Replayability in Strategic Computer Games

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Abstract

The idea for this thesis originates in a curiosity concerning why so many of the strategy games from the 1990's are still being played today. Many of the games still have very active fans that modify their old favorite games for online play just so that they can share their passion with other fans around the world. What aspects about these strategy games is it that promotes the level of replayability that has kept them fresh while so many other games have disappeared from play.

Out of this curiosity came the question: How do rules and aspects of narrative affect the replayability of a strategic computer game and why are some games replayed even after they have been completed multiple times?

To discover what creates the replayability in the old strategy games a thorough analysis of *Master of Orion II: Battle at Antares* (MicroProse 1996) has been carried out. This analysis was compared with the responses from a qualitative internet survey posted on the fan forums of numerous of the most famous strategy games of the 1990's. The theoretical foundation of the thesis is in hermeneutics, ludology, narratology and flow theory.

Together the analysis and the survey have yielded much information on how replayability is created in a strategy game. My conclusion states the nature of that information and suggests a few points that should be included in the production of a strategy game to make it replayable.

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Acknowledgements

1 Introduction

I first encountered the genre of strategic computer games in 1991 when my cousin bought his first personal computer. The first game I got to know was *Sid meier's Civilization* (MicroProse 1991) (henceforth *Civilization*) and since the board games *Chess* and *Stratego* (Hasbro n.d.) had already made me interested in strategic games *Civilization* did not take long to become a favorite. After that game followed others: *Star Control II: The Ur-Quan Masters* (Accolade 1992) (henceforth *SCII*), *Master of Orion* (MicroProse 1993) (henceforth *MOO*), *Dune II: Battle for Arrakis* (Westwood Studios 1992), *Warlords II* (SSG 1993), *UFO: Enemy Unknown* (MicroProse 1994), *Heroes of Might and Magic III: The Battle for Erathia* (The 3DO Company 1999) (henceforth *Heroes III*) and many more. I became in other words a fan of the genre strategy games.

As I got older my joy in playing strategy games remained unweakened, it only grew stronger if anything. I still played most of the old games from the 90's when I began on my master studies (still do today), and this led to a curiosity about why these games had managed to stay fresh after two decades of play. In my last course at itu, storytelling in games, my final essay was on the narrative of *SCII* and it was then I realized that my master thesis would have to look into the replayability of those old strategy games.

As the work on this thesis begun it quickly became clear that academic texts on the subject of replayability in strategic computer games were scarce, in reality they were none-existent. The topic of replayability seemed to be something only few scientists even bothered to notice in their work, and if they did it would only be at a glance. Thus the theoretical basis for this thesis was accumulated through taking theory from different areas of science mainly computer game research and humanities and combine in a workable method.

The method became a two part method consisting of a hermeneutic part focusing on my work with conducting empirical work for my analysis, and a game analytical part weighing both arguments from the camps of ludology and narratology. In addition to that the discussion includes flow theory to explain some of the psychology surrounding replayability and an attempt is made to explain some of the social reasons for replaying games. As the main case *Master of Orion II: Battle at Antares* (henceforth *MOOII*) has been chosen as it is a prime example of the genre and belongs in the group of games determined by the delimitations shown below.

This thesis is an attempt at discovering what creates and promotes replayability in strategic computer games.

1.1 Research Question

How do rules and aspects of narrative affect the replayability of a strategic computer game and why are some games replayed even after they have been completed multiple times?

1.2 Delimitations

Only *MOOII* is analyzed in depth, but examples from other strategy games from before 2000 is also included from time to time. Other computer game genres will not be included. On two occasions the thesis veer from the delimitations above, it is when explaining social reasons for playing (*Travian* 2004) and when explaining about the importance of a logarithmic function as the learning curve (*Rage* 2011). For the

qualitative data gathering the informants are all fans of at least one strategic computer game that originates before 2000.

1.3 Hypothesis

The hypothesis of this thesis is that it is possible to pinpoint certain elements of strategic computer games that cause replayability to occur. These elements should be possible to find through applying theory of ludology and narratology specifically and theory from other scientific fields of study besides.

To have the elements that cause replayability identified makes it possible to point at more general aspects of replayability thus again making it possible to develop games with replayability as part of a business strategy or game vision. In other words the findings of this thesis should hopefully be applicable as tools in creating new games with the replayable quality of the strategy games of the 90's.

2 Theory

The researcher's personality and identity influences the result, no matter who it is (Mortensen 2009)

This thesis is based primarily on qualitative research. The reading and understanding of texts[1] and the shaping and execution of the survey are based on hermeneutic theory as introduced by Steinar Kvale (1997) and Søren Kjørup (2008). The focus is on textual criticism based on my own pre-cognition and the constant changing of this as knowledge is gained from the analyzed texts (both case and internet survey), the constant flow between parts and whole. The choice of hermeneutics is based on my previous good experiences in applying it to analyzing texts and behavior. The interpretational nature of hermeneutics is of great help when trying to deduct the motivation and underlying thoughts of a text, while maintaining awareness of my own pre-cognition and prejudices. For that same reason it is also deemed a most viable approach to analyzing survey results, and thus it suits both of the needs of this thesis.

In the analysis of the case, elements from both narratology represented primarily by Espen Aarseth (2010) and ludology represented primarily by Jesper Juul (2005) are applied. Both fields of game research are used in an attempt at making the analysis as wholesome as possible. Besides the researchers mentioned above also theory by Ted Friedman (1994) and Mihaly Csikszentmihalyi (1997) is used extensively throughout this thesis. Friedman focuses narrowly on narrative in simulations and will thus add an extra dimension to the discussions regarding how narrative supports notions of replayability in strategic computer games. He also discusses the relationship between the player and the game and the cybernetic circuit he sees in that relationship. This will help address other aspects of replaying games than the ones that deals purely with the in-game action; social aspects in particular. Csikszentmihalyi and his theory on flow will be used for discussing psychological aspects of replaying games, mainly recreational purposes of playing and elements of competition are explored. Whenever it is deemed prudent for a more complete analysis and discussion, other researchers have been included. These are Torill E. Mortensen, Kjetil Sandvik, Dovey and Kennedy, Ida Engholm and Lisbeth Klastrup, Lawrence Lessig, Ian Bogost and B.J. Fogg, and they all add valuable input at different stages of the analysis and discussion.

The analysis of the case is structured around Mia Consalvo and Nathan Duttons article: *Game analysis: Developing a methodological toolkit for the qualitative study of games* (2006), which is basically a model for analyzing computer games. It is very formalistic in its approach and includes many of the theories of game researchers from both the ludologist and the narratologist camp, although it seems they tend towards the prior. This model has previously proven its worth in dismantling games into smaller and more easily analyzed components, which is also the reason why it is used as the framework for the analysis of the case in this thesis. It takes many different points of view into consideration.

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[1] For the benefit of transparency this thesis defines a text as being any mediated work of communication, be that written, spoken, programmed, visual or audible.

2.1 Hermeneutic Theory

In this thesis hermeneutic theory, as introduced by Steinar Kvale in his book *InterView – En introduction til det kvalitative forskningsinterview* (1997) and Søren Kjørup in *Menneskevidenskaberne bind 2 – Humanistiske forskningstraditioner* (2008), is applied for the over-all frame of my thesis and in constructing the survey and analyzing its results. There are a few concepts that are central for the hermeneutical approach to analyzing texts and chief amongst them is the hermeneutical circle (Kvale 57, 1997).

The circle is an image of how we understand things through interpretation. There is the entry point into the circle, where the researcher is full of pre-cognition and prejudices that this will need to map out and become aware of. The use of the word prejudices is not negative in this sense; since all people have prejudices it is all a matter of being aware of them in order to be as thorough in ones' analysis as possible (Kjørup 2008, 76). As the analysis progresses and the researcher follows the path round the bends of the circle, the analysis of different parts of the analyzed object adds to the overall knowledge of the object. At some point the researcher reaches the entry point on the circle, where the analysis first began. This happens when all of the text has been analyzed once and it is called the interaction between part and whole. Now the process starts again with the new knowledge becoming a part of the pre-cognition and prejudice of the researcher. The circle is often called a spiral instead, since each completion of the circle adds a deeper level of understanding of the text to the analysis. Thus eventually it is possible to reach a point in the analysis where the text is exhausted of new knowledge and the analysis ends (Kvale 1997, 58).

Steinar Kvale lists seven principles of the hermeneutical analysis of texts, first coined by Radnitzsky in 1970 (Kvale 1997, 58-59). This is a slightly simplified version:

1. A description of the circular process described above and the constant movement between part and whole.
2. It is possible to reach an end of the analysis when all knowledge that can be gained from the text is exhausted, again as described above.
3. The interpretations the researcher makes along the way through the analysis should be tested against other texts by the same author.
4. The principle of the "autonomy of the text": that the researcher needs to try to understand the text on its terms from its own frame of reference.
5. The researcher needs to possess a great amount of knowledge on the subject of the text in order to being able to analyze its contents.
6. Notions of pre-cognition and prejudice are explored, and the importance of realizing and making overt one's position as a researcher, before even posing the research questions for one's research, is stressed.
7. Every interpretation adds more knowledge to the analysis, "every interpretation holds the potential for renewal and creativity".

These seven principles have to a certain degree played a part in the work on this thesis. Some are more prevalent in the case study and some more in the work on the survey, but all are applied somewhere along the way. How the principles are applied in the thesis will be shown in the following chapter.

2.1.1 Possible Arguments Against the Hermeneutic Approach

Researchers from other fields of study like the natural sciences might argue against applying hermeneutics in an analysis. It is a scientific theory that unlike positivism is not designed to finding final answers to any problem. Reaching that place where a text is completely exhausted of all its meaning as described in the 2nd principle of Kvale is almost impossible, and when in rare cases that point is reached the knowledge gained is rarely quantifiable. It could also be argued that it is a problem that gathering knowledge is based on interpretation which makes it rely heavily on that the researcher has a strong intuition and a high level of empathy, while at the same time being objective about the results found in the research. Researchers lacking the qualities mentioned above might reach faulty conclusions or conclusions that are bent to fit the hypothesis of their research. Needless to say this thesis strives towards avoiding doing that and will try to keep pre-cognition and prejudices explicit and ever present as the case and survey results are interpreted.

2.2 Game Studies

For the case study Mia Consalvo and Nathan Dutton's article: *Game analysis: Developing a methodological toolkit for the qualitative study of games* (2006) is applied as my overall approach. This article describes Consalvo and Dutton's version of method for studying games. The method is divided into four different parts that each deal with a different aspect of games, each part will be more thoroughly described in the following chapter. In each of the four parts Consalvo and Dutton define their method against or in alignment with the views of other game researchers. Therefore I will also be using theory by Espen Aarseth (2010) and Jesper Juul (2005) in an attempt of including both narratology and ludology in my analysis, as both of these fields are included in the first two parts of Consalvo and Duttons method. I will also use Ted Friedman (1995) and his theory on geographic narrative since this can help explain some of the narrative drive and attraction of strategic games in particular.

In the third part of the method Conslavo and Dutton deal with the interaction level of a game and how in particular narrative elements influence on this. Once again Aarseth (2010) helps to add an extra perspective to the analysis of the case.

The final part of the analysis deals mainly with player experience and how the game is positioned in relation to the surrounding world. Here and in the ensuing discussion Friedman and his notions on cyborg consciousness is applied supported by Ian Bogost (2007) and B.J. Fogg (2003) for one part and Mihaly Csikszentmihalyi and his theory on flow for the other part (1997). Torill Mortensen (2009), Jon Dovey and Helen W. Kennedy (2006), Lawrence Lessig (2006), Kjetil Sandvik (2007) and Ida Engholm and Lisbeth Klastrup (2004) are used for supplementing theory.

2.2.1 Games as Formal Systems

To look at games as formal systems I have chosen to use Jesper Juul and his book *Half-Real: Video Games between Real Rules and Fictional Worlds* (2005). Juul tries to define what constitutes a game and he situates his discussion in the tension between the formal rules and the fictional world of a game. He states that a game can function perfectly well even if it is only based on rules, and the fiction is left out completely, whereas if the opposite was the case, there would be no game, only surroundings and bits and pieces of storyline. Therefore he also sees the rules of the game as its most important characteristics. He gives a very thorough overview of the history of research into play and games and how the description of

games has changed over time; he then describes what constitutes a game as he sees it, through six different defining features:

1) *Rules*: Games are rule-based.
2) *Variable, quantifiable outcome*: Games have variable, quantifiable outcomes.
3) *Value assigned to possible outcomes*: The different potential outcomes of the game are assigned different values, some being positive, and some being negative.
4) *Player effort*: The player invests effort in order to influence the outcome. (Games are challenging.)
5) *Player attached to outcome*: The player is psychologically attached to the outcome of the game in the sense that a player will be the winner and "happy" in case of a positive outcome, and a loser and "unhappy" in case of a negative outcome.
6) *Negotiable consequences*: The same game [set of rules] can be played with or without real-life consequences. (Juul 2004, 30)

These six points clearly show Juul's attention to the formal conditions of a game, especially the set of brackets in the final point: the same game is equal to the same set of rules. The rules are the primary determinant of a game. He also takes notice of player psychology and how the game relates to the real world. He does not, however, take the fiction or the narrative of the game into consideration in his model, which again stresses his standpoint.

He also discusses the concept of emergence games versus that of progression games. Emergence games are games with simple rules that offer many different possible strategies to the player, thus providing many different ways to play the game (mainly strategy games and action games) (Juul 2004, 74). Progression games are games where you follow a set path and have to solve different puzzles on the way towards the final goal to even get there (adventure and puzzle games). Juul argues that progression games can only be played once since once the game has been beaten the player knows how to solve the quests and puzzles needed to win and therefore the top of the learning curve of the game has been reached (Juul 2004, 70-72). As I see it, this is only partly true, since some adventure games can be replayed either after some time has passed and they seem new again, or because the player wants to revisit the story of the game (like rereading a good book). In some cases the game itself sticks outside of the norm and finds other ways of becoming replayable, which is the case with, for example, *SCII*. Emergence games are far more replayable since they rely on simple rules that facilitate many different ways of playing the game. Here, the player will typically have many different choices to choose from every time a strategic step is taken. The only two things that might impede on the replayability of an emergence game are: if there is a dominant strategy to winning the game or if the game has too much micromanagement (Juul 2004, 108). Juul also links emergence games with Mihaly Csikszentmihalyi's theory of flow described below, to show how games must be challenging enough to place themselves between boredom and frustration, which is what a good emergence game does according to Juul (2004, 106).

2.2.2 The Narrative of Games
To look at narrative in games I have chosen to use Espen Aarseth's text: *A Narrative Theory of Games* (2010). It analyzes games from a narratological point of view, trying to combine the ludological and the narratological positions in Game theory. Aarseth poses the theory "as a solution to the conundrum that has haunted game studies from the start in the middle 90s: How to approach software that combines games and stories?" (2010, 1). In his theory Aarseth argues that games consist of four different "dimensions":

world, objects, agents and events and that these dimensions combine the rules and mechanics of ludology with the narrative drive and "building blocks" of stories. Besides the four dimensions Aarseth stresses that a game is not only a game, but a piece of software that might contain more than the game, for example, cut-scenes and graphic novel pages. In short, it combines more analytical disciplines to analyze a game than the purely ludological. He sees his narrative model with its four dimensions as a solution for analyzing such hybrid games, and suggests that each dimension is analyzed separately before all four are combined in one model (Aarseth 2010, 5).

The world of the game consists of ludic space and extra-ludic space, which is basically the part of the game world you can interact with and the part that you cannot, respectively. The level of player freedom is what affects the narrative drive in the game, the more freedom the less narrative (Aarseth 2010, 8). The objects facilitate the interaction with the game world, and are thus very important for the level of narrative in a game. They are divided into six different classes depending on how malleable they are ranging from "static" in one end of the spectrum to "inventable" in the other. The characters of the game are also important in deciding the level of narrative therein. Here, it is the balance between shallowness and depth and, as with the objects, the level of malleability that decides the balance between mechanics and narrative. The characters Aarseth divides into five categories according to their depth ranging from "bots" to "deep characters". The deeper the character the stronger the narrative influence and the more authorship the creator of the game has. The events of the game are a deciding factor in categorizing the game. This is done through looking at the kernels and satellites of the game and the balance between these. There are four categories of game: pure story, playable story, multipath/quest game and pure game (Aarseth 2010, 9).

2.2.3 Geographic Narrative

Ted Friedman describes both the concept of geographic narrative and that of cyborg consciousness in his article: *Civilization and Its Discontents: Simulation, Subjectivity, and Space* (1998). When describing geographic narrative he takes some inspiration in Henry Jenkins and Mary Fuller's concept of "spatial stories" (Friedman 1998, 6). The concept of spatial stories is a two part concept of how pleasure is derived from geography. First part describes how place becomes space when "unfamiliar geography is conquered through exploration and development" (Friedman 1998, 6), which is basically what happens in most strategic computer games. The second part describes how "maps become tours as abstract geography is subjectively situated in personal experience" (Friedman 1998, 6). This second part is never achieved in strategy games argues Friedman, since the player never gets the personal experience of the tour because the view of the map never changes from the abstract level to the personal.

Friedman goes on to explaining how it is that strategic simulation games are so good at sucking the player in, despite the fact that they do not offer the subjective personal experience of the tour of the map. He explains this with the phenomenon of geographic narrative, which is what the player experiences when the map changes as a function of his or her actions. The map itself thus becomes both the environment for the story and the object and protagonist of it as well, and so it is possible for the player to enjoy the narrative of the map that changes as a consequence of his or hers distinctive way of playing (Friedman 1998, 6).

2.2.4 Cyborg Consciousness

Cyborg consciousness is Ted Friedman's word for the state of mind that modern man enters into when interacting with computers; he actually stretches it to include interacting with any tool that enhances our body. He derives this idea from William Gibson's novel *Neuromancer* (1984) and Donna Haraway's *A Cyborg*

Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century (1985), but he expands it to his needs when analyzing how computer games persuade their players.

Friedman argues that through playing computer games or more specifically simulations the player learns something about the real world. As it is the case with other cultural artifacts, computer games too may also give us access to new knowledge and change the way we see things; indeed they might even be better than said artifacts in that case because of their interactive nature (Friedman 1998, 1). Playing games, you learn things in unfamiliar ways, since you learn through interaction. You see how choices change the surroundings and you get to experiment by altering your world independently of a predestined narrative thus causing geographic narrative to arise, as covered above. A good simulation game might teach you something about how different ways of governing affects society, just as a good adventure game might teach you something about how people react to different kinds of behavior. In short, playing computer games expands our understanding of the real world.

The difference between being a part of a cybernetic circuit with a tool, a car or a stove, and that of a computer game, lies in the use of the object of interaction. With tools, it is about the practical need, with a computer game it is an aesthetic experience (Friedman 1998, 4). Generally Friedman sees this cybernetic connection as a positive trait about computer games since it enables the special way of learning mentioned above, but he is not blind to the dangers of the circuit as well (Friedman 1998, 4). Becoming fully engrossed in a cybernetic circuit with a computer game means to lose oneself to the process, the border between machine and man blurs and no thought goes into the interface, nor to the functions of computer and body, only the contents of the game is in focus. So it is easy to succumb to physical problems like muscle cramps, straining of the eyes and even malnutrition. Friedman's notions on how it is to be submerged in a cybernetic circuit might help explain how replaying can also be a matter of relaxation and recreation in a busy life and not only about the challenge of a game.

2.2.5 Flow
Mihaly Csikszentmihalyi is famous for his theory about flow. In his book *Finding Flow – The Psychology of Engagement with Everyday Life* from 1997, he describes how flow is part of our everyday life. The theory of flow is basically a way to look at how rewarding experiences are to the human mind and soul. Csikszentmihalyi believes that happiness depends on how well we achieve flow in life, be it in love, work or free time. Flow is achieved when an activity is rewarding because of the way it challenges us and leaves us richer on experience. It is a theory that demands a lot of its subjects, flow is not achieved through the doings of other people or the workings of your surroundings but through the effort you put into creating it. For example, if you want your work-life to be fulfilling despite that it might be monotonous and boring, you will need to make it matter to someone: you can be helpful to your colleagues or kind to customers, or you can do more than what is expected of you and make the work more than its job-description (Csikszentmihalyi 1997, 102-103). In your free-time you can chose not to watch television, an inherently unproductive and negative way to spend time in Csikszentmihalyi's point of view, and instead you might write something, develop skills of craftsmanship or arts, read good books or take part in sports and other competitive activities (Csikszentmihalyi 1997, 75).

Playing computer games is an activity that in my point of view places itself in either of the categories mentioned above, even though it will never be as passive an activity as watching television, since there is no game without interactivity. Computer games are competitive in nature since you can always play the

game better than last or you can in some cases compete with friends. It is not, however, a very productively creative way to spend time. In most cases all that is gained after finishing playing a game is, at best, a new high score and slightly better skills at playing that particular game. Indeed, many gamers consider playing to be the best way to find leisure from everyday life, as some of the answers from the survey will also show.

2.3 Summary

The over-all frame of hermeneutic theory in this thesis creates a sound working space for the theories applied in the analysis and the discussion. The method for analysis and discussion that was created through using hermeneutics as the framework for both ludology and narratology, ensures the possibility of interpretation as a means for deducing knowledge from both the analysis of the case and the studies of the answers in the survey. In the discussion following the analysis especially flow theory and theory on cyborg consciousness is applied in order to explain psychological and social aspects of replaying games. In the following chapter on the method of this thesis it is shown how the theories were organized in order to most efficiently yield knowledge of replayability in strategic computer games, via the case study of *MOOII* and the ensuing discussion.

