agency, allowing the player to experience the same monotonous state of which the developers of the game argue is characteristic for our contemporary socio-economical and cultural situation.⁸¹ Finally, the game *My Cotton Picking Life* tries to evoke empathy in the player by allowing the player very little agency, which will lead to a eurhythmic experience, whereas the players' actions in relation to the story world and the temporal developments in the game, will lead to a moment of potential becoming at the end of the game.⁸²

Reflections and Further Research

With this I can come to a conclusion about the main question, namely how affect theory can be used to analyse how emotions are triggered through serious games. By using these four angles of agency, rhythm, temporal development and relationality to identify and analyse the moments of potential becoming in a game, it becomes possible to analyse which moments in the game are the most likely to be actualised into affective reactions in the player, and how the game thus potentially triggers certain emotions. This in turn can lead to a better understanding of serious games in relation to emotions.

Advantages of the method

The method which I used for answering the research questions has several advantages. With the method of textual analysis, it becomes possible to argue how specific formal aspects of the discussed games can be analysed with the help of a new theoretical framework. This framework allows for the analysis of the specific formal aspects of a game which can lead to moments of potential becoming, allowing me to argue how specific points or moments in the discussed games lead to the triggering of basic emotions. This in turn can lead to a better understanding of how serious games in general might evoke emotions.

While interpreting affect in a corporeal manner, and speaking about moments of *potential* becoming by basing the analysis of these moments on the sensory stimulation from the game through its formal aspects, this method takes both the influence of the game into consideration while also acknowledging the importance of the players' creativity. Although the formal aspects of the game causes the affective responses in the player, talking about moments of potential becoming also takes into consideration that the player can interpret these formal aspects and come to a different understanding of the game than the developers might have intended. Although it is thus difficult to claim how a game will spark specific feelings in the player, it is nevertheless possible to argue how the game can have potential affective moments, which are valuable insights since they provide a starting point for understanding the ability of the game to trigger emotions in the first place, and can serve as a means to sensitise the researcher to moments of importance.

80 Gigantic Mechanic (2014) *The Migrant's Trail*. <http://theundocumented.com/> (12-04-16).

81 Molleindustria. (2009) *Every Day the Same Dream*.

<http://www.molleindustria.org/everydaythesamedream/everydaythesamedream.html> (15-04-14).

82 GameTheNews (2012) *My Cotton Picking Life*. <http://gamethenews.net/index.php/my-cotton-picking-life/> (05-06-16).

Limitations

However, this approach also has various limitations. My method is aimed at the analysis of how the formal aspects of a game might spark physical reactions and cause the player to be affected based on the stimulation of the sensory organs by the game. However, this mainly analyses how meaning in the form of emotions is created by looking at the means by which the game influences the player, but doesn't allow me to analyse the influence which the unique disposition of the players has on this process. Focussing solely on the formal aspects leaves the influence of age, gender, cultural discourse, and prior experiences out of the analysis while these are equally important for the player's affective reactions to the game. After all, it can be argued how a game might evoke affective reactions which result in the triggering of fear in the player based on analysing its formal aspects, but if the player has already experienced the same type of affective reactions in different contexts, it will undoubtedly influence the way in which the game is able to evoke these affective reactions through its formal aspects, thus influencing which emotions are triggered and in which intensity.

These discursive and demographic characteristics of the players are especially important when it comes to the angles of relationality and agency. Within this proposed angle, it is only possible to analyse the relationality of the game's own enclosed system of logic, while not being able to incorporate the unique cultural disposition of the player into consideration. Although the players' agency within the game is largely interpreted within the relation of the game's system of logic, the players' previous experiences, as well as their cultural memory and discursive position will cause the player to have certain *expectations* about their agency in the game. This in turn, will also influence which moments of potential becoming will be actualised into an affective reaction and thus what kind of emotions are triggered by the game.

The context in which a game is played will furthermore impact the way in which the game is able to trigger affective responses in the player as well. It is possible to argue how a game might evoke certain affective reactions based on the agency of the player within the game, the rhythms which the game creates, the temporal developments during the game, and the relation of these things to the game's story world and gameplay. However, this argument has the bias that the game is able to immerse the player into this world in the first place, since a break in this immersion would lead to a different set of moments of potential becoming in the game, leading to different emotions. For example, a game played within the privacy of the player's own room, will be experienced differently as opposed to when this same game is played in the living room, or in a public situation, where an element of social pressure, or more broadly speaking the discursive practices of that location and context might influence the players' potential affective reactions to the game, in turn also influencing what kind of emotions are triggered by the game.

Suggestions for further research

It is therefore possible to argue how a computer game can trigger emotions by analysing how the game is able to affect the player in the first place, by looking at the sensory stimuli which the game can evoke through its formal aspects, and how the game can thus create moments of potential becoming, analysing these moments from the angles of agency, rhythm, temporal developments, and relationality. However, this approach will still have the discussed blind spots. This ultimately makes the suggested approach unsuited for making final claims about whether or not these moments of potential becoming may or may not be actualised into affective reactions and result in the triggering of emotions. Further research could therefore be aimed at the relation between these moments of potential becoming as influenced by the game's formal aspects, and the unique way in which the players' demographic characteristics, cultural memory, previous gaming experiences, as well as the context in which the game is played might influence these moments of becoming.

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