3 Method

we can study the design, rules and mechanics of the game ... we can observe others play, or read their reports and reviews ... we can play the game ourselves (Aarseth n.d.)

In this chapter the methodological choices of this thesis will be described and explained, and an attempt will be made to try to show how the choices are based on the theory chosen for the thesis work. The motivations for different choices will be explained in detail in the interest of openness and transparency, so as to show the process through the different phases of the thesis work. From the very beginning while trying to get to grips with the problem of the thesis, to later when the method started to take shape and finally when the analysis and discussion closed and led to the conclusion.

The quote introducing this chapter is chosen because it pinpoints different aspects of how the method of this thesis is created. A method of triangulation was chosen. The three parts of the triangulation being: studying the game that is the case through the optics of the theory, through interviewing players of old strategy games and through playing the game myself. In the following chapters all parts of the methodology will be described in greater detail. First the three different parts of the triangulation will be described briefly. For the analysis of the case is used a fairly formalistic angle using primarily ludological tools while observing different parts of the gameplay. However, in the interest of creating a more complete analysis, the narrative elements of my case are also analyzed and player behavior is taken into consideration as well (Mortensen 2009, 156). How different fans experience gaming in general and the game of my case specifically is analyzed via the survey results, and for this part hermeneutic theory is used extensively. Hermeneutic theory is also applied in my own play sessions. It is imperative that playing is conducted with great awareness of my pre-cognition while analyzing the game from the immediate play experience, it is the only way to maintain a measure of objectivity in this part of the analysis, and objectivity is essential to be able to measure out the right level of criticism in the analysis. The word criticism as used here is a word with positive connotations, meaning that showing a level of criticism is basically analyzing as neutrally and objectively as possible. I am not searching specifically for flaws in the game or trying to show its poor sides (Mortensen 2009, 55) (Engholm og Klastrup 2004, 218).

3.1 Structured Research Questions

Fairly early on in the process of working on this thesis it became apparent that some way to keep a birds-eye view of the subject was needed. Thus a decision was made to try to focus the effort through following a few structured research questions, not to be confused with the overall problem formulation. It was my expectation that by doing this it would be able to keep a fairly straight course through the research process and when things were most overwhelming it did work to serve its purpose. The questions were:

- How does game form influence replayability?
- How does game content influence replayability?

- How does player experience come into the equation?

3.2 Empirical Study

Early in the process of writing this thesis it became evident that some kind of empirical study was needed in order to answer my research question. Simply playing old strategic games and holding different theories up against them would not do it on its own, even though it fulfills the 5th principle of Kvale, other players' experience when playing different games was needed, a methodological step also supported by Crawford and Rutter (2006, 149-150). Therefore an internet survey of ten free form questions was devised and posted on fan forums of different old strategy games[2]. The process of doing this survey deserves a few chapters here.

3.2.1 Creating the Survey

When the need for a survey became apparent, I figured that the most important part would have to be posing the correct questions. In order to pose the correct answers in the internet survey, a few preliminary interviews of people were made for inspiration. These first informants were known to play many different games both analogue and digital, both new and old and both alone and under social circumstances. It was expected that doing semi-structured interviews with these people might yield information on which questions invited to explanations and talking in length about games, and so which questions might be interesting to include in my internet survey. Just short of twenty questions went into the interview guide for those inspirational interviews. The order they should be posed in would be decided by how the interview progressed. In some cases questions were even left out of the interview if it seemed it would not yield new information or if the informant wanted to talk for a longer time while answering one of the other questions. My expectations were fulfilled and the sessions resulted in approximately 90 minutes of interviews that were used as foundation for the shaping of the internet survey.

3.2.2 Choosing the Informants

Choosing the informants for both interviews and survey was basically a matter of looking at what data was needed for the thesis and figure out who would be the best suited to yield it. Knowledge about what makes a game replayable was needed, more specifically what makes an old strategy game replayable. A choice was made to pose the questions in a fairly general way, to allow for open and long answers. The players who answered them needed to be at least familiar with old strategic games. So people known to be great fans of both board, card and computer games were chosen for the preliminary interview sessions, since these were expected to yield a wider range of information about games than fans of specific games would have. At the same time more qualified information would be gained from them than if the informants had been people with no or little gaming experience. Had the subject of my thesis been a different one it could have been of some interest to get information from people who do not play or only play a little bit, since this might help explain something about how initial interest in games is sparked. However, the subject of this thesis is on replayability therefore it is not the initial stages of playing that are most interesting, but what comes after: the repeated playing of a game. Therefore the survey was posted only on forums dedicated to old strategy games and run by fans of those same games. It was the expectation that their extensive play and replay of different old games might yield information on what it is that makes those

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[2] (vanddyr 2010), (vanddyr 2011a), (vanddyr 2011b), (vanddyr 2011c), (vanddyr 2011d), (vanddyr 2011e).

games replayable. So the only two criteria applied to decide who could be used as informants for the survey were:

- That they still play old strategy games today.
- That they take part in the discussions on one of the fan forums I posted my survey on.

There was no preference regarding gender, age, nationality, race or social status, nor to whether they play new games as well as the old. Henceforth in this thesis they shall be referred to as either informants or respondents with no distinctive difference between the two.

The recruiting of the survey informants was all conducted via the Internet. A link to the survey was posted on the discussion boards of various forums dedicated to old strategy games (as seen in the foot note above), together with the link was a plea to the users of the forums to help in my thesis work by following the link and completing the survey.

3.2.3 Choosing the Questions
The questions for the interview session all in some way originated in the three structured research questions that are described above. They were based partly on my pre-existing knowledge of games combined with the problem field of the thesis, and partly on my own experience of game-playing (Kvales' fourth and fifth principle). The questions were made as open-ended as possible thus inviting the informants to answer in the shape of descriptions and even discussions, and simultaneously avoiding yes and no answers. Long answers were needed in order to use a hermeneutical approach in the qualitative analysis of them.

Enough information was deducted from the interviews that it was possible to shape ten free-form questions for the internet survey. It was not possible to boil the information down to less than ten questions, despite quite an arduous attempt at doing so, knowing that ten free form questions would be pushing the patience of the internet informants quite a bit. The information from the interviews was not the only factor in the creation of the questions for the internet survey, personal experience from playing also mattered and the decision of using Consalvo and Dutton for the frame of the analysis, and Friedman on geographic narrative likewise (sixth principle). Needless to say the structured research questions also came into play as the framework here.

The opening question of the survey invites the informant to elaborate in depth on his or her favorite game, thus hopefully getting the informant to tell a lot about that game in particular. As mentioned above it was expected that such an open question might yield a lot of information because of the lack of any fixed formula for answering. The next seven questions are more specific on different elements of strategy games, like for example the importance of specific elements of a game like the map (geographic narrative) or interaction level (social issues). The last two questions return to the more general nature of the first question, again inviting to more elaborate answers. Questions two and seven deal with the narrative of the game, questions three deals with the game interface, questions four and five deal with the geographic narrative, question six deal in part with the objects of the game. Questions three, seven and eight also deal with the concept of cyborg consciousness and player experience in general. Altogether the survey covers most of the aspects of replayability that are delved into in this thesis. Some of the questions tend to look alike which unfortunately has caused some confusion amongst the informants, since they could only see

one question at a time, and since I failed to mention beforehand that there were ten questions in the survey. A decent measure of time was taken to explain the nature of the survey, however, and to what use it would be put, so that all the participants knew exactly what they agreed to when they filled out the survey. This was done to ensure that the survey would be conducted in a way that was ethically defendable (Mortensen 2009, 126).

3.2.4 Questions for Qualitative Survey at Game Forums

1) Please describe in your own words what it is that makes your favorite game such a great game and especially why you keep on replaying it even after having concluded it many times before.

2) Is it important for you that the game has some quests and minor goals included in the gameplay before achieving final victory and completing the game?

3) How aware are you of the functionality of the game while playing, i.e., the navigation, which buttons to click on and so forth, versus the game-play/strategies?

4) What's your preference regarding the map/board of the game – should it be known or unknown from the start of the game? Please state the reason of your answer as well.

5) Describe what it means to your gaming experience that you are able to change the area around you by building, mining, irrigating, terraforming and such.

6) Describe what it means to your gaming experience, to be capable of advancing your nation/race through researching new technologies and developing new weapons during the progression of the game.

7) Describe what it means to your gaming experience that you can interact with other players both human and computer through diplomacy, trade and battle.

8) Do you prefer turn-based or real-time strategy games? Please explain your preference.

9) Are there other computer games you play repeatedly, and if so please state in a few brief sentences which they are and why you play those?

10) Are there any games you have played repeatedly over many years, but have stopped playing none the less? If so which are they and why did you stop playing them?

3.2.5 Sorting and Analyzing the Answers

After the survey had been posted on the internet for a while the answers were collected. 24 people had begun the survey and 18 finished it. Four of those who did not finish it, did not put any effort into answering at all, the last two completed a few questions before they quit. As it can be seen in the appendix the final result was 24 pages of answers and these needed to be sorted in a way that created some kind of overview. First they were sorted in the following groups, accordingly to where they might have something to add to the discussion (some answers appear in more than one group): method, discussion, form, contents, *MOOII*, *X-COM: Terror from the Deep* (MicroProse 1995) and *Heroes III*. Method deals mainly with answers that contemplate the way of posing questions, or in other ways bring attention to how the thesis is structured. Discussion is mainly answers that say something about social or technical issues regarding gaming. Form is answers dealing with the formal conditions of games, the structure and grammar of the

rules. Contents is the opposite: the answers that say something about narrative in games (including geographic narrative). The three groups named for specific games exist due to the fact that in the early stages of the thesis work all three games was considered for the case, the choice fell on three differently organized strategy games: a turn-based game, a more aesthetically pleasing and quest based game and a hybrid of real-time and turn based strategy.

As the writing process progressed it became clear that the thesis benefits more from analyzing only one game as its case, and then use the other two games (and other old strategy games) as examples when necessary (3rd principle of Kvale). The focus changed from being on the games themselves to the players playing them and thus the survey results needed to be organized in yet another way; they needed to be sorted by each respondent, so as to see tendencies in the answers of each individual gamer. By doing this it became possible to say that one person does not play computer games because of this feature, but is more intrigued by that feature, and making such distinctions is important to discover what plays a part in why a player returns to a game for a replay session. As Crawford and Rutter (2006, 149) would express it: "Such approaches opened up the possibility to investigate not only the texts themselves but different readers' approaches and understanding of them, the way power is encoded or resisted within the texts[…]".

3.3 Description of Survey Results

The process of constructing the survey has already been covered above, but the survey results have not. It goes without saying that the most important answers will be displayed at some point during the analysis and discussion, so this chapter will not deal with individual answers but only mention some general tendencies about the answers as a whole. It is also worth mentioning in this chapter that both kinds of gender-specific first person is used when relating to player experiences throughout the thesis, and since knowledge of the gender of my respondents does not exists it is completely random what gender is used in the examples in this thesis. Because of this lack of personal knowledge of the informants, the way they are referred to is via what date they completed the survey. Thus it is possible to identify each individual informant, and to make unique references to each of them.

At first it seemed a bit overwhelming to find specific tendencies in the answers of the survey, but as the answers were organized by date, so that it became possible to see all answers of each informant separately, patterns began to appear. It became apparent that some questions clearly invited to more elaborate answers than others, as expected especially the first question was good at this. Some questions were misunderstood, for example, the last question was often was considered to be the same as the first question. Some questions yielded answers that can be used statistically and other answers were only useful in qualitative research.

Questions about sex/gender, age and ethnicity or other questions that might have told me something about the demographics of my informants were not included in the survey. Retrospectively this was a mistake. Especially the informants' age is interesting since *MOOII* is a game that is close to twenty years old. Knowledge of the informants' age would tell something about the fans of the game: if they are all old enough to have played the game when it was new, or if the old game had attracted younger players later on. If younger fans exists this could support the formalistic arguments for the quality of *MOOII* and it would also be interesting to know how the younger player had encountered the old game. Would a young player

even be able to look past the outdated graphics of the game and enjoy the gameplay and the different possibilities for creating a narrative from the playing? Knowledge of player age might also have made a difference in the discussion of nostalgia as a reason for replaying games. It was expected that questions one, nine and ten in the survey would have yielded knowledge of notions of nostalgia. That was not the case, however. Seen in that light, an extra question addressing nostalgia specifically might have been interesting to include besides the ten questions already in the survey.

One especially interesting discovery made in the survey, was how certain answers regarding gameplay seemed to be motivated by the informant's social life: time for work, free time, family and such. It seemed for example that most informants preferred turn-based strategy games, because these accommodated their lifestyle and personality better than real time strategy (henceforth rts) games. Because of their turn-based nature, they are easier to save for later, and it is easier to return to a saved game because there is no time pressure when getting familiarized with the saved game, whereas rts games tend to be played beginning to end in one intense sitting, to avoid returning to a saved game. The turn-based games offer more time for reflection and were often considered better for leisure by the informants while at the same time they were by most considered to be far more demanding of mental skill than the rts games. One informant even answered that to him rts games where not strategy games at all. Supposedly what he meant was that the games were more dependent on tactics than on strategy; more action-oriented.

3.4 Method for Game Analysis

The game analysis is structured around Mia Consalvo and Nathan Dutton's article: *Game analysis: Developing a Methodological Toolkit for the Qualitative Study of Games* (2006). First part of Consalvo and Dutton's toolkit is what they call the "object inventory": a listing of the various objects in a game, analyzed in depth for their different possible uses. This inventory is supposed to "help the researcher ask larger question about the game" (Consalvo and Dutton 2006, 6). Through looking at the different uses of objects, their abundance or scarcity, value and price it is possible to tell different things about the designers' ideological standpoint and other reasons for design choices. In the case of *MOOII* the object inventory is used to tell something about how the pursuit and use of certain objects is designed to speed the player towards a better high score and ideally a replay of the game to try and improve that score. The concept of 'objects' has been stretched a bit for the analysis of *MOOII*, since objects are more common in adventure games, RPG's and FPS games than they are in classic strategy games. In most cases resources, population or units are therefore considered to be objects, in order for the method to make sense in this analysis. But as Consalvo and Dutton write: "it is likely that the categories for items will vary with each game or game genre" (2006, 5), which turns out to be the case when analyzing strategy games. Espen Aarseth (2010) also concentrates one of the four parts of his *A Narrative Theory of Games* on the objects of the game and how these 'push' and 'pull' the player forward in the game narrative. He also looks at the world of the game and how much the player can interact with it and how this affects the narrative drive of the game. Since that will also be considered as part of the explanation for good replayability, Aarseth's views on game world and objects are included in the analysis as well as Consalvo and Dutton's. Jesper Juul has many valuable comments on the rules of a game and how these affects the quality of it, and his angle does not include narrative, so he will be a counterpoint to Aarseth. He will also be able to add something about the formal conditions of games and how these influence on replayability to the analysis, both for this part of it and the

remaining three parts. Ted Friedman (1998) and his theory on geographic narrative will help explain some of the pleasure derived from applying objects in the changing of the surrounding map and will supplement Aarseth on the narrative of the game world.

The "interface study" is the second part of Consalvo and Dutton's method. This part focuses on the different interface screens of the game and how these can tell something about the designers' choice relating good gameplay. The different interface screens of a game will open up for different possibilities to the player, while at the same time they will restrict the player to remain within their limits. For example, a player of a game might wish to say a certain thing in a conversation, but the developer has chosen not to make that particular reply possible to the player, and so the player is forced to play the game differently than she deems optimal. Obviously the interface needs to be analyzed since a great deal of the focus of this thesis is on the player experience. The different screens and the interfaces they offer are central to the replayability of a game, since a poorly crafted interface will limit the player's options too much and thus take away much of the pleasure gained from playing it, consequently causing the player not to return to replay the game. Friedman's theory on cyborg consciousness (1998) will be applied here together with Juul (2005) and his views on rules and Emergence games. Aarseth (2010) and Lessig (2006) are also applied here.

On the third part of the analysis is the "interaction map". Here Consalvo and Dutton deal with the level of interaction in the game and what ludic possibilities are offered through this. They focus on how interaction differs from each play-through and what it can tell about the overall story of the game. This part of the method serves two purposes in relation to my case specifically: first it can help discern the essence of the narrative and plot of the game, which if crafted well enough can be an important reason to replay a game e.g., *SCII* and second it can reveal if the interaction level supports the overall gameplay or if it hinders it (by limiting possible replies to standard answers thus forcing the player in a certain direction). In this chapter Aarseth and Juul will be applied in discussing how important characters, dialogue and storyline are in strategic games, when researching their level of replayability.

The final part of the analysis is the "gameplay log", which is in Consalvo and Dutton's own words "is the most nebulous" part (2006, 11). In this part of the analysis the over-all nature of the game is analyzed and how this affects the player, for example how the method of saving can impact upon how careful the player is while playing, or how restrictions in the gameplay may cause the player to play in ways not intended by the designers, thus causing emergent gameplay to occur. It is also in this part of the analysis that intertextuality and game genre is investigated. In the analysis of MOOII most time is given to looking at emergent gameplay, since it is the expectation that this has significant influence on why players keep on playing a game. In my opinion emergent gameplay serves to create a kind of guarantee of renewal of the game, since the player breaks the rules or the frame of the game by causing the emergent situations to happen. Mihaly Csikszentmihalyi's flow theory will be applied in order to make it easier to distinguish between gaming as competition and as leisure time activity and to discuss which of the two that is prevalent as reason for replayabililty. Juul and his theory on emergence games versus progression games will be applied and discussed as a possible explanation for replayability. Again Friedman and his theory on cyborg consciousness will add to the discussion.

3.5 Description of Case

The case of this Thesis is the strategy game *MOOII*. It was released in November 1996, and it was immediately hailed by both critics and fans of the first game to be amongst the best 4x[3] space games ever made. It added all the functions that the fans of the first game had missed, and was thus made both artistically and strategically much more detailed. The critics were a bit more reserved since they feared that the higher levels of sophistication and micromanagement would scare off newcomers, and only appeal to the fans of the series. The game was designed by Steve Barcia and Ken Burd at Barcias' company Simtex, which was, by the time of the release of *MOOII*, a subdivision of MicroProse. It went on to win the 1996 Origins Award in the category: Best Fantasy or Sci-fi Game of the Year. On the site 'Good Old Games' the game is described as being: "One of the best 4X games ever created [with an] absolutely addictive gameplay with a powerful 'just one more turn' factor" (Deanco, 2010). *MOOII* has later become a landmark in the space strategy game genre, and the archetype by which the quality of new games of the genre are measured[4].

MOOII is the sequel to *MOO* (1993) and it is basically the same game, but with more strategic choices to make and updated graphics and sounds too. The story is simple. The player is fighting to gain supremacy in the known galaxy by scouting out new inhabitable planets to colonize, researching new technologies and making alliances and warring with the other races inhabiting the galaxy while constantly fighting the superior inter-dimensional aliens called The Antarans. The ultimate goal is to destroy The Guardian at the Orion star system and thereby gain knowledge of forgotten technology that the player can then take to the Antaran home world and apply in its destruction. There is, however, more than one way to win the game. The player can destroy all enemies or win a diplomatic victory by befriending enough races to win the elections for leader of the galaxy, and as mentioned above there is the third possibility to travel to the Antaran home world and destroy it. Each of the three will end the game, but the highest score is only given if the player almost annihilates all enemy races, discovers the Orion system and destroys the Antaran home world, and by the time the end of a game is reached, the aim is often to break the high score. The game offers challenge to all players regardless of experience level. The more experienced the player gets at the game, the higher skill level she can choose and the highest level (impossible) is very difficult indeed. If the impossible level should for some reason become too easy, it is also possible to play against human players in network or hot-seat mode, which makes it a completely different game. Fans of the series have even developed some modifications that make it possible to play *MOOII* online against other human players.

3.6 Method Criticism

The summary of this chapter is mainly method criticism. The qualities and downsides of each of the choices made in the methodology of this thesis will be dealt with, and the choices will be compared in an attempt at showing how they create a complete methodology together.

The methodology of this thesis consists of, for one part, methods for conducting interviews and an internet survey and for deducting information from the data found therein. For the other part of the methodology is

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[3] 4x is short for explore, expand, exploit, exterminate.
[4] (Ocampo, 2006), (Ocampo, 2008), (CNET Archives, 2005).

chosen an eclectic mixture of theories from the field of game studies and a few from other parts of it-research plus finally the theory of flow from the world of psychology.

Hermeneutic theory allows the use of one's own resources in the research, but is highly dependent on the researcher being objective when posing questions and treating the data. Some of the problems and risks of this theoretical approach has already been addressed in the theory chapter which is why it will only be dealt with briefly here.

Hermeneutic theory has been applied widely throughout the work on this thesis, both in the overall approach to researching and more detailed in the shaping of interview form and survey. In the overall approach the use of hermeneutic theory shows in the constantly changing perspective of the research, this does not show in the final thesis, since this is a product of much rewriting and editing, but as the work progressed many turns were taken around the wheel of hermeneutic research. The strengths of this approach are that the research is constantly conducted with fresh optics, whenever new knowledge is gained this is taken into consideration and the problem and goal of the research alters accordingly. Being aware of my pre-cognition and how it changes with new knowledge adds great elasticity to the research conducted, and it makes it possible rather quickly to go down alternate roads in pursuit of the best level of analysis and discussion. Many subjects are reviewed and rejected and only the ones with the most to add to the depth of the analysis and discussion are included in the final version of the thesis. The weaknesses are actually the same as the strengths. The many choices of what to pursue in the research demand great diligence of the researcher; if the wrong choices are made the quality of the research drops dramatically. Besides it takes a fairly high level of empathy and intra-social knowledge to make the right choices and reach the right interpretations. If the hermeneutic researcher does not possess this the research conducted by said researcher is bound to reach flawed conclusions.

The semi-structured interviews were shaped with hermeneutic theory as background. Their mutable nature is a result of how the knowledge of the interviewer changes as the answers to the first questions are given. A series of questions are set up in an order that makes sense to the goal of the researcher, but the form of interview allows for rearranging the questions during the interview, to adapt to the changing environment of the interview, and to allow the informant as much space for free talk about subjects as possible. If the informant stops yielding useful information while doing the free talk, the interviewer just gently steers the interview back to the structure and to new questions of importance to the research. The strength of this form of interview is of course that much knowledge can be yielded during free talk, knowledge that might not see the light of day, in a more rigid interview form. The weakness is that sometimes the interviewer is unable to control the interview and the free talk just expands into chatter that yields no knowledge relevant to the research.

In the shaping of the survey hermeneutic theory was applied in order to attempt to create questions that would inspire to write longer and more descriptive answers. Some consideration went into trying to understand the position of the survey informants' position. How much interest would they have in completing the survey, how much patience and what abstraction level could be allowed for the questions in the survey? An attempt at making a survey that would cater for the needs of the thesis and still be accepted by most informants was made using hermeneutic theory to attempt to understand the group of informants addressed through the fan sites. When the survey results were gathered and the data deducted,

hermeneutics were applied again in an attempt at understanding the different informants' standpoints, and in sorting the answers in the right subgroups.

The final part where hermeneutics played a significant role was in the analysis of the data, when preparing it for use in the case analysis and the discussion. Whenever a quote from the survey is applied, the interpretations that go into using the quote are based in hermeneutics. Here the pros and cons are the same as mentioned in the beginning of this summary: it is great for insight into the contents and meaning of a text but heavily reliant on the empathy, knowledge and integrity of the researcher, if the knowledge derived is to be of objective use.

Consalvo and Dutton has made a method for analyzing computer games that looks at most parts of a game, and as a general structure for the analysis in this thesis it works out quite well. The authors' goal with their method is however not to study replayability in computer games but rather to find the general idea behind a computer game. When they analyze the objects or the interface of a game for example, they do so in order to find signs that tell something of the ideology of the designers of the game. Or in other words they look for the hidden meaning of a game believing one such exists even if it is not explicitly meant to by the designers. The goal is a good one; it is important to create awareness around the ideological contents of computer games since they are some of the most popular cultural artifacts in present time and are used by all layers and age groups of society with tremendous impact on how we interact. This thesis is, however, not researching the ideological contents of computer games, and only narrowly touches upon it while dealing with emergence in games. So for that reason it was necessary to change the angle of the method. The general shape of the method remains the same: objects, interface, interaction and gameplay are analyzed, but instead of analyzing for their ideological affordances, the method is used for analyzing the four parts for game elements that generate or strengthens replayability.

In the tweaking of Consalvo and Duttons method it was helpful to introduce Jesper Juul, Espen Aarseth and Ted Friedman into the analysis. Jesper Juul is great for looking at the formal conditions of a game, especially how the rules affect the game and the player experience. He also points out the difference between progression games and emergence games which is a very useful distinction in this thesis, since *MOOII* belongs in the emergence game genre together with other strategy games. However, because *MOOII* is an emergence game Juul does not have much to offer in regards to the narrative of the game. This is why Aarseth is included, as he deals mainly with the construction of narrative in computer games. In his *A Narrative Theory of Games* (2010) he explains about different narrative elements that corresponds well with the game elements that Consalvo and Dutton analyzes in their method. He focuses mainly on adventure games though, so it was necessary to adapt his model to the needs of the thesis. Ted Friedman (1998) was added to help explain the parts of the narrative that became too genre specific of strategic games for adaptation into Aarseth's model. Friedman's theory on geographic narrative is excellent for explaining some of the narrative affordances of the strategic game that other narrative models fail to explain. Friedman's theory is almost two decades old and it might be interesting to see if it has been outdated by modern strategy games, without having tried applying it on analysing new games I believe it would still be useful in explaining how narrative is constructed in new strategy games.

In the discussion following the analysis all three of the authors mentioned in the paragraph above are used again and their theories are unfolded further. Friedman's theory on cyborg consciousness and Mihaly Csikszentmihalyi's theory on flow is added to the discussion, since they are great for explaining some of the

psychological motivations for playing and replaying. Especially when it comes to competition and recreational purposes Csikszentmihalyi's theory is great to apply to the discussion, since it focuses on the area between boredom and too much challenge where flow arises.

4 Analysis of *MOOII*

> **We may learn new things in a great book or movie, but we almost always encounter them in familiar ways (Friedman 1998).**

This analysis of the game *MOOII* (1996), is based largely on the answers from the survey and structured around Mia Consalvo and Nathan Dutton's article: *Game analysis: Developing a Methodological Toolkit for the Qualitative Study of Games* (2006). Because of that structure the analysis will consist of the four over-all topics of objects, interface, interaction and gameplay. While dealing with each topic the analysis might shift between discussions of form and contents as well as addressing technical and social issues about game-playing, thus some discussions might overlap from one topic to another. An effort is of course made to avoid repeating the same results in different chapters.

4.1 Object Inventory

The Object inventory of *MOOII* is, as it is the case with other strategy games, somewhat different from those found in adventure games and other genres. In strategy games the objects are not assigned to the players' avatar, but to the nation that the player is governing, and so their nature is different. Instead of potions, spells and swords the player has resources, colonies and ships. Consalvo and Dutton encourage such creative tweaking of their method when necessary, for as they say: "It is likely that the categories for items [objects] will vary with each game or game genre" (2006, 5). In the summary of their paper, they spell it out even clearer:

> […] we fully expect that this methodology will be modified and, perhaps over time, will become more specialized for various genres in order to help understand their particular insights and elements. (Consalvo and Dutton 2006, 13)

In *MOOII* there are four main screen interfaces: the map of the galaxy, the individual star systems, the colony overview and the space battle screen[5], and there are objects in all of them except the last (here objects are only applied (ships and weapons)). The following sections deal with what my informants have to say of each of them in turn to see which objects they yield and what those objects can tell about how the game becomes replayable.

4.1.2 The Map of the Galaxy

The game opens with a view of the galaxy (**Figure 1**). Only one system is known at this time, and that is the player's home star system, and beside the star marking the home system a small fleet consisting of two scouts and one colony ship hovers in orbit[6]. At this level of the game it is possible to consider the star

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[5] There are many less important screens, but a lot of the information they yield about objects can be summed up by the discoveries made by analyzing the four main screens.
[6] It is possible to choose to start the game at a pre-warp age, in which case you do not have a fleet.

systems (**Figure 3**) as a kind of stationary objects that the player needs to travel to in order to discover their purpose and potential use to your nation.

> In some games it is good to start exploring completely unknown terrain, both because of gameplay issues and because of immersion. Then again in some games (like Master of Orion) it is good to see a general view of the area, but still need to explore to find out the details, again both because of gameplay issues and because of immersion. (2/25/11)

It seems clear from the statement above that the way exploration is done in *MOOII* plays an important role in why this player enjoys the game so much, and thus also why he replays it. The keyword here is immersion. That the way the player perceives and explores the map supports the notion of him leading a race on the verge of commencing in space travel, is of strong narrative importance. It is easier for the player to become immersed in the overall feel of the game, when gameplay and narrative concur so well, in this case: the level of technology and astrophysics, with the view of the surrounding galaxy. In the beginning the player do not have advanced space scanners and so his only knowledge of the stars is what previous generations gained from telescopes, and until he either visits the planets with his spaceships or research the proper technology to get more advanced space scanners, that is all the knowledge he is going to have. The player above stresses the notion of the game being balanced between the gameplay and its narrative affordances. The better the two support each other the higher the level of immersion is likely to be. The same player suggests in his other answers that it is the gameplay that is the main source of replayability in *MOOII* and not so much the story, he replays the game because the gameplay can take many different directions depending on the choices of the player. In response to question five he answers:

> This adds another level to the gameplay, and (at best) enables / (at worst) forces you to develop different strategies and new ways of thinking. Usually it enhances my gaming experience and makes such games more replayable, because of the additional variation possible. (2/25/11)

The alteration of the geography matters in his gameplay experience, it can be positive and enable a player to find new strategies and new ways of thinking, but it can also become a fixed formula of development, as it is in *Civilization II* (MicroProse 1996) for example. In *Civilization II* railroad and bridge building are not technologies that a player strife to research only for the purpose of altering the surroundings, but also just as often for their other affordances. The reason for this is that no matter what path the player takes in the research tree in *Civilization II*, he will always research everything eventually. In *MOOII* the player has to make tough choices between for example technologies that will enhance the biology of his race or technologies that will make his colonies generate a bigger crop output (unless he is playing as a creative race in which case the situation is similar to that of *Civilization II*). Altering the surroundings is also the key element of Ted Friedman's (1995) theory of geographic narrative, and the quote above clearly supports this theory. The experience of playing is enhanced as a result of the player's ability to change his surroundings; he even goes as far as to say that this "makes such games more replayable". Of course the same quote could also be said to support Jesper Juul's (2004) formalistic approach to game analysis, since it is very much the formal conditions of the game (researching and building defined by rules) that cause the

high quality of gameplay that the player quoted above so enjoys, thus placing *MOOII* in the group of emergence games.

Figure 1: Map of the known universe, turn 1.

Figure 2: Different map in the end game, only one other race left.

4.1.2 The Colonies

Once a planet is colonized the main interaction with the planet happens through manipulating the population, symbolized as small humanoid characters (one character signifying a million citizens) (**Figure 4**). There are three different boxes to put the citizens in: farmers, workers and scientists. How they are placed decides what field of expertise the colony is going to have. Many farmers create a surplus of food to help the starving populations of barren, radiated and toxic colonies; many workers create high production, which can be used for building ships and colony structures, for booming the population through building housing projects or the economy through building trade goods. And scientists naturally generate research, which is crucial to keep the edge on the enemies and building a high score at the end of the game.

Figure 3: A star system with two colonized planets, the details of one is highlighted in the blue box. In the background can be seen the galaxy with a few different races present.

Molding the colonies of a nation to fit its needs is another one of the key pleasures when playing *MOOII*. It is very satisfying to see how it becomes possible to move farmers to production or scientific work, as technologic progress makes farming more efficient and the ratio for farmers per citizen drops. The higher production and research will in turn give the player an edge in fleet strength and technologic advances that will ensure final victory. Also the more population that are freed for production and science, the easier it gets to exploit the different specialties of the planets (ultra-rich or artifacts world).

Figure 4: A colony view fairly early in the game. There are four farmers, three workers and five scientists, later in the game these ratios will change, as the right technologies are researched.

The quote in the chapter above also points at the balance of the difficulty level of the gameplay touching on notions of flow theory. To the player quoted it is obviously important for the level of replayability that the game has the right difficulty level. He wants to be enabled to play in a way that is challenging to him. He does, however, not want to play in a way where he is forced to play by a fixed formula to win, since a fixed formula takes most of the creativity out of a game. To him some of the challenge of *MOOII* comes from developing the colonies for example through making them into industrial or research colonies through building the pre-requisite buildings. Another player who mentions developing the colonies as a major reason for playing the game takes a somewhat different angle to the issue of being forced to play in a certain way:

> By choice, I'm a "turtle player". I like to carve out a little area and improve the hell out of it - building for defense rather than offense. So I guess I really enjoy making my planets better. Unfortunately, that strategy doesn't work too well in MOO2. It forces me to be more balanced - improving, yes, but also building an offensive fleet. And, even though it's not my preferred way of playing, I think it's part of why I like the game. It forces me to move out of my comfort zone, and risk falling behind the rest of the galaxy in order to defeat the foe in front of me. (3/1/11)

This player likes that the game forces her to follow certain strategies that include building a fleet of offensive spaceships and playing the aggressive role of a conqueror instead of that of a pacifist builder or researcher. In other words, she likes the challenge of playing differently than she is used to in strategy games. This is also one of my own reasons for replaying the game, since it is constantly challenging my

normal (and pacifist) way of playing strategy games. It is quite simply not possible to stay on friendly terms with the neighbors without possessing significant naval strength, without it the computer will consider the human player weak and an easy prey. This way the game is always balanced by being challenging through taking the player out of her "comfort zone" while at the same time offering the possibility to build and develop a society though strategic choices of great variation.

4.1.3 The Ships

To explore the surrounding galaxy or to attack the neighbors the player needs the other kind of objects: ships. The ships are the only moveable objects in the players' possession (although it is possible to move colonists and food surplus, freighters are needed to do so, and freighters are a subclass of invisible ships that cannot be manipulated directly). In the exploration process a small cheap ship is used to scout out a star (just in case it is protected by a hostile force), and if it is safe and purposeful to colonize planets at the star a colony ship is sent there to expand the borders of the nation. If the scout meets a hostile force, be it an enemy fleet or a space monster, the player can choose to send armed ships to destroy the force and ready the system for colonizing or takeover. If the system is owned by another player that is not an ally, a blockade of the system is set up and the two nations are officially at war. The last object that should be mentioned here is the last class of ship: the outpost ship. This is sent to stars with no habitable planets to create an outpost, which will serve only as a gas station, to propel allied ships even further into uncharted space. It will not have any population nor generate money, food or production.

Besides being movable objects the armed ships are also highly malleable objects and belong in Aarseth's highest level of malleability: inventible.

> I crave techs that make my planets or race better. Weapons I research only to support the war against the enemies. I see what defenses the enemy has (armor, shields, etc.) and how quickly I can get to a weapon tech that can overcome them (or a computer tech that will hit them, or a shield tech that will allow my ships to survive long enough, etc.). (3/1/11)

The player also finds herself forced to research weapons technologies, to be able to match the enemy spaceships on the battlefield. As the quote suggests the design of the player's ships depends on what technologies the enemy possesses, and since the ships are almost completely inventible a lot of strategy goes into their design. As the player mentions she has to weigh whether to beat her enemies on the computer systems and the better targeting they provide, on better armor or shields to withstand more hits or better and more powerful weapons to kill the enemy faster. In all these cases its essential that the players engines are faster than the opponent's since this means the player will have initiative in battle and get first shot. In this process there are three steps: the researching, the designing and the building. I will go into detail with the research phase later, since that deserves a chapter of its own. Here, I will only look at the design of the ship (**Figure 5**), since the actual building is not very important for the gameplay. While designing the ship the player has to make some difficult choices since the ship has limited space. She will have to choose between weapons and special systems; the computer, the armor, the shield and the engine are already decided through her research effort preceding the design phase. The size of the weapons decide how many she might include on the ship, the bigger they are the more advanced they are, is the general rule. She will have to decide between missiles, bombs, ray weapons, projectile weapons, torpedoes, small fighters and more specialized weapons like a black-hole generator. Each weapon can then be specialized to be point defense, heavy, mirv (missiles) and many other different specializations

depending on its basic nature. The special features of the ship may also add something to the weapons like double shot one turn and no shot next turn or better targeting. By the end of the game the player has to choose between approximately twenty weapon technologies (not counting with the different added specializations) and about twenty special features as well, so as this shows there are thousands of different designs to end up with, which make this object highly inventible.

Figure 5: Ship design screen showing the different areas where alterations can be made.

This means according to Aarseth (2010) that there are close to no narrative affordances connected to the ship object class in *MOOII*. The designers of the game have basically no way to decide how the player will design her ship and so they lose control of how the ship will contribute to the narrative of the game. Since the storyline of *MOOII* is sketchy at best, this does not matter much, the few moments when the player is reminded of the story occur in the cut-scenes when conquering the Orion system, when Antarans attack or when she completes it. In between these is the strategic gameplay that follows Juuls (2004) formalistic theories on emergent gameplay better, although Friedman's (1998) geographic narrative is also present in most of the player's actions including the ship design phase. The ship design phase is heavily dependent on the abilities of the player, since a bad player would design poor ships and most likely not win the game. Thus this phase of the game fulfills many of the points defining a game according to Juul, chiefest among these is point four: that the "player invests effort in order to influence the outcome" (Juul 2004, 30). Since there is no set path to creating the perfect ship, and thus many different ways to win the weapons race (which is only a small part of the gameplay), the game also places itself in the group of emergence games, like most strategy games. This is also a part of the explanation of why *MOOII* is so easily replayable, it depends more on skill than on a good story, so the player can always become better at the game and reach a higher skill level. Another player spells it out very clearly: "Different technologies mean different ship designs and general strategies" (5/4/11). It was mentioned above that also geographic narrative is at work

in the ship design phase, by this is meant that the same functions are at work. Of course there are no geographic alterations taking place while designing the ship, but the process of designing a ship is the same process as when designing a colony's infrastructure or the mining and irrigation of conquered landscape (in *Civilization II* for example). The player plans for his decisions to bear fruit, for his ship to be the weapon he intends it to be, the edge on his enemies. To see those plans played out once the ship is built gives the player the same kind of satisfaction as the one Friedman (1998) attributes to changing the geography of a game-world.

4.2 Interface Study

> MOO2 has one of the best UI's I've ever used. When playing other games, I find myself longing for a screen equivalent to the colony screen in MOO2. A UI does not make a game, but it can get in the way. MOO2's is good and, so, does not detract from the gameplay. But the strategy is what makes MOO2 great. (3/1/11)

The interface of *MOOII* is one of its finest qualities; it expands and improves the possibilities for interaction from the first game in the series. *MOO* (the predecessor) (**Figure 6**) is described by a fan as: "a work of genius. The whole game weighs about 5 mega[bytes]. There are only like 6 or 7 screens in the whole game. But, my god, what they did with that. Nothing is superfluous" (Deanco 2010). *MOOII* takes up a bit more space on the hard drive and has more screens than seven, but it is still kept in a fairly simple style that ensures a good overview and a good navigation when playing the game (**Figure 1 and 2**). A game reviewer said at the time of its release:

> Master of Orion II is complex. Almost every aspect of the original game has been expanded, improved, and detailed to an almost unreasonable degree. […] Instead of just adding three entirely new alien races to the game, the designers have gone an extra step, allowing players to design their own races, weighing advantages and disadvantages […] to create the ultimate alien menace. (Ward, 1996)

Figure 6: MOO main interface screen

The complexity of the sequel probably put some people off playing it, but fans of the first game and fans of strategy games in general seemed to like it. As the player quoted in the beginning of this chapter is saying the strategy is what he plays the game for, but because the interface is good, it does not get in the way of the pleasure of playing the game. He mentions the colony screen as something he misses in other games, which seems to imply that he likes the elements of micromanagement in the game. He is in other words a player who likes the increased level of player control in the sequel compared to that of the first installation of the game. There is an equivalent to the colony screen in a few other strategy games most notably amongst these is the *Civilization* series, where you have many of the same elements to manipulate: buildings, population etc. Most likely the player quoted here has not played any of those games or did not remember them while answering the survey.

My first experience with *MOOII* was that it took some getting used to, mainly because the complexity of the game was quite a bit higher than it had been in its predecessor. It did not take long for it to get under my skin and stick, however, and after having played it the first few times, the race creation screen mentioned in the quote from *gamespot.com* became one of the main reasons for replaying the game.

4.2.1 The Race Creation Screen
Before the game starts the player has some choices to make. He has to decide about the shape, size and nature of the game-world (**Figure 13**), and subsequently he has (the opportunity) to mold his race from a set of different characteristics (**Figure 7**).

> The replayability of Master of Orion [2] comes from the fact that there's so much variation (within certain limits) on how the game proceeds every time you start a new game. (2/25/11)

A lot of the variation mentioned in the quote above is due to the choices made in this phase of the game, before the actual gameplay begins. The player chooses if the planets are mainly mineral rich or organic, if

there are many or few of them, if the Antarans attack or not, in what historical time the game begin and more. And when it comes to race choices there are 13 predefined races to choose from, and the opportunity to create a custom made race defined by choices made between 10 different defining characteristics[7] and 22 special abilities[8]. The player has the choice of spending up to 10 points in creating his race, and the price of each choice ranges from 1-10 points. It is, however, possible to decide to make picks that counts as negative to the race, like choosing a poor home-world, lower birthrates and so on, in order to gain more points for positive traits. The player can make negative choices to a total sum of minus 10 points, making the total sum for positive picks 20 points. It is evident that the possibility to play the game using so many different combinations will be cause for great variation from game to game, and even if the same world and race is played again, there are still new starting positions and the opposing races to take into the equation and the second game might well be a completely different experience from the first.

Figure 7: Race creation screen as it looks for the Human race. They have chosen Democracy and Charismatic (highlighted), which adds up to 10 points, so no negative traits were needed in this race design.

This ability to freely create a race from literally hundreds of combinations, to have handicaps to make it more difficult (and get a higher score) or boost it to make it easier to win the game, this is my own main reason for replaying the game. The game is never the same; it can be made new countless times through combining new things in the building of your race. In the survey the very same trait of the game is mentioned often as a main reason for its replayability, these two respondents sum it up nicely:

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[7] E.g., worker efficiency, birth rate, attack bonuses and government.
[8] E.g., starting on a rich homeworld, the ability to be telepathic, to be a warlord or to be tolerant to hostile environments.

There is always a new way to challenge myself by playing a different race, with different advantages and disadvantages. (3/1/11)

I sometimes choose an uncreative race just to be forced to adapt to different circumstances. Playing a regular race constantly faces me with important decisions: Factories or missile bases, research labs or computers, etc. (5/4/11)

This view is supported by Lawrence Lessig (2006) who says about cyberspace that: "Choices mean that differently constituted spaces enable and disable differently". He goes on to mentioning traits about the earliest Internet and its text based communication architecture "that made possible a certain kind of life. From this perspective, limitations can be features; they can enable as well as disable" (Lessig 2006, 86). This point of view can easily be used when trying to explain why the race selection screen is such an important feature in *MOOII*. It does exactly what Lessig muses about: it enables and disables through its limitations. For example when a player wants to create a race that is both creative and subterranean she needs to choose something negative as well before she can start the game. This precarious balance is always something that frustrates while creating the race, but at the same time it is also the reason why the player experiments with new race designs, and thus also part of the reason why the game is played again and again.

The race creation phase is in other words the main component of why *MOOII* can be classified as an emergence game. The player has full control of which conditions she plays the game under, she can modify everything from the richness of the world and the skill level of her enemies and down to how lucky or charismatic her race is. Thus the ensuing gameplay is always bound to match her exact skill level (unless she has made choices to make the game easier or harder of course). A balanced game, however, will always test the skills of the player and any outcome will be deserved according to the player's skill level, and so the outcome will of course always matter to her. That way the race creation screen is also central to why *MOOII* fulfills the 3rd to the 5th rules of Juul's game description (2004, 30) (1st and 2nd is already fulfilled in the basic construction of the game). Since the player creates the circumstances she plays under, I dare argue, that she is more attached to the outcome of the game than if she had no influence on the game world and the conditions under which she plays. Because she is more attached he will also put in as much effort as possible to reach her goal of winning the game with the highest possible score. In some circumstances the score is not as important as the win itself. If for example the player designed a very hard game for herself, maybe her goal will just be to destroy her enemies or to finish the game as fast and easily as possible. Either way that the player designed the game, it is always a goal to win and there is always the possibility to lose by being destroyed by an opponent.

The construction of the game world is something that Aarseth (2010) can help us analyze. He divides the game world into ludic space and extra ludic space, which in short is the space that the player can interact with and that with which interaction is impossible. Since the player constructs her own game-world in *MOOII* maybe Aarseth should include a third category, inspired by the object categories he is using, called: inventible space. The player invents the space in which the game takes place, by defining things like the size and age of the world, much in the same way as it is done in *Civilization II* and *Age of Empires II:The age of Kings* (Microsoft Game Studios 1999). She does not, however, design every detail as it is possible to do in *Heroes III*. When the game commences there is plenty of extra ludic space, but since the player designed

the world herself, this extra ludic space becomes less of a cause for frustration, than it would have been, had she played a map designed by others. I believe that the reason why this is so, is to be found in Friedman's (1995) geographic narrative. The construction of the game world and the confines it yields to the player is to some extent the player's own doing, and so also the very first step in changing the surroundings in the game. This first part of the game, when the exploration of nearby star systems takes place, is something most players enjoy very much, and I believe this is because of the fact that the players are seeing the results of their own designing of the world.

4.2.2 The Technology Screen

Another part of the game that is cause to great pleasure and responsible for much of the games' replayability, is the way technology is researched. There are always eight different fields of study to do research in (**Figure 8**), and depending on which discoveries the player chooses to prioritize he becomes either a warrior, blietzkrieg'ing his neighbors, or a farmer growing quickly in population and production or maybe a scientist.

> I crave techs that make my planets or race better. Weapons I research only to support the war against the enemies. I see what defenses the enemy has (armor, shields, etc.) and how quickly I can get to a weapon tech that can overcome them (or a computer tech that will hit them, or a shield tech that will allow my ships to survive long enough, etc.). (3/1/11)

No matter what path is chosen the player will get a unique game every time he plays. However, fans agree on a certain path to take through the first dozen discoveries or so; one that prioritize production, early research, missiles, speed and armor (Cybersaber, 2005). This path is based on playing against other humans, in which case it is necessary to choose a certain special ability that limits the number of things that can be researched in each field. It is possible to choose to be creative, which is good against the AI, but it is too expensive (in race picks) against human players. Creative races research all technologies in one field simultaneously, whereas normal races only research one of the technologies before advancing to next level in one field, in other words normal races do not make as many discoveries as creative races. Uncreative races get only one technology picked at random (no one ever picks this option for gaining negative points in the race creation screen, except if it is for the challenge when playing against the AI). So when playing against other humans, players generally choose to be of normal creativity.

Figure 8: Technology screen of a creative race (all research areas in one field are highlighted), had this been a race with normal creativity, the player would have to choose between either Personal Shield or Stealth Suit in this field of research, now it gets both.

> First and foremost, researching adds a lot of variety to MoO2 games. Different technologies mean different ship designs and general strategies. I sometimes choose an uncreative race just to be forced to adapt to different circumstances. Playing a regular race constantly faces me with important decisions: Factories or missile bases, research labs or computers, etc. (5/4/11).

The quote above leads to an important point about replaying games: the enjoyment derived from the familiarity of its structure and its gameplay. This aspect of replayability will be dealt with later on in the analysis, for now the focus is on how the level of creativity of the player's race affects his gaming experience. The player in the quote above has two reasons for making his race worse by choosing to be uncreative. First: that he does not have to make as many choices throughout the game so that he can concentrate on other parts of the game. Second: that he gets a higher level of challenge while playing (a way to achieve flow).

Many parts of the gameplay will offer flow in different shapes and forms. Being creative offers flow to the player by taking away some levels of the strategic choices in research so that he may concentrate more on other parts of the game, like waging war or expanding infrastructure. Being of normal creativity concentrates much of the player's attention on research choices, so that the achievement of flow can be found by applying the right strategies here. Being uncreative takes strategic choice completely off research, but increases the level of strategy applied in dealing with the other aspects of the game, so that flow is achieved through being successful at adapting to the random circumstances caused by the random technologies being researched. It is easy to see how these many different ways to achieve flow increase *MOOII's* replayability; the more ways the game can challenge the player the better, and this is all achieved only by changing how research is done. There are many other parts of the gameplay that can be adjusted, to vary the experience of playing and add different ways to achieve flow through playing it.

4.2.3 The Race Screen

In the race screen the player has a superficial overview of the other races that he is in contact with (**Figure 9**). Here it is possible to look at the latest report on a potential enemy race's technological advances and get a count of its offensive spies (**Figure 10**). To know of the other races' technological advances is very important for two major reasons. Firstly to know what weapons, shields and armor they possess so that the player's own fleet is always up to date and capable to beat them on the battlefield should this become necessary. This part is closely related to the research screen as the first quote in the previous chapter also shows. The second reason is to see if the player's spies should be applied in industrial espionage, to gain some of the enemy's advances that you need. The spies are a class of objects that were not covered in the chapter on objects for the main reason that they are more important to look at in a later chapter. Suffice it to say here that besides spying they also serve as counter-espionage agents and as saboteurs of enemy production, ships and buildings, actions that are all facilitated through the race screen interface.

Now, spying is not the only way to gain another race's technological advances. In the race screen it is also possible to contact the envoys of each race and bargain about treaties and knowledge exchange, which will be examined in the following chapter[9].

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[9] There is a third way to gain knowledge of an enemy's technologies and that is through conquest. When you invade a colony or board a spaceship you gain ownership of that colony or ship and sometimes gain knowledge of a new random technology from the conquered enemy.

Figure 9: The different races that the player is in contact with. There is a trade treaty with Tyran and a non-aggression pact with Alexander.

Figure 10: The race report screen shows that Tyran has three enemy spies and is at war with the Elerians.

4.3 Interaction Map

> The complexity of MOO2 is astounding, and that it is so well balanced even with all that complexity. And this is all single-player. All played against an AI that provides a challenge even after many years of practice. If I enjoyed multi-player, I could imagine that it might be a game to be played forever. (3/1/11)

The interaction map is much simpler in *MOOII* than it is in for example adventure games, but more advanced than in most platform and FPS games. The player does not have the possibility of free-form utterances, but has a limited range of things to say and do to the envoys of the other alien races. However, the things he says are important in deciding the other races attitudes towards him. Offer gifts to them and share knowledge to gain trade and research agreements or even non-aggressions pacts and alliances. Or make demands of them to give away knowledge, to make peace with one of your other allies or to give away a star system. In some ways the simplicity of the interaction is one of the qualities about the game:

> The game would not be the same without diplomacy. I like the simple method MOO2 uses of setting up trade agreements that bring in money and research over a long period of time. (3/1/11)

Naturally, being diplomatic and negotiable, giving and courteous is the best way to handle the other races in the beginning of the game. Trade agreements and non-aggression pacts are crucial to winning the game when playing against the AI. Later in the game there is often good sense in demanding an allied race to give away their star systems to you one at a time; if a little while passes between each demand, you might assimilate[10] two or three systems or even more before the belittled race rise against you from the injustice. When a player starts to break treaties and make demands of one of the allies, the rest of them also grow incrementally less happy with the dominating player, and that makes it harder to make new agreements with other races. Most of the interaction of the game serves strategic purposes; a player does not speak to the other races unless there is something to be gained by doing so. Part of the challenge that the first quote mentions comes to show through some aspects of the interaction with the other races. However simple the dialogue with the other races is it still contains plenty of subtlety. The player has a fairly limited amount of things to say to the envoys of the other races, but it is important to read the signals they send out in their greeting before choosing what to say (**Figure 11 and 12**). They will always introduce themselves in a way corresponding to their mood, which might be hostile, friendly, diplomatic, indifferent or downright abusive. From this introduction it is possible to guess at the right strategy in the dealings with the envoys, whether to offer gifts, exchange knowledge, maybe even propose a treaty. This guessing at the opponent's mood is strengthened by the narrative in the rest of the game, where weddings between high ranking officials of the player's nation and another will mark improved diplomatic relations and incidents of espionage or sabotage will do the opposite. So even despite the fact that the different races represents what Aarseth (2010) calls shallow characters, and the dialogue with them is fairly fixed and that their race characteristics

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[10] When receiving a planet as a result from putting forth a demand, the population of that planet is instantly assimilated into your empire, which prevents rebellion and maximize its production, farming and research output instantly, which is a huge advantage compared to conquering the planet by military force.

only shows in a sketchy way through their way of playing, despite all this the subtleties of the diplomatic exchanges creates a fair level of narrative drive in *MOOII*.

My experience has taught me that after having spent many hours playing as allied to another race, negotiating and trading and exchanging knowledge, or using each other's planets as fuel stops. Then I find it difficult to start making demands of them, to force them to give up systems to me, and inevitably to make war on them. I ascribe this feeling to the narrative constructed around the diplomatic relationship that I have spent time and effort to construct, thus I also find the narrative drive of the game to be considerable despite that it is a pure strategy game, which according to Aarseth (2010) and Juul (2004) does not have much if any narrative drive.

This particular narrative drive cannot be explained fully through Friedman's (1998) geographic narrative either, although it does have a little influence here. I find myself a bit at a loss, since the narrative drive exists despite the lack of deep characters or free dialogue and without any storyline as such. It seems to derive from the development of my changing strategies while playing the game, and I recognize it from most other strategy games I have played as well. It seems that inherent in all elements of the game is a possibility for narrative. Any unit, planet, leader or other changeable game element might ignite a narrative of its own independent or in support of the greater narrative of the game. If enough of these minor narratives become part of the greater narrative created around the peace treaty with another race, much more is at stake if the player decides to break the treaty and start a war against the former ally. All those minor narratives will change alongside with the major one, and I believe that most players will feel at least slightly unnerved during such an action. Juul (2004) believes that a player playing an emergence game plays in the pursuit of victory and high scores, not in pursuit of narrative satisfaction. This despite the fact that it is so many of the elements that make a game into an emergence game that also have potential to spark a minor narrative. Aarseth (2010) would say that the shallow characters and lack of story and dialogue, put in conjunction with the high level of inventiveness given to the player in manipulating the game world negates the possibility of any notable narrative development. None of them can explain why I hesitate to break a long lasting peace treaty. Geographic narrative is not particularly good at explaining what happens in this specific situation either. The part that it does cover, however, is the changing of the universe as a player makes and breaks alliances. Star systems will change color or become uninhabited, when different nations go on conquest or commits genocides on their enemies. This changing does hold an immense level of narrative satisfaction, especially in the case when you have changed the tide of a war and are slowly conquering an enemy that used to outrank you.

The best example I have of this particular situation is not from *MOOII* but from *Civilization II.*I played a game session where the Japanese were my enemies. They were twice as powerful as my civilization, so to break them I came up with a plan that took several centuries to plan and prepare but only one turn (a year) to bring to fulfillment. I bombed their capital with a nuclear bomb resulting in their empire breaking into two nations because of civil war. Then spies were used to infiltrate all the remaining powerful Japanese cities and plant nuclear bombs in every one of them. When the bombs had broken the cities' defenses my ordinary units finished the job of invading them and in one turn my enemy had been completely annihilated; an enemy who had been pestering my civilization the whole game. To experience the geographic narrative of that single turn gave me tremendous satisfaction, although this soon turned sour as global warming and bad diplomatic standing ensued my nuclear holocaust.

Since the AI is generally less good at applying strategies and tactics than the human player, it sometimes 'cheats' by forcing the allied races to act irrational as shown in the quote below:

> […] when it looks like I'm winning - when I have by far the largest empire in the game and I'm easily defeating my enemies, it can all be upset when a formerly friendly race turns belligerent at the worst possible time. Then a victory that looked secure turns into a scramble to divert resources to facing the new challenge, and the possibility of losing some of my most precious worlds before I can turn it around - if I can turn it around. (3/1/11)

The player here clearly does not see the 'cheating' AI as a problematic feature, instead it only adds surprise and resistance to the game, makes it harder to win thus increasing the flow at this stage of the game. The fact that the AI is capable of the same kind of double-crossing of their allies, as the human player is, only increase the excitement of the game by supporting the subtle narrative drive mentioned in the paragraph above. It also makes the AI a better player since it plays more like a human would: unpredictable.

If no deals are struck with an alien race the diplomatic connection with it will slowly degenerate, whereas the opposite is the case if treaties are made with them. Some races have the race specialty that they are repulsive (something a human player often chooses to be when playing against other humans, since it mainly affects the relationship with AI-controlled races and is worth -5 points in the race creation phase). When a race is repulsive it can only interact with other races in declaring war, suing for peace or surrendering, thus repulsive races often grows closer to an aggressive diplomatic stance before other races which results in them being the first of the AI-controlled races to be attacked by human players, since they cannot generate money through treaties or systems through demands.

Figure 11: normal dialogue.

Figure 12: repulsive dialogue. Notice the fewer options (the different races can have different traits in different game sessions as figure 11 and 12 shows (as it is the same race icon)).

Interaction is limited in *MOOII*, but it is still a very important game element when playing against the AI. And it is always a source for excitement to see which random races are present in the galaxy of a new game session, as they are revealed one by one as the different alien nations expand their borders[11]. Will they be friendly, repulsive, expansive, waging war or sticking to themselves? It is not as important for the replayability as the race creation screen or the revealing of the planets orbiting the stars as the player discovers his surroundings, but it is close, and it is closely related to the process of discovering the map. One of the only places where the interaction fails is when the human player is framed for espionage against an ally in that case there is no way for him to declare his innocence. This is very frustrating for the player as the quote below shows:

> Generally speaking, diplomatic interaction with AIs often is very opaque and frustrating for me. Not being able to do much against being framed for other AIs espionage activities and having to bear the diplomatic consequences is probably my only major gripe with MoO2. (5/4/11)

This is one of the main problems with not being able to utter free-form responses. It breaks the illusion of the individuality of the characters, when it is not possible to treat them as one would a real person. This aspect of the game will be more thoroughly dealt with in the chapter on narrative.

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[11] There is a maximum of eight races in any galaxy including your own, so naturally some will not be present, and thus the revealing of which is present in the game is imbued with some excitement.

4.4 Gameplay Log

The gameplay log differs from the three earlier parts of this analysis in that it combines them to try and make a whole; here Consalvo and Dutton attempts to look at the game as a complete entity consisting of objects, interface and interaction (2006, 11-12). They have ideas to which kinds of questions the researcher should ask at this point in the analysis, but also states that the areas of research and the questions needed asking differs accordingly to which genre of game is being analyzed. One aspect of computer games that they keep on stressing regarding the gameplay is emergent playing. They see emergent gameplay as the one aspect about computer games that: "make [it] more than watching a movie or playing a board game – something unexpected happens because of a player's choices" (Consalvo and Dutton 2006, 12). I do not agree entirely with this point of view, since interpretation is a great part of watching a movie or playing a board game, and in interpreting for example board game rules emergent gameplay occurs, and a game can easily be played differently than was intended by the designers (similar with movies and books; they are not always understood as the writers intended it). However, the process of how emergent gameplay come to be is different in a computer game, since there the rules are set in the programming and cannot very often be changed through interpretation and playing but only through modifying the code. Emergent gameplay in a computer game is more about straining against the shackles of the programming in order to maximize the game experience.

4.4.1 Emergent Gameplay in *MOOII*

There are several cases of emergent gameplay in *MOOII*, a few has been chosen as examples here to show their diversity. The first one is saving up production. It is possible to save up production units by building very big constructions (like titan class spaceships and battlestars) these units can then be used (if the construction is not yet finished) if the player gains knowledge of a new technology yielding structures of more immediate use, by shifting production from the titan to the new structure (like research generating or production enhancing buildings). The same kind of emergent gameplay was present in the prequel *MOO* where it was possible to build massive fleets in just one turn this way (in that game it was possible to build more than one spacecraft each turn). It also exists in the first two *Civilization* games, where it can be used for building wonders. This is achieved by setting more than one city to build the same wonder and when it is built in one city the rest of the cities will continue building, thus saving up production for the immediate construction of future wonders. This strategy was most likely not intended, since strategy games are in most instances simulations, and such a strategy would never be possible in reality.

This case of emergent gameplay affects the game experience in a positive way, as do the other examples mentioned below. The reason why these cases of emergent gameplay have a positive effect on the game experience is that they empower the player to a higher degree than the basic game does. By breaking the rules of the game and cheating the designers by not playing by their rules, the player takes a kind of ownership of the game and he plays the way he himself intends and not how the designers intended it to be played. Thus the player can make the game either easier or more difficult for himself, and he has more ways to plan his strategic choices than was offered through the basic rules set by the designers. More possibilities for change and challenge also increase the replayability of the game, since they prolong the time that the player can keep on playing the game in the area of good flow; the zone between boredom and too much challenge.

A lot of the emergent gameplay in *MOOII* originates from the many different combinations of races that it is possible to play. For example, the player can choose to play as subterranean or tolerant, in which case it is often better to bomb and completely annihilate enemy colonies instead of capturing them, since capture keeps the original race's bonuses. Subterranean races have double the population maximum than other races and tolerant races treat all environments as terran when it comes to growth and population maximum. In both cases the final accumulated population numbers are heightened thus ensuring a better final high score. This is not as such breaking the rules of the game, but more playing the game by applying a strategy so unethical, that it must be supposed to be in opposition to the designers' point of view and thus also possible to consider as a case of emergent gameplay. In response to question five one of my respondents answers:

> While I wouldn't consider it essential for all games […] it would certainly be unsatisfying to play a world-builder type game where the landscape - or at least the use to which it is put - couldn't be altered. Again, keeping things in line with the nature of the game is more important than having such capabilities for terrain alteration regardless. (8/17/11)

He clearly does not agree with my point of view regarding emergent gameplay. To him playing the game in line with the nature of the game is more important than having as many strategic opportunities as possible. His very choice of words states that he would not break the rules by retorting to emergent gameplay. The "nature" of the game is, however, a very subjective concept, so whether or not this player will use emergent gameplay in some of the cases where the breaking of the rules is less evident, is hard to tell. Maybe only his level of ethics will decide or maybe the difficulty level of the game might make him decide. I believe that he will play the game in accordance with the rules longer than most, before he starts experimenting with emergent gameplay. If he is a competitive player he will at some point retort to emergent gameplay, as it makes it possible for him to get a better high score and to keep on playing the game with a good level of flow.

A good high score based on population numbers is also the reason for the next case of emergence in *MOOII*. This example has not been tested during the research for this thesis, but the player who mentioned this on the fan forum is a very experienced *MOOII*-player, so it is believed to work. When the player gains the technology to build stellar converters, he also gains the ability to completely destroying a planet by orbital bombardment. Such a bombardment leaves a lot of asteroids and other space debris that can then be used for building an artificial planet. If there are tiny or toxic planets in a system under the player's control, which in the first case cannot hold a lot of population and in the second case cannot be terraformed to holding more, he blows them up and builds new normal sized barren planets, that can hold more population and be terraformed to Gaia norms. Since the stellar converter is a weapon first and foremost meant for defense[12] the idea of applying it in offensive actions and this kind of extreme terraforming seems like very unethical behavior and is most likely not the use intended by the designers. The same defensive origin of the stellar converter is the reason why this particular aspect of emergent gameplay most likely would not appeal to the player quoted above, since it seems to go against the "nature" of the game.

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[12] It is the only weapon technology that provides the player both with weapons to mount on ships for offensive use and a planetary building meant for defensive action only.

Early in the game the player has some predesigned ships that he can build, before better weapons and equipment are discovered and can be put into new designs. The only other predesigned ship in the game is the one found after the defeat of the guardian at Orion. In all cases the ships have an abundance of different weapons and equipment albeit only a few of each kind, and the same is the case with the ships designed by the AI while playing the game. Human players on the other hand tend to specialize their research towards gaining a few very specific technologies to build simple but powerful ships. For example, all you need to take most colonies is good armor, a certain level of targeting computer, an improved missile, augmented engines and a few middle sized ships. Such ships look very simple in their design; only one weapon and two or three special pieces of equipment, but they are very powerful in dealing out death to enemy ships and colonies. Whether or not this counts as a case of emergent gameplay is debatable, especially since the player behavior described above does not go against the programming of the game. Given the ship design choices of the designers of the game, it would seem that a design with many different weapons and equipment is what they expect the players to choose. The players, however, do not choose to design their ships that way, and tend to specialize toward specific ship functions instead. Thus, even though the players do not play against the code of the game, it still seems like they play differently that the designers intended the game to be played, and therefore this could be considered a case of emergent gaming equal to the examples mentioned above.

4.4.2 Emergent Gameplay versus Emergence Games

It is important to stress the distinction between emergent gameplay and emergence games as Juul (2004) writes about. Emergent gameplay is what occurs when the player plays in ways not intended by the game designers and creates new game experiences thereby. Emergence games are, as mentioned earlier, games with a fairly simple set of rules that facilitates many different strategies in their gameplay. Emergent gameplay is, however, a fairly logical consequence in emergence games. A player of an emergence game will always do his best to win and to beat his high score, and I believe that if the game opens up for the possibility to commit an act of emergent gameplay that will aid the player in achieving this goal, he will commit it.

> Sometimes a good [game] will come out and I will play it for a few weeks, or even a few months. Eventually, though, I master it - I figure out the mechanics behind it and am able to beat it no matter which way I play. I've never been able to truly master MOO2. I think that's why it's so replayable. It's the same with chess, I suppose, though I don't play. I also keep coming back to MS Flight Simulator, but I don't really consider that playing. More like training for when I'm able to afford real flight lessons. (3/1/11)

This player compares *MOOII* with *Chess* and *MS Flight Simulator* (Microsoft 1982-2006) because of the fact that he has never been able to truly master it. *Chess* is often mentioned as a classic example of an emergence game, since it has very simple rules but an almost infinite number of different strategies for playing. Conditions that are similar for the flight simulator; as soon as the player knows the controls he only has to make decisions regarding the condition of his surroundings (for example bad weather), in short only strategic choices are left. This is what the player quoted above compares *MOOII* with. He knows the mechanics of the game, how to control it, but still he cannot master the game because of the wide range of different strategic choices he has to make while playing. That is what makes the game replayable for him. It is also what places the game in Juuls (2004) group of emergence games: simple rules and controls but

advanced strategic gameplay. At first the player experiences a very steep learning curve that starts evening out after a bit of play, much like a logarithmic function, however this curve never really reaches a peak and so the player keeps on learning new things about the game even after many play sessions. Many of the cases of emergent gameplay mentioned in the preceding chapter are steps on the learning curve of *MOOII.* As a player advances up the difficulty levels of the game, ever more subtle choices affect the outcome of the game and when playing on the impossible level or against humans there simply is no choice in the matter of playing with the use of emergent gameplay. If the player does not commit the different acts of emergent gameplay and takes the time to do the micromanaging necessary to carry them out then winning is not possible. Therefore it seems clear that cases of emergent gameplay play an important part in explaining why *MOOII* is so replayable, since they are imperative to beat the game on the advanced levels and against other humans.

4.5 Summary

In this chapter *MOOII* has been analyzed by applying Consalvo and Dutton's (2006) model for qualitative game analysis. Different aspects of the game have been analyzed to see how they support replayability, and it was found that Juul's (2004) theory on emergence games and Friedman's (1998) theory on geographic narrative were especially helpful in this process.

The objects of the game were very helpful in pinpointing how geographic narrative becomes an important reason for replaying *MOOII*, especially the ships and their role in expanding the area controlled by the player and the construction and development of the colonies were important for the construction of a narrative around the geography of the game.

The interface study showed that the race creation screen plays a huge role in explaining the replayability of *MOOII*. It enables the player to play the game in thousands of different ways, since there are so many different constellations of race characteristics to choose from, when constructing the race. Thus it is possible to change the difficulty level in more ways than one, by e.g., choosing to play with a race that is not as good as it could be. Another screen that was shown to have great influence on the replayability of the game was the technology screen. Depending on which kind of race the player chooses to play different choices are possible for him. These different choices have great narrative drive and are, together with the many race constellations, also the main reason for the many cases of emergent gameplay in *MOOII*. The emergent gameplay is a large part of what creates the logarithmic learning curve that makes it impossible to ever finish learning about the game and which places *MOOII* in the Juuls category of emergence games.

The interaction map also yielded much knowledge about the narrative drive of the game. The simple yet subtle kind of interaction with other races offers great possibilities for playing a game of diplomacy instead of one of conquest and genocide if that is the desire of the player. It also showed an area of narrative in games where the theories came up short. The conflict between the narrative that has been built up through a game of peaceful coexistence and the need for expansion and a maximum high score is bound to end in a conflict of some sort. Juul (2004) believes that a player will always play to get the best result and the highest score, Aarseth (2010) thinks that *MOOII* lacks enough narrative qualities to have any narrative drive as such and Friedman (1998) believes that a player will only get true narrative pleasure by seeing the world subdued and conquered by his race. None of them explains why it can also be imbued with narrative

pleasure to live in peace with other races and why it feels wrong to attack them after decades of peaceful coexistence. The answer to this lies in the potential for narrative in all game elements. Everything in a game has the potential to become part of a narrative of the player's invention. A colony on the borderlands, the fight of a valiant fleet to defend it against enemies until it will finally have enough defense to stand its own ground and the fleet can move on. The story of a legendary leader and her skills as a trader and the years of prosperity that follows her joining the empire. There are countless elements of any game that can inspire to the creation of a narrative, and if it can it will because of the nature of the human mind. We will always make stories when we can, if even just subconsciously, which is why even the most hardcore emergence gamer will find situations where doing the strategically best move can seem hard, if it breaks with the narrative he has created in that particular game. These minor narratives are not by themselves reasons for replaying a game, but they add to the different possible ways to enjoy a game and thus they also add to the overall explanation of why strategy games often have a high level of replayability. I believe that the potential narratives of the strategy (emergence) game will spark the creativity of a player much more often than will the rigid narrative of a progression game. The next chapter is going to take a more thorough look at the narrative elements of the game and discuss their influence on its replayability further.

5 Narrative in *MOOII*

You shouldn't trust the storyteller; only trust the story (Gaiman 1993)

Most of the narrative elements in *MOOII* relate to what Ted Friedman calls geographic narrative, although also more conventional narrative has its say in what is making the game interesting. The strongest part of the geographic narrative appears in the exploration and colonization phase, and to a lesser degree in the invasion and aggressive expansion part. In the later part the normal narrative elements are more active however. Here the interaction with the other races and the random galactic events make a sort of simple story of the game.

5.1 Exploration and Colonization

The exploration of the surrounding stars and the ensuing expansion of your nation when new planets are colonized or captured is one of the main pleasures when playing *MOOII*. Part of the explanation of why this is so is not surprisingly to be found in Ted Friedman's theory on geographic narrative:

> Unlike most of the stories we're used to hearing, a simulation doesn't have characters or a plot in the conventional sense. Instead, its primary narrative agent is geography. Simulation games tell a story few other media can: the drama of a map changing over time. [...] This process of exploration and discovery is one of the fundamental pleasures of Civilization II [and other strategy games like *MOOII*]. It's what gives the game a sense of narrative momentum. (Friedman 1998, 4)

Many of the respondents in the survey answer in ways that support Friedman's standpoint, and some even describes this narrative drive as being central to why the game is replayable:

> Random startup situation generation insures variability, like starting in the dark, exploring, building, overcoming and conquering when required. Infinite replayability. Turn based. No artificial sense of time limits, hurriedness that detracts from the relaxation of enjoying it. (3/30/11)

The player quoted above clearly enjoys the elements of the game that are related with geographic narrative. The random beginning point and the element of changing the unknown places into known space is completely in line with Friedman (1998, 6) when he quotes Jenkins and Fuller and their theory on how place changes into space and maps becomes tours. The latter never happens in strategy games according to Friedman, since the player never gets a subjective experience of the map, but more a gods-eye view of it instead, taking pleasure from watching the changes of the map incurred by her decisions. This way the map becomes more than the object of the story, it becomes the hero as well, to use Friedman's own words, and the story is written through the playing of the player. Judging by the choice of words in the quote above, most of the replayability of *MOOII* comes from making place into space and watching the story, of the actions causing this change to happen, unfold.

The quote above also points at the other part of the explanation: "overcoming and conquering". It is part of her reason for replaying the game that she gets to apply her strategic sense in organizing her fleet to protect colonies (space) while sending armies to attack the enemies (place surrounding space). While doing this she has the added pleasure of seeing her technological advances applied in the destruction of the enemies, as she uses tactics to maneuver her ships safely through the turn-based battles. To her it is clearly the growth-factor that is the main reason for replaying *MOOII*[13], and whether it is achieved through colonization or conquest is insignificant.

> Again enjoyable, because I also like playing a technologically advanced society in 4X games. Tech progression also is a key part of the in-game narrative in a title such as Civilization or Empire: Total War. (2/27/11)

As the quote above indicates an important part of the growth factor in most strategy games is researching technological advances, the same goes for *MOOII*. The respondent is answering question six and mentions that to him technological progression is a "key part" of the narrative of the game. It is important because the technological progression is what makes expansion and conquest possible. It helps boosting the infrastructure and is central for building thriving and efficient colonies and powerful spaceships. All important elements of the geographic narrative and also important for the more conventional forms of narrative, as it shall be shown below. Diplomacy is only possible through making contact with other races, and that contact is boosted by technology that makes spying more efficient, you only get elected leader of the galaxy if you have a lot of citizens to back you up, and you will not be able to repel alien monsters and Antarans when they attack unless you have researched new weapon technologies.

There is a possibility to play the game as an omniscient race, which basically means that the player has full knowledge of all systems and ships in the galaxy, from the very beginning of the game. Below is another respondent's comment on how it affected his experience of playing, to play as omniscient, it clearly supports the notion of exploration as a main cause for replayability:

> I once tried a MoO2 game with an omniscient race and had to start over almost immediately. The lack of suspense was just terrible. In MoO, the Civ series and similar games, the exploration aspect is what makes the first stage of the game fun. (And, hey, they're called 4X games for a reason). (5/4/11)

When playing as an omniscient race the element and suspense of exploration is taken out of the game and the importance of changing place to space is lowered, since no exploration takes place in the game. The player still has the joy of expanding and building, but that clearly is not enough to make the game interesting to play; another evidence of the importance of exploration and geographic narrative in relation to the replayability of a game. What is actually happening when a player chooses to play as omniscient is that the flow of the narrative is broken. The narrative becomes too boring as the challenge of exploring the surrounding space is taken out of the game. Flow is just as important in the narrative as it is in the gameplay of a game, if it is to be listed as replayable. Omniscience throws the balance of the narrative out so that it becomes too boring, and playing as for example repulsive or uncreative might throw it out in the other direction so that the story becomes too challenging (if the player has no control of diplomacy or

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[13] Although the element of relaxation is also mentioned, this part of playing pleasure will be addressed in the cyborg chapter.

research it is easy to imagine that the narrative breaks down as well). The joy and suspense associated with the exploration part of a 4X game simply cannot be left out if maximum replayability is the goal with the game. In some games however it is possible to make choices that minimize the exploration element, this caters for different playing styles and might be a way to make the game fit more player types and thus appeal to more people, with increased replay ensuing. This feature is available in *MOOII* through choosing the race characteristic omniscience.

5.2 Other Narrative Features of *MOOII*

The first important premise that you need to acknowledge in order to look at more classical notions of narrative in computer games is that narrative in computer games is not fixed. There is not a clear path from beginning to end, quite the contrary actually, since the path from beginning to end is decided by the processes of the game as the player makes a series of unique choices. These unique choices are what create the narrative of a computer game, and in emergence games like *MOOII* this process is even more evident than in progression games. Here, the creators of the games do not have as much say in which path the player can take while completing the game. Kjetil Sandvik describes this in his article: *Kroppen, musen og den fantastiske avatar - immersion i computerskabte karakterers handlinger og bevægelser* (2005), when he points out that narrative in a computer game is created by how the player perceives it. It is not a fixed thing but something mutable and ever changing as a result of the actions and choices of the player (Sandvik 2005, 2).

The second premise to accept is that when viewed as a classical narrative, an emergence game like *MOOII* is not very good. The story is not very complex and the characters not very deep. The elements of classical narrative that are at work in an emergence game are the ones sprouting in the imagination of the players playing the game. There a stronger narrative is created through the different actions of the players and their interpretations of said actions.

> MOO2 doesn't really have side quests. You could say it has minor goals, like achieving the next technology, or colonizing another Terran planet because your food consumption is outstripping your production. But all these are just steps on the way to the only true goal in MOO2: complete conquest of the Orion galaxy. Nothing else matters. (3/1/11)

The side quests (minor narratives) or "minor goals" that the respondent above mentions are what flesh out the narrative of the game, they play a central role in the geographic narrative, but they also make out the bulk of the ordinary narrative since they are responsible for a large majority of the time consumed while playing. Once in a while something extraordinary will happen which will mark turning points in the game, some smaller cases like negotiating a good deal with another race and some large cases like conquering the Orion system. Almost all of these turning points can be placed in one of two groups: diplomatic actions and random events, but before turning the attention on them, the concept of kernels and satellites needs to be addressed.

5.2.1 Kernels and Satellites

Aarseth (2010) mentions the concept of kernels and satellites as one of his primary ways to determine the level of narrative in a game. According to him kernels are the constitutive events, the ones that define the

story of a narrative and therefore cannot be left out, without altering the story. Satellites are the supplementary events that can be taken out or altered without changing the story of the narrative; they make up the discourse (Aarseth 2010, 7). According to Aarseth the concepts of kernels and satellites "allow us to say something about the ways that games can contain one or several potential stories." (Aarseth 2010, 7). The term kernels and satellites was coined by Seymour Chatman in his book *Story and Discourse* (1986). He says that: "Kernels cannot be deleted without destroying the narrative logic."(1986, 53), and according to him satellites can be deleted without destroying the plot of a narrative although it might lessen it aesthetically. Thus it seems that Aarseth and Chatman agree on the respectable importance of kernels and satellites. Chatman, however, elaborates further on the relationship between the two, saying that satellites "necessarily imply the existence of kernels, but not vice versa." (1986, 54). Satellites are what flesh out the skeleton made up of the kernels, but kernels could exist on their own, since the "kernel-skeleton theoretically allows limitless elaboration." (Chatman 1986, 54).

Figure 13: World creation screen

If *MOOII* is analyzed for its contents of kernels and satellites, it shows a confusing picture. Because the narrative of the game can be played out without encountering more than a few kernels between beginning and end, and those kernels do not have even a fraction of the narrative drive as most of the satellites do. If the kernels of a narrative are the parts of the story that have to be played out (or read) on the way from beginning to end, then there are the following kernels in *MOOII*: The Hyperspace Beast, Hyperspace Flux, Antaran attacks, elections for leader of the galaxy and the end of the game (four possible endings). The beginning is not a kernel, since the player decides everything about her race and the world of the game, and because the computer randomizes the start location and the nature of the other races in the game (**Figure 13**). Thus it is highly unlikely that the player ever gets the exact same beginning of the game. Certain is it, however, that at some point in the game there will be at least one of each of the kernels

mentioned above. Those kernels are described in detail in the chapter on random events below, and as it is shown there their influence on the narrative of the game is not great. Far greater influence has the geographic narrative and the narrative connected to technological advancement. As it was shown above and in the chapter on the interaction map in the analysis, the strongest part of the narrative is constructed by a combination of expansive actions and the interaction these leads to through diplomacy. These actions are not kernels in the narrative of *MOOII*; they are satellites since they change from play session to play session. Some of course are recurring since they are important to win the game, these include e.g., invading the Orion system, inventing the autolab (generates large amounts of research on each planet) and inventing the gauss cannon (heavy weapon technology). If the narrative of each play session is considered a narrative in its own right, then these satellites change nature. At the end of a game session it will be possible to see which of those satellites (of the overall game narrative) that in the play session narrative have become kernels. Certain inventions, battles even constructions might have had crucial or even vital influence on the narrative (despite their satellite nature in the overall game narrative). According to Chatman:

> Kernels are narrative moments that give rise to cruxes in the direction taken by events. They are nodes or hinges in the structure, branching point, which force a movement into one of two (or more) possible paths. (1986, 53)

If this definition is to be true then satellites like the ones mentioned above becomes kernels, despite the fact that they were not decided before the play session began. They become kernels because they "give rise to cruxes in the direction taken by events". So what is necessary to consider is if a game is a narrative in its own right or if the actual game sessions are the narratives afforded by the game processes. Or if both are true and each game session is an interpretation of the narrative of the game, and that a game as a narrative medium simply offers more possibilities for freedom in the interpretation, than do other narrative media.

5.2.2 Diplomacy

One respondent in the survey said: "There are 3 rules to making a game replayable: Story, Story, Story."(2/22/11). I do not agree completely with that statement, but it holds a measure of truth since that particular player certainly feels that the story of a game is important, and so must others do as well. *MOOII* does not have a strong story as for example *SCII* has, which is most likely the game that the respondent is thinking of, but *SCII* is a hybrid game with a strong progression aspect due to its adventure game part. *MOOII* is a pure emergence game, but as mentioned above it has some elements of traditional narrative, a few of which are related to the diplomacy of the game. The progression or deterioration of diplomatic connections and the different actions leading to this are strong driving forces of the game's narrative. They decide who becomes enemies and who becomes allies, and that in turn decides the tides of war and peace. In that war the strongest diplomatic weapon is the player's spies.

5.2.2.1 Allies and Enemies

This thesis already dealt fairly thoroughly with the part of the narrative that has to do with diplomatic negotiations in the chapter on the interaction map. In the present chapter it will focus only on the main ways that interaction with other races helps strengthen the narrative drive of the game.

> [...] I find a game more satisfying if you can legitimately find yourself thinking "what are you up to?" of an opposing entity and be surprised when you find out without them just behaving randomly (8/17/11)

The player quoted above ascribes great importance to the level of independence that the other races show. The harder it is to guess their motives the better as long as they do not just act randomly, or put in other words: the closer the AI is to a human in its decision-making the better. In *MOOII* the way to make allies and enemies is much like in other strategy games of the time; gifts and friendliness will buy peace and treaties, a lack of either will eventually result in war. While dealing with the alien races the lack of responses available to you will often break the narrative, especially in the case of being accused of espionage. Even so interaction with other races does hold some subtlety, especially in weighing their moods before making demands of them or suggesting treaties. How many gifts to bring before it is possible to get a non-aggression pact or how many treaties to make before an alliance is possible. All these negotiations strengthen the feeling of writing a story while playing. For example, as mentioned earlier it is somewhat unpleasant to start forcing technology or star systems of the hands of a long-time ally and eventually to make war on their race, since to do so is to break with a story of peace and inter-racial understanding that you have helped write. Similarly destroying an old enemy will boost the story immensely since it seems justified and in line with the story being written through the gameplay. Both actions are necessary to beat the high score of the game, so to get the optimal result the player has to break with the narrative constructed during his gameplay, thus the rules of the game and the goals they set for winning becomes antithetical with the narrative constructed by the player. If the player is unwilling to break the story and does not care about beating the high score, there is always the possibility to win by being elected leader of the galaxy or by destroying the threat from the Antarans, by annihilating their home-world. Both ways can easily be achieved without breaking old alliances.

5.2.2.2 War and Peace

> A good strategy game, or indeed any game encouraging strategic thinking [...] will allow the player to make their own subgoals, and those goals will likely be far more salient than anything the game's author could impose. That's not to say playing a game isn't a complex process of different wishes and aspirations. [...] neither can I imagine playing, say, enjoying playing through Feros as much without fixing the colony's infrastructure problems along the way, sort-of-stupid as they might be. (2/20/11(3))

Many of the technological advances a player discovers become part of the narrative constructed around the gameplay. They are not only a part of the geographic narrative, but also play a role in determining the conventional narrative. When a player notices that the relationship with another race is deteriorating, it is time to start considering how a war against them will work out. In many cases it is easier and cheaper to play the defensive role, to let them use their production on building ships that will eventually become obsolete, while the player boosts the infrastructure and defenses; an action that will be beneficial for the rest of the game. This boosting process becomes part of the overall story of that particular game, and the race to beat them on the technological fields is a strong narrative drive with a considerable amount of suspense connected to it. The quote above describes similar reasons for enjoying a strategy game. The

player invents her own goals as she plays the game, the example she mentions concerns expanding and improving infrastructure, and seems to support the idea of geographic narrative as a driving force in the gameplay. However, the very same situation is what occurs in my own example above. By choosing the defensive role in a war against another race, many sub-goals become part of the narrative. Citizens and ground troops have to be moved between planets, production has to be boosted and some buildings have to be completed immediately resulting in high expenses for the nation. Taxes are raised for a while to fill the coffers and all of this has to be done before the enemy arrives. Each little sub-goal is a part of the story being played out.

> Who decides the ending? If the action is enjoyable, why quit? If the system is programmed to end the 'performance' once certain goals are achieved, the user will soon learn to avoid these concluding situations. Again the assumption that a human player would accept the working conditions of a fictious character seems more than a little unrealistic. (Aarseth 1997, 139)

The quote above by Aarseth is about hypertexts, but it applies to computer games as well, since they have some similar assumptions connected to them. The action of *MOOII* is in the 4x's: first the player explores, then she expands which is mainly representative for the geographic narrative. Later she exploits and exterminates, and in this phase she might decide not to end the game by being elected as leader of the galaxy. It is easy to avoid being elected; even in cases where all the other races want her to win she will be able to cast her own votes against herself thus avoiding election. This is a case of emergent gameplay that allows her to keep on preying on the other races until there are none left. The same is of course the case with ending the game by destroying the Antaran home-world, this is put off until the very end of the game, where it serves in strengthening the narrative of conquest, that the player has constructed, as she destroys the ultimate enemy.

5.2.2.3 Spies

As promised earlier the thesis will now briefly return to the objects of spies and leaders and how they affect the narrative drive of the game. Spies are closely tied to the diplomacy part of the narrative and leaders belong in the next chapter on Random events.

The spies are used for a few different purposes. They can be used aggressively as saboteurs and industrial spies, destroying enemy constructions and stealing technology from the other alien races, or they can be used defensively to protect against the same things happening to you (**Figure 14**). The spies become more effective in their work as the proper scientific advances are discovered. They are one of the most important parts of the diplomacy of the game, since they are the only way to do something against another race, without actually attacking them. Espionage is most often not considered as bad a crime by the AI as blockading or attacking their colonies. Usually espionage will not lead to war only to a cooling of the diplomatic connection. Counter espionage is of course also an important part of the narrative concerning diplomacy. If you have sufficient spies and their level of efficiency is high enough, then your allies and enemies almost never get away with acts of espionage against you. If you have certain leaders who boost your spies you might even assassinate alien spies each turn.

Figure 14: spies in race screen. Three offensive spies are sent to do espionage, while two are doing counter-espionage.

5.2.3 Random Events

Throughout the length of the game different random events occur in the galaxy. These events can be good or bad or fairly neutral and they can relate to a single player or even a single star system or they can affect all races equally. Good events have a tendency to happen to lucky or charismatic races more often that to the rest of the races, and repulsive races seem to have less good things happen to them, e.g., legendary leaders have a tendency to avoid entering into their service. Except for the race traits mentioned above the distribution of random events seem completely random indeed, although some things seem to occur with a higher frequency than other things. The events are divided into four subgroups that will be examined in the following chapters: alien monsters, events, Antarans and leaders. Before that it is time to take a brief look at how chance affects replayability.

5.2.3.1 Agon and Alea

Computer games are in one way or another imitating the real world and strategy games more so than most games, since they rely so heavily on simulation in their gameplay. In the real world things never ever happens exactly as they are planned, no matter how good the strategist who planned it is. Roger Callois writes about how games can be divided into four categories in his classic: *Man, Play and Games* (1961). The first two of these categories are agon and alea, the last two mimicry and ilinx here only the first two will be examined (Mortensen 2009, 50). Agon is play based on skill: the better player wins because skill decides. Most computer games strive towards being won by skill and strategy games are no exception from this rule, but a certain element of chance (alea) seems to be needed as well. Skill is great for the feeling of competition in a game, but chance is needed to add unpredictability and to give rushes of emotion as good or bad things occur to alter the game narrative. The real world is full of events that

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happen completely by chance, good and bad alike. This is why good strategy is not everything, neither in real life nor in computer games. For a game to be truly replayable a little measure of chance needs to be included.

5.2.3.2 Alien Monsters

The alien monsters reside in the map of each game from the very beginning. They protect the most valuable star systems against invasion, or they feed of its population and mineral wealth depending on what narrative you choose to write with your game. On occasion a monster will appear in hyperspace near the edge of the map. Simultaneously the Galactic News Network (GNN) will tell in the news[14] that the monster has appeared and is travelling at warp speed into your part of the galaxy, its intensions unknown so far. The monsters are always malignant therefore it is pretty bad news if a space monster targets one of the player's colonies early in the game, since it might destroy it. Space dragons, space crystals and space amoebas will always try to destroy a system and since they have different weaponry and targeting abilities preparing for all kinds of attack is a bit difficult. If they succeed in destroying the colonies of a system they will continue onward to another system after a brief rest. Space eels do not destroy the systems they arrive at instead they create a blockade as they use the system for breeding grounds. They stay at the system until they are destroyed all the while spawning new eels at regular intervals. The new eels are weaker than the first eel and will travel to nearby systems setting up blockades there and start to spawn eels of their own breed. All of these monsters can be killed if you have the proper weapons and defenses and if you succeed in killing them GNN will mention the valor of your fleet in an extra news bulletin, thus adding to the narrative of your actions while defending the galaxy against the monsters. Needless to say the GNN news reader adds quite a lot to the narrative feeling of the game, since it makes a story out of the actions of the player and writes them into the narrative of the overall game.

There is one last space monster that belongs both in this category as well as in the events category mentioned below. It is the Hyperspace Beast. The Hyperspace Beast is a creature that exists both in normal space and in hyperspace simultaneously which makes it capable of attacking ships that are enroute in hyperspace between two colonies. It will attack at random although it tends to overlook the lucky races and it cannot be killed. It does not have a physical existence on the map which makes it more an event than a monster, but the narrative suspense caused by its lurking is very palpable, since every journey made while it is out there is a chancy business indeed. In many ways this monster/event has the same consequences for *the human player* as a Hyperspace Flux which is an event that makes inter-stellar travel impossible as long as it exists. The words "the human player" are stressed here since it seems that this is one of the areas where the computer might cheat. Often it will succeed in launching an attack on another player traversing the vast distances between the star systems without being eaten by the monster, whereas the human player often lose a ship if hyperspace flight is attempted (even if it is only for a short distance), while it lurks.

5.2.3.3 Events

Besides the hyperspace flux and the Hyperspace Beast none of the other random events influence all races simultaneously. The rest of the events affect only systems or colonies and the rest of the monsters can affect more than one system in a worst-case scenario, which does not occur very often. The events are

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[14] The Galactic News Network will from time to time update the player on who is the strongest nation or what random events that occur in the galaxy.

more or less evenly distributed on good and bad events, with a slight overweight on the bad. Bad events include the following unavoidable events: earthquakes (destroys buildings and kill population on one colony), pirates (steal money from the race treasury), mineral depletion (lowers the mineral richness of a colony). Besides the unavoidable events, there are also disasters that can be avoided: Nova (destroys and entire system), Pollution (destroys climate and lowers population maximum and crop output) and plague (kills population). In all three cases it is research that is needed to avoid the impending disaster. Both the unavoidable as well as the avoidable disasters affect the narrative of the game. The unavoidable causes the player to feel like a victim and will in most cases make him want to 'rise from the ashes' and prove that bad luck is not a problem. The avoidable if avoided will strengthen the players' feeling of worth and his race will be on a course towards triumph. Again the GNN's reports of the players' achievements will support this part of the narrative.

The positive events are generally completely random except from one: the treasure cache. These caches are scattered throughout the map and will go into the treasury of the race who is the first to explore the system where the cache is. Besides Caches also stranded leaders can be found and recruited for free this way (although this happens markedly more seldom). These events that the player causes himself are important in strengthening the feeling of being in control of a powerful alien race, since the exploration needed to achieve those events is a sign of dominance in one part of the game. The player becomes 'the explorer' and can create a narrative around that particular role. The more random events add to the narrative in different ways: diplomatic weddings, contributions from wealthy merchants and population booms all speak of the righteousness of the way that the player rules, whereas the salvaging of advanced technology from alien shipwrecks speaks of the boldness of the scouts and explorers of the players' race. Changes in climate and mineral wealth are just luck smiling on the just (when it happens to the player). All of these small random events are part of the overall story of the game; they merge with the geographic narrative and tell a story of the birth, expansion and victory of an alien race that the player administrates.

5.2.3.4 Leaders
As mentioned above it is possible to find leaders at unexplored stars, these leaders are however often not legendary (in the best class). Legendary leaders can only be recruited if they present themselves to the player (the normal way to get new leaders), and if his race is charismatic better leaders will offer their service at more frequent intervals, than if it is normal or repulsive. They will even charge only half of their normal cost (which is double if he plays as a repulsive race).

The leaders are used for boosting either planet-output, fleet and army strength, spy efficiency or knowledge of the galaxy, besides that some of them bring technology with them as they are recruited or adds bonuses against Antarans and space monsters (**Figure 15**). Only one can be assigned to a planet or a ship at a time, and it is not possible to own more than four planet leaders and four fleet leaders at the same time. The leaders are immensely important, in that they are unique and they are the only objects that are random; the player has no control of which leaders are offered to him throughout the game (or which are in the game from the beginning)[15].

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[15] Similar to the hero recruitment in the Warlords series.

Figure 15: Colony leaders and ship officers may be assigned to star systems and fleets, respectively.

5.2.3.5 Antarans

Whenever the Antarans attack any race on the map a short video will play at the beginning of the turn when the attacking fleet is discovered enroute. The video only shows a small group of powerful Antaran ships arriving out of hyperspace. When they attack the human player, however, a longer video is shown. This time the bridge of the alien vessel leading the attack is shown. There a few of the hideous Antarans will tell about how they have come to the player's part of the galaxy to destroy all life there, starting with the human player himself. The second situation tends to make more of an impression on the player, and in most cases a frantic race commences in which the player will try to boost the defenses of the star system being attacked. Usually it will take the Antarans between two and five turns of the game to reach their target, but sometimes only one. In any case Antaran attacks serves to remind the player of the grand narrative of the game, which is not to handle the other alien races in that part of the galaxy, but to annihilate the Antarans once and for all. The constant threat of an Antaran attack helps strengthen the sketchy narrative of the game.
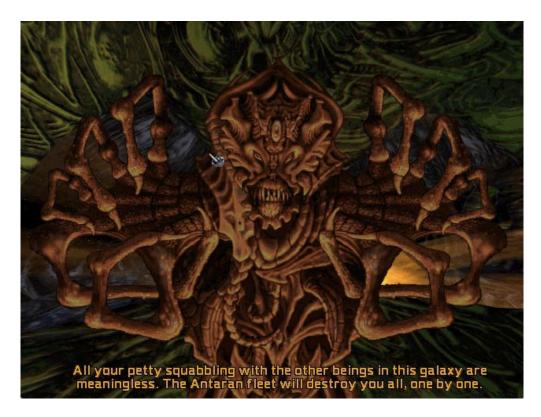
Figure 16: Antarians attack screen

5.2.4 Narrative of the Emergence Game

The narrative of an emergence game is, as mentioned earlier, very different from that of a progression game. So far this thesis has tried to show some of the special characteristics about the geographic narrative which is so prevalent in the strategy game. It has also tried to show some of the places where *MOOII* attempts to make use of more classical notions of narrative as a motivation for continuing playing the game. Finally it has tried to show how both of those two kinds of narrative helps strengthen the replayability of the game. There is, however, reason to address this issue of narrative in *MOOII* a little bit further. This will be done by looking at what some of the survey informants have to say on the narrative of the game and by applying Kjetil Sandvik (2005) and his views on narrative in computer games in the discussion.

> I'm rather fond of the strategy of casting [stream of life] on every city and running my economy on enormously high taxes (I prefer to assume that there is no coercion involved and the spell simply is so awesome that people won't mind the taxes), despite the fact that it's not a very effective or established strategy at all. I just like being the hero, you know. […] It's mechanically terrible, but it gives you so very many fun ways to change the environment. […]I guess what I'm getting at here is that I don't really make my empire "my own" […]I do enjoy taking an interesting concept and roleplaying it, especially in fantasy games. Roleplaying doesn't even have to be the best strategy in the game, so long as there's *something* about it that makes it feel strong (like, for instance, the ability to impose huge taxes on cities with Stream of Life). (2/20/11(3))

The player quoted above points at a few of the central concepts of narrative in emergence games that will be addressed in turn in the following paragraphs. When she plays the strategy game she is talking about how she steps into a role that shapes her way of playing. She plays not in the most strategically satisfying way, but in the narratively most satisfying way. She uses a strategy that involves casting a spell on all her cities that causes the citizens to be so happy that she can subsequently raise the taxes to very high levels without the cities rebelling against the leadership. She does not see this as a strategic feature of an emergence game, but tries instead to make a narrative explanation for why it works. She sees herself as the hero of his story because she makes people so happy that they do not mind the high taxes. A more cynical view in line with emergence game thinking would be that she brainwashes her subjects with the spell, so that they willingly pay the taxes, docile and ignorant like lambs for the slaughter. This being said the player in question still wants the strategy she is following to be efficient, despite that the narrative comes first. These views are very much in line with what Sandvik (2005) argues in his article:

> Men pga. den interaktive fiktions særlige karakteristika har spilleren mulighed for at gå ind og spille en karakter, eller snarere en rolle, eftersom spilleren ikke nødvendigvis styrer en konkret karakter (soldat, lejemorder, racerbil…), men kan have rollen som en, der styrer hele verdener eller systemer (som fx i strategispil af Civilization- (Microprose 1991-) eller Warcraft-typen (Blizzard 1994-)). På den måde kan spilleren spille med i selve fiktionen. Det særlige ved computerspils interaktive fiktion er, at spilleren kan påvirke selve handlingen og det handlingsunivers, den udspiller sig i. I computerspillet handler det derfor ikke så meget om at indleve sig i fortællingens karakterer, men om en immersion i spillets handlingsunivers, hvor spilleren bliver karakter. (Sandvik 2005, 3)

This phenomenon Sandvik calls storydwelling. Central for it is the immersion into the story of the game. Through that immersion the player creates the fiction of the story; it comes to be as a result of the emergence of the gaming and the performativity of the player. Without the player there would be no story but at the same time there would be no frame for the story without the game (Sandvik 2005, 3).

> When I play the games [*Travian* and *Great Battles of Rome*] I "pretend" that I would be in the ancient world and watch the battle. I imagine the whole war and get a kind of satisfaction/rush by the idea of how it look in my head. (2/17/11)

Again, the player quoted describes narrative affordances of the game as a primary reason for playing, or at least as a source for pleasure. When all the strategic gameplay is done with, when the armies are set in motion all that is left for the player is to lean back and let himself be immersed in the story he is playing out in the game. Performativity alongside with immersion is what makes the narrative of the game so vivid and important for this player.

> immersion og narrativt begær er fuldt ud mulige, også når spillets gameplay indebærer en narrativ struktur, hvor fiktionens plot er langt mere åbent, multikursalt, fragmenteret og ikke mindst emergent (dvs. at fiktionen opstår primært som resultat af spillerens handlinger). (Sandvik 2005, 4)

The narrative is not what drives the playing, as in a progression game; the playing is what creates the narrative. By playing the emergence game, the player constructs his or her own stories as flesh on the bones that are the rules and gameplay of the game, which fits very well with the conclusion in the chapter on kernels and satellites.

5.3 Summary

In this chapter on narrative as a reason for replayability in *MOOII* central notions of geographic and ordinary narrative were examined. Particularly the geographic narrative seems to play a large role in explaining why strategy games become replayable. Regarding ordinary narrative the concept of kernels and satellites showed to be helpful in explaining some of the narrative drive in *MOOII*. It turned out that strategy games cannot be considered complete narrative entities on their own, at least not if analyzed by the use of kernels and satellites. They only become complete when they are activated, and when that happen kernels become insignificant and satellites take on the nature of kernels as the skeleton of the narrative. Since the satellites change from game session to game session it is almost impossible to say anything definite about the narrative of a game, but only about each game session. What the game sessions show is that the small events of the game, the ones that make up most of the gameplay, have the potential to create the narrative drive and thus make a new narrative in each game session with great positive impact on the replayability of a game. The narrative importance of the satellites in *MOOII* is also the main cause for the situations of storydwelling that arise from time to time. That so many elements of the game have narrative affordances makes it easier to immerse oneself into the narrative by becoming part of it. The player is a key agent in setting up and playing out the narrative of the game.

The random events of the game were analyzed for their influence on the narrative, and besides their respective level of influence one other fact about their nature was found: that random events are important for the narrative drive of a game. Randomness, or alea as it is also called, adds an element of surprise and suspense to an otherwise fairly predictable emergence game. Emergence games are most often strongly based on skill (agon) and will in most cases be fairly predictable in their basic gameplay, but the narrative of the individual game session can change this by adding elements of chance as it is the case in *MOOII* with the random events. Surprises will make a game more exiting giving the player moments of rush feelings and unexpected joy and frustration and thus also help strengthen the replayability of the game (much as it is done in gambling).

This chapter began with a quote from an illustrated novel called *Sandman*. In it, an old man tells his grandchild a story of a time long past, and when the granddaughter points out that he contradicts himself on a certain matter, he says: "You shouldn't trust the storyteller; only trust the story". You believe the story by accepting the truth of it and so all stories are true if understood by their own premises; each person understands the story in a unique but true way and so the same story has as many different natures as it has readers. At the same time all storytellers are liars because they need to be to make the stories come alive with imagination, the only way to find the truth of a story is through the individual interpretation of it. The same thing happens when playing an emergence game like *MOOII*. The designers and developers of the game are the authors trying to make the story come alive by presenting its different features, but the story is never the same no matter how many times it is 'read'. Each player defines his or her own story and each play session of the game tells a new story, through the changing geography, and the different way that

races and random acts impact on that specific game. And every story played is a true interpretation of the story told by the designers and developers.

6 Cyborg

Eventually, your decisions become intuitive, as smooth and rapid-fire as the computer's own machinations. (Friedman 1998)

The playing of computer games is one of the areas of daily life where the relationship between humans and machines becomes most evident; it is here where our cyborg lifestyle rules supreme. Sure we use television, phones, kitchenware, glasses and thousands of other devices every day, but none of them are based solely on data processes as the means for aiding us in our lives. Computer games are all about data processes. Ted Friedman (1998) describes the relationship between man and computers in his theory on cyborg consciousness and he places great importance in the computers' capabilities as a procedural medium, especially when it comes to procedures which have to do with learning. Besides the learning aspect Friedman also looks at the recreational purposes of the computer, its abilities to convey aesthetics and the risks of entering too deeply into the cyborg relationship that it offers. Each of these will be examined in turn in this chapter, thus hopefully discovering how aspects of cyborg consciousness play a part in why computer games are replayable.

6.1 Learning

When I use a computer not even as much as a second thought goes into how to use the mouse and keyboard to navigate it. My mind is all on what happens on the screen, and only when what happens there is something new, like playing a new game or using a new program do I become aware of the interface and the controls again.

> The controls are very intuitive. There is an option to re-map the keys, but I never needed it. The functionality of the game is easily understood, as the first couple of "checkpoints" are a tutorial of sorts, that lets you familiarize yourself with the game without actually being obvious "training missions" (2/24/11)

The game that the informant quoted above is talking about is not *MOOII* but *SCII*, the views expressed here goes for all computer games, however. The informant has played the game many times in fact the game is very replayable for him since he has been playing it for many years without growing tired with it. He does not have any problems with the controls, and when he describes his first few play sessions of the game, he describes how the game makes use of a slow learning curve when making the player familiar with the game and its controls. Indeed the first few missions that the player encounters are so easy that it is almost impossible not to get out of them alive. Even though this game is almost twenty years old that way of familiarizing a player with the controls of a game is still used today. I very recently tried *Rage* (id Software 2011) and despite the gap in time and the different genre, it has the same kind of slow learning curve with very easy early missions. To say it has a slow learning curve is not completely satisfying in describing the learning process, once again the logarithmic function is what best illustrates the situation. Getting familiar with the controls of the game happens quickly. The first few easy missions quickly gives the player a fair

amount of control of the game and soon the missions become harder and the learning curve speeds upward. After a short time playing, maybe a few days, the player will have reached a place on the curve where it is almost flat, and learning has slowed down to a trickle since the player knows almost everything about the controls of the game. When the controls are mastered it is all down to the strategies and the contents of the game, to make sure it will be replayable.

The learning described above is all about how to become a part of a cybernetic circuit, how the process of mastering something, in this case a game, happens. There is another aspect of learning that Friedman (1998) also addresses in his article, and that is how being part of those cybernetic game processes can help convey meaning in a different (and maybe more efficient) way than other works of art like books and movies do. In games meaning is constructed through the process of interacting with programming, the interaction is one unique feature about computer games (although it does occur to a lesser degree in some kinds of television and books). That interaction is completely determined by the rules set by the programming of the game. Thus the programmers' have a large say in what ideas will be conveyed through the processes of the game, thereby they can introduce their players to certain attitudes and ideologies (Aarseth 1997, 138-139). Much of the talk in the media over the past few decades, about how games can make players more violent and remove them from the real world[16], has its origins in this situation. It is what Ian Bogost (2007) calls procedural rhetoric:

> Procedural Rhetoric is a general name for the practice of authoring arguments through processes. Following the classical model, procedural rhetoric entails persuasion – to change opinion or action. Following the contemporary model, procedural rhetoric entails expression – to convey ideas effectively. (2007, 29)

Friedman also writes about procedural rhetoric when discussing cyborg consciousness (Friedman 1998, 1-2). He is analyzing *Civilization II* and reaches the conclusion that it conveys fairly radical ideas of nationalism and imperialism, because of some of the processes regarding optimizing the output of land and dealing with barbaric tribes. I see it differently, I believe the ideology of *Civilization II* to be promoting sustainability and peace, since the cleaner the player can make production, the less production is wasted, and warfaring is very difficult under a democratic or republican rule[17]. Many of the same factors are at play in *MOOII* as well, here fighting pollution is one of the major goals while researching, thus avoiding waste in the production and ecological disasters. In short different games will teach different kinds of things. First person shooters (henceforth fps) might teach the player a few things about tactics, the same goes for RTS games. Flight simulations and some racing games, might teach something about how a vehicle behaves under different circumstances. Adventure games and RPG's can teach something about how people react to different actions, and might make the player better at solving puzzles of all kinds. And turn based strategic simulation games like *Civilization II* and *MOOII* can teach the player something about how different strategies of leadership and research affects a society and it might even teach the player something about natural science and history at the same time. All of these game genres teach different things, but they all do it the same way, through the use of procedural rhetoric.

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[16] In the optics of this thesis the real world includes computer games and vice versa, a difference between the real world and that of computer games is pointed out here, in order to understand the argument of procedural rhetoric.
[17] I wrote an essay about the ideology of *Civilization II* in a class on digital rhetorics in which I discuss the conflict above in greater detail (Pedersen 2009).

6.2 Aesthetics

> Thinking of computer games as a unique art form, where it's the mechanics that's at the heart of everything […]. On the other side of game design, the world of game mechanics *is* cruel and unforgiving and poorly understood, whereas storytelling is far better known and mankind has spent a couple of thousand years hammering out things like the psychology of good fictional characters pretty well. (2/20/11(3))

The aesthetic properties of a computer game are closely related to the interaction experienced while playing, and they are a key part of procedural rhetoric (Sandvik 2005, 4). As the quote by the player above states computer games is a unique art form, which indicates that it must also have its own unique aesthetic qualities. Qualities that we are still trying to understand and map out today, which is put into sharp perspective by the observation in the same quote, that the other art forms have had thousands of years to form aesthetic foundations of their own.

At the time when Friedman (1998) wrote his article computer games were still so new that genres were still fluent. As a result of this fluidity Friedman argues that the aesthetics of computer games should be striving towards the avant-garde, towards breaking the rule-sets and norms of other games and create something completely new. To an extent this is still a goal in today's computer industry, now however, the avant-garde mostly originates from new input devices (ipads, smartphones etc.) and new ways of interacting with them (wii controller, eye-tracking, voice control, etc.). Today, many genres are so well-defined that it can be counted as an aesthetic quality if a game stays within the boundaries of a certain genre, exploiting the strengths of that genre in its gameplay. An area where this becomes very evident is in games made for smartphones. The small size of the games and the speed of the processors in the phones cause many of these new games to rely heavily on simple rules instead of great graphic, just like the old strategy games from the 90's do. In many cases game designers actually succeed in crafting some very entertaining and replayable emergence games this way, and one of the things that make the games replayable is the recognizable aesthetics of the rules and the controls of the games.

6.3 Wasting Time and health

Friedman deals briefly with the problems related to submersing oneself into a game completely. It is easy to lose sense of time, and often the physical needs of the body are put in the background, as the interaction with the game is taking place. You do not tire because the body is not used for any strenuous actions. You start to feel the lack of important nutrients and vitamins, and in worst case scenarios suffer mentally and socially from the self-inflicted seclusion.

The lack of self-caring is a result of the loss of self in general. The further a player submerges into the cybernetic circuit the more he forgets about the needs of his body, the processes of the other half becomes just as important if not more. The other half is what provides the aesthetic impressions; input that are used to navigate through the game he is are playing. This is generally a very gloomy perspective to place on the cybernetic relationship between the game and the player. Most people only experiences this self-neglect in extreme situations, like when they have just bought a new game, or if they become unemployed or sick and

have more time for playing. Under more normal circumstances playing is kept at a more reasonable level, where the player might still experience the oneness with the processes of the game, but without losing touch with his body and the real life and its different constituents. This more salient and positive relationship with playing computer games is what creates the right circumstances for playing to become a source of relaxation and recreational purposes.

6.4 Relaxation and Recreational Purposes

One of my major reasons for replaying old computer games is that they are relaxing. I can turn on *MOOII, Civilization II, Age of Empires II* or any other of the old games installed on my computer, and slip right into the flow of the game. There is no need to exert any energy on learning new things or on technical issues; the playing is only about the strategies of the game and the joy achieved from that. I can play for half an hour up to most of a day if there is time, just enjoying shutting all the things of everyday life out of my mind.

> As we are talking about games we have played for a long time and keep coming back to, I'd say that once someone is familiar with a particular interface, they would have to spend close to no time trying to remember where a button or menu is hidden. (5/4/11)

The quote above points to another of my reasons for replaying old games. Actually it is very closely related to relaxing, because relaxation would be impossible if I did not have full understanding of the controls of the game. And like the informant describes once I have played a game a lot at one point in my life, returning to it even after many years does not pose a problem at all. All the knowledge about the controls and the interface comes right back, the strategic concepts are a little longer in returning. The process where all this intuitive understanding is initially created and stored is described by Dovey and Kennedy (2006) in the quote below:

> In our play we spend an enormous amount of time refining the tactics that will 'bring us into alignment' with the strategy encoded within the game. This refinement of tactics becomes the 'preferred performance' that the game seems to demand of us. A perfected level run in which every activity is perfectly timed and economically executed is as pleasurable as hitting the sweet spot on a forehand drive or a carefully plotted checkmate. The desire to achieve this preferred performance goes a long way in explaining the extraordinary phenomenon of repetition in gameplay – no other kinds of cultural consumption requires this kind of repetition. (2006, 116)

While relaxing with the game I still play up to my best, there would be no joy in playing below level, because a victory at that level would not demand the "preferred performance" mentioned in the quote above. I still experiment with new strategies and in *MOOII* with new races and paths up the technology tree. That such experimenting is possible is what places a game in the group of replayable games. If it has a completely fixed formula of how to be played to its optimal, it would lose its replayability after a while

because every game would be the same and have the same outcome: that the human beats the machine (or the opposite as is the case in some of Molleindustria's games[18]).

> Random startup situation generation insures variability, like starting in the dark, exploring, building, overcoming and conquering when required. Infinite replayability. Turn based. No artificial sense of time limits, hurriedness that detracts from the relaxation of enjoying it. (3/30/11)

The player quoted above points to an interesting fact that was found while analyzing the responses of the survey. Almost all the respondents preferred turn-based strategy games, only two preferred rts games, and both of those wanted alterations made to the game style, so that they had in one case a pause function and in the other the possibility to make more advanced tactical commands. The quote above points to most of the reasons stated in the survey results as to why the respondents prefer turn-based games. The feeling of not having an artificial end to the game, that speed did not matter, only the ability to make good strategic choices is mentioned often. One respondent even goes as far as to claiming that RTS games are not even strategy games at all, since there is not enough time to plan strategy once the game has begun; then it is all down to quick thinking, good motor skills and a good tactical sense, not strategy. Chief amongst the reasons to why the respondents do not like RTS games is the final bit of information mentioned above: it is not relaxing. Many of the respondents mention relaxation and recreation as their main reasons for playing the same old games over and over again and again, and apparently turn-based games are far better for doing just that. The respondents experience far more flow when playing turn-based since they only think in strategy, not motor skills, mistakes are not made because they have to hurry navigating the game or clicking the right buttons. The same feature of turn-based games is also one of the main reasons why they are so good at illustrating Friedman's (1998) theory on cyborg consciousness. Since no energy is spent on being quick on the buttons, all energy is put into actually playing the game, acting out the desired strategy. The interface and the input devises merge with the player, and not a single conscious thought is spent on clicking buttons or navigating between different interface screens, since speed is not of the essence when playing turn-based. Needless to say I agree with this group of informants in these particular arguments. I do however play RTS games as well; these are just not relaxing in the same way. The action is a lot tenser in RTS games which results in tension in muscles and dried out red eyes after e few hours of play, and a game is almost always finished in one sitting, even if it might take three intensive hours of playing. Despite RTS games being tenser than turn-based strategy games, they can still be relaxing as well. They become relaxing through the effort of reaching the "preferred performance" mentioned above; a process where a high level of flow is achieved. That is actually one of the reasons why the body, the muscle cramps and the red eyes are forgotten; playing to the best of my effort is very rewarding when measured in flow. This will be examined further at the end of next chapter, when dealing with social reasons for playing.

6.5 Summary
This chapter took a look at different aspects of cyborg consciousness, most notably the controls of a game and the processes behind the controls, and how they affect the player. It is very important that the player quickly gets familiarized with the basic controls, but at the same time gameplay must be challenging

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[18] Molleindustria is a collective of Italian game designers that specialize in political and other serious games. In many of these games it is imperative that the player lose for the ideological message to be expressed.

enough that the game continues to be challenging without becoming disheartening as the player becomes an expert at using the controls to navigate the processes of the game. Most importantly for the replayability of a game is it, that even when the player has become an expert at the game, there is still elements of the game that will challenge him, like making the right strategic choices and experimenting with different setups in the game (e.g., race selection in *MOOII* and combining different fleet types in *SCII*).

The aesthetics of a computer game resides mainly in its processes since it is them that are unique for this art form. Of course images and music plays an important role, but they come second to the rules inscribed in the processes. If the rules are well balanced it makes for a game that will continue to challenge for a long time without becoming too challenging, if these particular aesthetics are met the game has a good chance of also becoming a replayable game.

Thus if the controls and the aesthetics of the game come together in the creation of a replayable game, a game like *MOOII* emerges. In such a case the cause of the replayability is the attempt to always reach the preferred performance. If that is possible the player will always be able to play the game at a level that fits his needs for that particular play session. That way it is possible to use computer games as a way to get a relaxing break from the stress of everyday life, since for the time that the player submerges himself in the attempt at reaching the preferred performance he will be experiencing such a level of flow that most stressful things from his life is forgotten for a while. Most people will be able to take these breaks and administrate the use of them in a reasonable way, but so a few there are the danger of playing too much and thus damage other aspects of life, like education, health and social connections. It is important to stress though that the survey shows no sign of this being a problem since the informants seem to know how to restrain their game playing to a reasonable level.

7 Solitude or Sociality

With the real world and everything else, I only have a limited time for computer games. (2/21/11)

As the work on this thesis commenced it was with an expectation that looking at form and contents would be enough to discover how replayability arises in strategic computer games. However, as the work progressed it slowly became clear that psychology and social factors would have to be included as well, despite the fact that these areas of expertise are quite far from where my own lies. The psychology came into the picture through the theory on flow and the social factors became evident through the answers in the survey. It is some of these social factors and other factors influencing the replayability of a game that this part of the discussion will deal with. It will look at how different issues relating to technology affects the replayability of certain old games. It will also look at how the attempt to reach the "preferred performance", described by Dovey and Kennedy (2006) in the preceding chapter, is a drive that helps explain why replayability occur. After that there shall be a brief return to the aspect of games as a means for recreational time and as a conduit for social or antisocial behavior. Finally the argument that the replayability of old games should in some way depend on notions of nostalgia will be addressed.

7.1 Technology

> Anstoss 3. Still the best football manager game, but after having played some of EA's newer football managers (which, IMHO, aren't particularly good games), Anstoss 3's interface, simulation depth and especially the visual representation of the actual matches just seem dated to me. Older Civs: Each new installment of the series has introduced new concepts (culture, borders, religion, hexagons) which made going back to older titles impossible for me. (5/4/11)

The quote above points at two of the ways that replayability is affected by technological issues. The player quoted prefers *Anstoss 3* to other football manager games because it is the best game, but since its release EA has made many newer manager games that have overtaken *Anstoss 3* on a number of areas related to the improved technology. So despite that the player thinks that *Anstoss 3* is a better game he has stopped playing it and is now playing EA's manager games because of the qualities offered through its better use of technology. That a game is discarded on the basis of graphics and other features connected to the level of technology which it applies is something that more of the informants have experienced.

> Knights and Merchants. Very good game, very good gameplay, but poor graphics. So after about 10 years of playing, I quit the game. Besides, the alternatives became better and better, so at the end, it was just brough down from a good game to an average game, because of the alternatives becoming better. (3/20/11)

This player has enjoyed a game for a decade before she decided to make the game obsolete and start playing new similar games. She changed from a game she considered to be good to a game she considered to be poorer. Because of improved graphics and improving gameplay there came a point where it was only a small step down in regards to gameplay, to get to play with the much better graphics of contemporary technology.

The other point of the quote that introduced this chapter is that in many cases newer versions of a game will come out that offers new gameplay. The example here is the C*ivilization* series that the player quoted find to have improved enough with each installation to make earlier versions obsolete. Whether or not a new version of a game is better than a previous one is a very subjective matter, however. Personally I still play *Civilization II* and have, despite their better graphics and more advanced gameplay, never really played the later versions much. Why do I have a different opinion on this matter than the player in the survey? Because we are two different players first of all, second because we live two different lives, where mine the last few years have not left enough spare time to learn how to play a new game, thus the old and completely fulfilling game is still being replayed. The *Civilization* series is a bit unique in the aspect that most players can agree that each installation of the game is more advanced than its predecessor both in rules as well as in graphics, and most players will admit that it is always improving (and becoming more and more realistic as a simulation). I too admit to this, I just still prefer to play the old versions because of their simpler rules and more iconographic style (and because of the lack of time to learn new rules). That each installation is better than its predecessor is a rare feature indeed. *MOOII* is by most players considered the best installation in the *MOO* series, although a few still prefer the first because it is simpler; next to none prefer the third installation. A similar pattern is revealed in the *Heroes of Might and Magic* series, where a large majority of the fans prefer the third installation to the two previous and the two succeeding, as the poll below shows:

Table 1: Poll

1	(1%)	Heros of Might & Magic (1) - The original owns all others.
19	(15%)	HoM&M II - The second is the bread and butter!
79	(64%)	HoM&M III - The third is a masterpeice!
18	(15%)	HoM&M IV - The fourth just owned.
7	(6%)	I claim Heros 5 will be the best!

(ChimTheGrim, 2005)

The poll is from before the 5th installation was completed and since the 6th is now being tested in its beta version, it is not the most up-to-date poll, but it still speaks a clear language regarding the first four installations. The fact that it is not always the newest installation of a game that the fans consider to be the best shows that better technology is not a reason for better games with more replayability. The replayability is more often found in simplicity both in rules and narrative but also in the other aesthetics of the game; the graphics, sounds and interface.

> […]Further back, early (Amstrad CPC 6128, so late '80s) war games could be good but you would eventually learn the computer's deployment and strategies, so long-term replay value was limited. (8/17/11)

> In RTS, you are often fighting more the stupid friendly AI. Take Starcraft. In one game I lost an entire army of siege tanks and goliaths because they saw an enemy unit and chased it all the way to an enemy strong point I most certainly had not told them to attack […]. (2/20/11)

One area where more advanced technology increases the quality of games and also the level of replayability is in the better AI. As computers are becoming faster and more sophisticated the AI of computer games has increased as well, resulting in more and more realistic behavior and less predictability in the way the computer plays. This of course increases the replayability since it makes the games more varied that the player cannot predict the computer's strategies and behavior. The faster computers sometimes also results in making it almost impossible to play the old DOS-based games, even with the right emulator sometimes the game speed is just too high or the window you play the game in small (playing in full-screen often makes it too pixelated). So unless you have an old computer to play on, you might be forced to stop playing games that still have a large measure of replayability left in them. Luckily many fans try to modify the old games to make them up-to-date with present day computers, and some games[19] are even adapted for other technologies like ipads and smartphones. *MOOII* has been modified to balance the original game a bit, making it impossible to make the most powerful race-combinations. Besides that *MOOII* has been made into an online multiplayer game, so that it is now possible to play matches against fans from all over the world. The same has been made for *SCII* were it is now possible to fight out melee battles live via the internet (before it was only possible to play on one screen).

7.2 Honing Skills

That the old games are being made new through modifications by their fans is also something that boosts the possibility of reaching flow through playing. That it is now possible to test yourself against fans all over the world online ensures that you will always be able to be challenged even if the computer should at some point become too easy to beat (like it happened in the melee section of *SCII*). This little chapter is called honing skills because that is one of the most central aspects of replayability. It is also central for both flow theory and emergence games, that a game can and will keep on challenging the player, thus forcing him to keep on honing his skills if he wants to continue being able to beat the computer at ever higher levels or beating his high score.

> Usually, I get familiar with the game's very gameplay. As I get dragged into it, I develop certain strategies that I later compare to the strategies of the others and such. And then, to maximize my strategies' potential, I usually get familiar with the core mechanics of the game so I could use them to my advantage. To sum up, I am always very familiar with every aspect of the game that I play for a long time. (4/8/11)

Getting deep into a game like the player above describes is essential for reaching a level of playing where replayability occurs. Familiarizing yourself with every detail of the game that you are trying to master is part of how to achieve flow while playing. Only by knowing every detail can you make sure that you are playing at the highest level of performance possible and only thus is it possible to challenge the computer at its highest level which is (not counting play against other humans) the end goal of the flow experience. By this is meant that when you first start playing a game it is on a low difficulty level to get familiarized with the

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[19] Warlords II was successfully adapted to be played on PDA's a few years back.

game and its gameplay, but eventually you will set the difficulty level higher to keep on experiencing the right balance between relaxation and challenge to stay in the area of flow. Through that progress of rising up the different difficulty levels you will be forced to learn all there is to learn of the game, to keep on beating the computer as it gets harder to beat.

> In a computer game, the purpose is clearly to win, and the way to win is to defeat your enemies. When all obstacles have been overcome, all riddles solved, and the highest level conquered, the player is said to have 'beaten the game'. (Ryan 2001, 183)

Eventually you *will* experience in most games that the computer becomes too easy to beat. That is not when the game is "beaten", however, that is just the point when the goal of playing changes. It becomes to beat the high score or to beat other human players; which is why the opportunity to be able to play against other humans is so important in replayability. The AI is, to put it bluntly, not even close to matching a human in strategies and differentiating playing style (at least not so far).

> The most important reason for playing is a form of satisfaction that lies in the borderland between frustration and delight. […]The right amount of frustration turns mastery into an achievement - in which obvious drudgery springing from simple routine takes the shape of control and ease. But there are many other reasons why computer games are interesting, and why gamers keep playing. (Mortensen 2009, 65)

In the quote above Mortensen supports the observation mentioned earlier of how replayability occurs: in the flow of playing at a level that matches the player at her best, so that every victory feels truly earned and meaningful. The frustration that Mortensen mentions is abundant as you try to reach mastery of a computer game, which is what makes it such a sweet a feeling when you finally beat the computer at a level where you have not earlier been able to beat it. The progression in skills is what drives the player to return to a game repeatedly, as one of my informants puts it: "Progression is essential. If you do not progress, what is the point of the game?" (8/13/11). It is ironic that this player chose exactly that word to describe the reason for playing and replaying a game, since in Juul's (2005) theory progression games are the ones that are usually not replayed very often. But as mentioned before: in emergence games the playing is not as much about progressing in the narrative of the game as it is about progressing in your skills at playing the game. That way you will be able to replay the game while creating a narrative through your actions in the game that is more to your liking; until you are eventually able to 'write' a narrative with which you are always entertained, as Dovey and Kennedy put it: "Every gameplay experience is a live performance, using the set, characters and props provided by the game environment." (2006, 116). A "live performance" they call the action of playing a game. A live performance that eventually after a number of playt sessions should become the preferred performance of a master player of that particular game: "[…]This performance is more than a cognitive reading/interpretation process – it is also a process of manual dexterity, interface control, timing, memory and elegance." (Dovey and Kennedy 2006, 116).

One way of deciding when mastery of a game is achieved, besides the more subtle and subjective of the experience of playing and the achievement of flow, is through the high score feature included in most emergence games. I have often played *Civilization II*, *Heroes III* or *MOOII* where at the later stages, after the opponents were beaten most of my reason for keeping on playing was to beat the high score. Of

course there is also the narrative drive in annihilating all enemies, in occupying all continents or in colonizing all planets, the joy of expanding and growing and researching everything that can be researched but all that tend to pale after a few hours of no conflicts or war-like action, and by then all that keep me playing is the attempt to beat the high score. Granted it is not as salient a reason for replaying as the narrative reasons, but it is a very fulfilling feeling to beat a high score that might have lasted for a year or more, even more so if it belonged to someone else (the element of competition). Not to mention the fact that the final hours of playing without conflicts and engagements with enemies is the part of the game where I submerge deepest into the cyborg consciousness state-of-mind; everything is done automatically completely without thinking about my actions or the interface, it is only about scoring as high as possible and doing it as fast as possible to reach the conclusion of the game and beat the high score.

> Målbarhed skaber rekorder: Resultater af spil manifesteres I highscores (lister over de 10 højest opnåede pointtal i et spil), 'halls of fame' eller f.eks mesterskabspokaler. Spillere holder øje med pointscoren og spiller så for at slå den. […] Rekorder fører til træning og øvelser: Det er aktiviteter, der typisk udføres med henblik på at slå en bestemt rekord. (Engholm og Klastrup 2004, 202-203)

The element of beating the high score of someone else touches on another aspect of playing and the honing of the player's skills, the social reason. A major drive when it comes to bettering yourself at playing a game is to be able to beat, or, at the very least, surprise or impress other human players of the game. After *MOOII* has become an online game this might be the most important cause for replayability to the people who play there. Fans are sending each other savegames where they have had a difficult game and dare each other to beat the highscores.

> Civ III. After I discovered CivFanatics GOTM, I found it interesting. I never can get a game done in a month, but it is interesting to see the things others think of and discover and do, and compare them with what I did or didn't see/do. (3/30/11)

A lot of comparing takes place on the different fan forums and it is not all about beating the other fans' achievements. Much of what goes on there is about learning about new aspects of the favorite game; see how other players play, look at the strategies of others. Beating high scores is not the only way that playing socially is interesting and rewarding.

7.3 Social Aspects of Replaying Games

> Humans mean a varied play experience. Some people are helpful, some are inattentive, some will ignore their neighbors, and some will go PvP even in a non-PvP game. In a vs. game, it's a bit more even, but you still run into unstable political tripods and things like that. AI is generally not that good and games eventually boil down to exploiting its weaknesses. (2/20/11)

> You can play [Guild Wars] both without online players (makes it harder) or play it with online players (easier because online players can use skills more intelligent than AI-players). You can as well have a guild hall for your guild where you can chat and so. (2/17/11)

These quotes pinpoint the main reason for playing with humans: that you do not know their weaknesses, they are simply better players than the AI. A human player will adapt to how you play in order to beat you, whereas the AI will follow the path and strategies it is used to. For example when playing *MOOII* you can have a battle against a superior foe. In that case, most humans will try to take as many ships down before the end of the battle, in order to diminish the firepower of the enemy for the next attack. The computer will attack the strongest ship and most likely not even dent its armor, because it is programmed to take out the greatest threat first (even though it cannot destroy it or win the battle). *Heroes III* is another example where the computer is not even close to a human player in thinking out strategies, and it becomes most apparent in the appliance of magic during battle. The computer most often only use low level spells and most often offensive spells, the human player will more often be a bit more creative with the use of magic and often choose to use positive group spells (something the computer does not use very often). I played a battle in *Heroes III* recently in which I succeeded in beating an enemy that had about 400.000 hit points with an army of about 70.000 hit points without losing a single unit, just by applying magic in a more strategic way than the computer would do. That would never had been possible against a human player, which is why the possibility to play against humans is so important for the replayability of a game, it makes it possible to keep on playing the game long after you master it against the AI.

Near the end of the previous chapter I mentioned that I like to surprise or impress other players; this too is much more fun in games against them than in mere demonstrations against the AI. Some of my fondest memories of replaying games are from playing the melee section of *SCII* against my friends, because no matter how good they got at the game or how bad my team was I could always beat them, even when their teams were three times more powerful than mine. It was great fun to be able to maneuver the spaceships in ways my opponents could not and to apply the right amount of patience to win against bigger and stronger ships. The computer was never a match to me, despite the fact that the AI had far better control of the ships I would still win, mainly because of a better understanding of tactics and knowledge of how to apply the weapons most efficiently. Only against humans were there an experience of some challenge and only against humans was there an audience to show off to. This control of the game is an aspect of the highest level of flow possible. I would balance the teams to give me a handicap, forcing myself to play at my absolute best if I were to win, thus placing my game experience in the level just between boredom (playing against the AI) and too much challenge (if the teams became too outbalanced).

> League of Legends is currently my most played title. Contrary to what I wrote previously, this game is dependant on clicking and fast thinking. However, it also offers a lot of variety and can (and should) be played as a team game. (5/4/11)

Team playing is also something that strengthens the replayability of a game tremendously. I have played *Star Wars Battlefront* (LucasartArt 2005) and *Left 4 Dead* (Valve Corporation 2008) countless times without growing tired of them, simply because they are available in cooperative mode. It is important for my

experience that I play these games in a hotseat[20] mode so that we are actually playing them physically in the same room. Via the internet it is not quite the same experience. It seems that there are two things at work in this particular situation. First there is something very relaxing about just being in a friends company without having to talk and exchange information all the time and second it is a very unique feeling to become part of a cyborg consciousness that consists of three entities instead of just two. Such a circuit is in a way a very intimate connection between friends since you need to cooperate completely and almost without delay to be able to play optimally. Much of the gameplay happens intuitively without the need to discuss tactics during play, you instinctively know where you need to be to support your friend to the best of your ability. Talking and discussing strategy and tactics happen in between levels or when there are other kinds of natural breaks, and the combination of being one and completely immersed in the gameplay and the breaks where you chat and talk is a wonderfully easy and in ways intimate way to spend time together (as long as it is not the only way you interact).

> I've never felt that human interaction was necessary in games, though it can add a nice flavor. Generally, though, I turn on a game when I know I'll be alone for a few hours, and turn it off when people I know are around. Better to get your human interactions face to face, rather than face to computer to computer to face... (2/22/11)

Not all the informants agree with my views on cooperative playing as the quote above clearly shows. Playing computer games is a solitary action to this player. I guess that most players play their games alone more often than they play then in the company of others, although I have no basis to know if this is true. The reason why the player quoted above does not play much with other people is that he considers it to be anti-social. To him socializing with others is about the attention he gives by being fully present in someone's company. A computer game will delude that attention and devalue the company the player offers his friend. To a certain degree I can sympathize and even agree with his point of view. Often when you meet with friends a large quantity of the time is spent on showing this or that video to the other on the computer screen or with watching this or that picture or movie and it is easy to get a feeling of inconsistency in the contact you have together. This is not the case when you meet to play a computer game, at least not to my experience. Part of the explanation to why it is like this lies in the planning: if you plan to do something, be it playing computers, watching a movie, or any other kind of seemingly anti-social action, it is not a problem for the feeling of attention and presence that gained from the socializing. You already knew what to expect before meeting, so the lack of attention and 'nearness' is not disappointing. The other part of why playing computer games is not anti-social for me, is what was mentioned above. You interact together while playing, and if the cyborg circuit is strong the interaction is very intuitive and intimate. In a way you get more presence and attention through the circuit than through normal interaction via talking and using the other senses.

> Interaction with real players is great, as well with as computers. There are downsides to each, though. With computers, you can't have a real interaction. With real players, sometimes you don't want to have a real interaction. (2/21/11)

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[20] Games with a hotseat mode was originally turn based games were you only needed one seat, as two players were never at the computer at the same time. In this thesis it simply means that two players play on the same console.

It's more involving if you can guarantee good human players (often people you know) as random human players are arseholes. But more often you have to settle for the AI, which is often terribly limited, has no idea of strategy in any sphere (e.g. does not understand economic strategies, cannot form relationships). (8/13/11)

There are other reasons for not playing computer with other humans, than merely because it is considered anti-social. It could be a more personal reason like in the cases quoted above, where past bad experiences with playing computer with strangers have caused both players to dislike playing with other humans. Both are not completely dismissing the notion of playing with humans, indeed they both acknowledge positive aspects of playing with humans rather than with the AI. The true interaction you have playing with humans and all the subtle aspects of such an interaction makes for much better gameplay than the limited and predictable AI. The problem with humans that you do not know in advance of a play session, is that you often do not have much in common with them, neither in personality nor in playing style, which often cause some frustration if you have to cooperate. An even bigger problem is that some human players will cheat and use modifications and bots to be better at administrating their empires or auto-aim to shoot better (in fps'). Probably this is what causes the second person to say that "random human players are arseholes".

I played *Travian* (Travian Games 2004) for a couple of years like one of my informants: "[I replay] Travian - For the social connections and the topic of the game."(2/17/11). And like him what I enjoyed the most about playing *Travian* was the social connections I got through it. In that game it is essential to become part of an alliance. The goal of the game is to be the first alliance to build a world wonder. It takes about ten months to complete a game and in that time alliances change and the allegiances of different players change and change again. The game itself is not very interesting, but the diplomatic work and the interaction with other players is a lot of fun. It is very rewarding to be part of an alliance that sticks together to the end of the game and manages to keep its integrity by not breaking treaties with other alliances. It is also great fun to destroy another player through good strategic playing, especially if he is annoying or bad tempered. However the replayability of the game faded after a few servers had been completed. The reason for this is to be found in the quotes above mainly. Many players cheat which is very frustrating for those who play by the rules of the game, and many players are just plainly very poor strategists and have little or no notion of tactics and making diplomatic connections. So in both those cases the lack of replayability is due to playing with other humans, while that very fact, playing with humans, was the reason why the game first became replayable. A strange paradox.

7.4 And a Return to the Aspect of Relaxing

[…] Don't know the complicated or sophisticated strategies, but just playing to enjoy myself, so it doesn't matter. I'm not in a competition. beside with difficulty levels selectable, you can always beat the game, unless you want to be a masochist […] (3/30/11 9:27 AM)

It is not always about being the best at something that matters; beating high scores and winning against other human opponents is not a necessity to all players, when it comes to explaining replayability. To many players it is just as much if not more about relaxing with something that is familiar to them. In most parts of the industrialized world social life, work life and private life are becoming ever more hectic as a result of the new digital media, the social networks and the technological advances that make it possible to work everywhere and to be on call everywhere. In such an environment of existence it is important to have some kind of refuge; a place where you can go to relax and take some time off from your surroundings. To many of the informants their favorite games supply such a place of refuge. In response to the question if they prefer turn-based or real time strategy games I got these two answers (amongst others):

> turn based. RT is too much nervous/mental/timerush energy consumer. want to just enjoy for a minute or an hour, then take a break and come back whenever I want to later. (3/30/11)

> Turn-based. I prefer to have the option of thinking my moves every now and then. Allows also a more leisure rythm of playing where interruptions don't disrupt the entire gaming experience. (2/25/11)

To both of the informants quoted above it is imperative in their replaying of the game, that it allows for them to play only short periods at a time. Therefore they also prefer turn-based games, since they offer gameplay that is easier to put on pause and return to after a long time, without being completely disrupted by the time spent away from the game. Apparently their lives are such that they cannot play for long stretches of time, maybe it is because of work or family, or maybe it is because of what was mentioned above, that modern life offers only very little time, where you are not expected to perform or at the very least to be on call to perform. By perform is meant all kinds of performances be they social, work related or family related, central for the performance is that it is caused by others' expectations to you. Another effect of this lack of time is that players do not feel like they have the time to learn how to play a new game, since this would demand that they took time away from other activities to learn how to truly master the rules of a new game. One of my informants even experienced this when trying to play the sequel to a game she already loves: "[…] Pretty much just play Civ III now, even after buying Civ IV, but not ever having/taking time to learn it." (3/30/11). Despite that she does not explicitly express it here I seem to detect a hint of dissatisfaction with her situation. I believe that if this player had the time, she would at least play *Civilization IV* (2K Games and Aspyr 2007) enough to feel able to make a qualified judgment of its qualities and flaws. But as another of my informants puts it: "[…] no player has the time to play every game in the world over and over again." (2/21/11). Indeed most players do not even have the time to play even a few games over and over again, unless if it is old and well-known games, where they do not have to exert time or energy on learning rules and getting familiar with interfaces.

> […] I occasionally play it while watching some video or listening to something that's interesting but just not quite engaging enough to really concentrate on. Something like, say, The Daily Show. The choice of game is completely immaterial, all that matters is that it's just something to look at but that it's not something I have to concentrate on at all. […] (2/20/11(3))

The game that is mentioned above is not that player's favorite game just another one that she replays. The quote shows another result of the busy lifestyle described earlier in this chapter: that we do more than one thing at a time. This needless to say demands a certain kind of gameplay from those games we play, since they need to be slow paced or simple enough that we can leave them be for a few moments while our attention is taken up by other things. I experience this while being at my job, since there is a bit of waiting time included in my work routines. That waiting time is often spent either on reading or on playing simple turn based or puzzle-like flash games. There are too many breaks for me to do anything serious like studying or writing on this thesis for example, but not too many breaks to not do the other things. I suppose this kind of replaying is more based on how the game playing is situated than on the qualities of the game, although it is important that the game has simple rules and an obtainable goal with a high score feature as well. Simple rules to be easy to learn, and obtainable goal, so that it does not seem futile to play and a high score so there is a reason to keep on playing time after time.

7.5 Nostalgia

When I have discussed the work I am doing on this thesis with different people a recurring topic has been that of nostalgia. It seems like many people believe nostalgia to be a reason for replaying old games and doubtless they are right in some cases. This is, however, one of the situations where it is important to bring out Juul (2005) and his descriptions on emergence games and progression games.

> [...] there's a lot of games that I've played "repeatedly", meaning I've played them maybe once a year or two years. I guess I can't really put any of those down as ones I've "stopped playing" since I can't know if I'm going back to them someday. (2/20/11(3))

Progression games are often dependent on a stronger classical narrative, and they are also easier to construct a narrative in because of their linear structure. In many ways progression games are very similar to books, their narratives are mostly pre-defined by their writers, only a few of the twists and turns are left for the imagination of the users to construct. In emergence games it is the opposite situation. Here most of the narrative has been left out of the construction and the user has the opportunity to be as creative as the rules allow in creating a narrative from the scarce contents. Since the case of this thesis is a strategy game and thus belongs to the group of emergence games, and since its goal is to sort out causes for replayability in strategy games the survey questions are all shaped by this, and it has been posted only on fan forums for strategy games. Thus all of the players that have filled out the survey is expected to be playing strategy games (as well as other genres of games of course), and therefore most of their reasons for replaying is similar to mine own. The player quoted above describes how she returns to a game maybe once a year or a little less frequently, it is important however to stress that she is not talking about her favorite game here, but just other games she replays from time to time. Her favorite game she plays much more frequently. I play a game for a different period of time whenever I return to it, and I rotate between my different favorite games when deciding what to play, much like this informant: "If I play a game 'repeatedly over the years', I tend to return to said game even if I don't play it for months or even years." (2/25/11). For example I might play a few game sessions of *MOOII* one month and a couple of campaigns in *Heroes III* the next, then *Civilization II* and so on, and sometimes months or even years might go by in between my replays of certain games. From time to time I might play *SCII* but that is much rarer since it has many elements of a progression game, amongst these a fairly linear course to take from the beginning through to

the end. When playing *SCII* I sometimes get a feeling of nostalgia that could be ascribed to the fact that I do not play it very often and to the joy of re-playing the story of the game. Thus to me it seems that nostalgia is an emotion mostly attributed to the contents rather than to the form of cultural artifacts and to the distance in time since my last contact with the artifact. Therefore playing *MOOII* never becomes a nostalgic experience for me, since it is not as much about returning to a known and loved story, as it is about creating a new story by the rules of the game, and besides that the last time I played the game is never very far in the past.

7.6 Summary

In this chapter the importance of technology as a part of the explanation for replayability was established. It was shown how some old games become technologically obsolete before they stop being replayable. Newer games are getting closer to the level of gameplay of the old games, but are so much better in graphics and smoothness in running on new computers, that players abandon the old games in favour of the new. Also it was mentioned that many old games are being re-invented for different platforms or online gaming, to ensure their continued replayability. One very important improvement in new games is the better AI and the increased challenge this cause in new games. To have a worthy opponent in the AI is very important in reaching replayability. A worthy opponent can also be found in other human players which is why it is also important for the replayability of a game that it can be played against human players, when the AI no longer poses a challenge.

The notion of challenge is very important to most players, and to some the challenge is not nessesarily achieved through playing against an opponent as such, but also against themselves and their former performances and high scores. It is very important to become better at the game and to continue at becoming better even after many play sessions, which is why a high score is so important. This honing of skills and strong orientation towards the end goal and high score is explained through the theory of the preferred performance.

The preferred performance also affects aspects of social and anti-social player behavior. Many players like to play computer games with other people but about just as many prefer to play alone. In both cases playing is considered relaxing. When playing with a friend it is a way to sit down and cooperate about something (or to compete in some cases). Often playing takes place without much talking but still with a very intimate understanding of each other, in what I call a cyborg consciousness of three parts, since the two players are connected through the computer. The ones who prefer to play alone (many takes equal pleasure in both kinds of playing) do so because they play to relax and enjoy a few moments away from the expectations of the surrounding society. In the game they don't have to perform to anyone else than themselves.

Also the concept of nostalgia was considered here, since the research of this thesis had indicated that some people believe it to have an effect on replayability. It is here shown that only in very rare cases does it have that. And in those cases the games in question are replayed so infrequently, that it almost becomes problematic to call them replayable. The truly replayable games are so because of their quality during continued play, in which case nostalgia does not have time to evolve (since it is a feeling that evolves over a span of time and distance).

8 Conclusion

My definition of good literature is that which can be read by an educated reader, and reread with increased pleasure. (Wolfe n.d.)

This conclusion will not be focusing in any great detail on the work process in the production of this thesis. It will not focus much on theoretical or methodological choices either, since both issues have already been thoroughly dealt with in the proper chapters.

The focus of this conclusion will be to see how well this thesis answers its research question and if the hypothesis is fulfilled. I wished to find out whether it was possible to say something about the replayability of a strategy game through analyzing its form and contents among other things, focusing on the rules and narrative of the game. Was it possible to dissect a strategy game and analyze its component compounds and thus discover what made that particular game replayable? My hypothesis states a belief in that it is possible. Furthermore it states a belief in that the knowledge gained from analyzing one strategy game might be used to define a general set of traits a strategy game should possess in order to be replayable. With such knowledge it would be possible to make a list of things to consider when developing a new strategy game, a list which should make it possible to make new strategy games that possesses the same level of replayability as many of the old strategy games from the 90's[21] did.

First of all it is necessary to make one thing clear: it is indeed possible to discover if a game is replayable by analyzing its individual parts as it was done in this thesis. Furthermore it is possible to isolate those elements of the game that makes it replayable and analyze them in further detail. The results of this further scrutiny yields knowledge that can later be applied in the development in new strategy games containing a high level of replayability.

This thesis has found a number of game elements to be of importance to the level of replayability of a strategic computer game. As *MOOII* is the case that has been analyzed, elements from this game will be used as examples here, while an attempt will be made to make those elements specific for *MOOII* applicable for general use in analyzing other strategy games. The elements found in this thesis are easily divided into two different groups: form and contents.

8.1 The Form of a Replayable Strategy Game

While analyzing the form of the game, naturally the rules and aesthetics of the game came into focus. It was found that because *MOOII* belongs to the category of emergence games (Juul 2004), it had a far better potential for replayability than if it had been a progression game. Its nature as an emergence game means that it is a game constructed with simple rules that allow for many different strategies in playing. The

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[21] The high level of activity on the fan sites of the old strategy games and the fairly large number of members in most of them is the basis for the assumption that those games are replayable. They have not been analyzed in detail for elements of replayability, but people have played them continuously for more than a decade, which is, for the purposes of this thesis, considered proof of replayability.

simple rules have two major qualities. First that they are easy to learn, thus the player will find himself in a process of getting good at the game that is devoid of too many setbacks and frustrations. Second that they allow for many strategies which again allow for the game to continue being challenging even after the controls and rules are mastered. Thus it is possible to feel flow (Csikszentmihalyi 1997) at all stages of player-experience, and so it becomes possible to find continued challenge in the game even after long time playing it. The player will always be able to reach that level of playing where he experiences the preferred performance (Dovey and Kennedy 2006). To measure the level of his performance it is very important that the game has a high score function, thus there will always be a goal to beat, be it his own or someone else's. A final important feature for continued flow in playing is a good AI and a multiplayer function. The AI is important when the game is used as a recreational medium, when the player uses the game to take a break from the stress of everyday life or from performing in social functions like work or family life. To reach that feeling of flow needed to immerse oneself completely into the cyborg consciousness it is necessary to have an AI that matches your speed and level in strategic thinking, or at least comes close enough that the game is still challenging. It seems furthermore that turn-based games are far better for this particular thing than rts games are, since they do not rely on dexterity and tactics as much as on strategic abilities.

8.2 The Contents of a Replayable Strategy Game

When analyzing the contents of *MOOII* two major discoveries were made. One is that in strategy games the structure of the narrative that the developers imagine the game to have, and the structure that the respective players are experiencing are two very different things. The other discovery was that the narrative invented by the player through the playing is strong enough to (in some cases) cause the player to play less good, than demanded to achieve the best score.

The first discovery was made while analyzing the kernels and satellites of the game. It turned out that the narrative of the game as constructed by the designers was not very elaborate, which is quite common in emergence games. It did, though, have a few kernels to make a sketchy story and the possibilities to make lots of small satellites out of the different objects, events and actions of the gameplay. What happens when a player begins a play session is that the game changes dramatically. The original kernels lose their narrative importance and become insignificant events in a story whose kernels are unique for that particular play session. In other words the narrative of the play session is completely different from the one that the designers intended with the game, since kernels and satellites switch nature as the gameplay commences and unfolds. Thus each game session has its own unique and rich narrative, consisting of many self-invented kernels and even more satellites. Therefore a strategy game can be said to accommodate great narrative affordances that are made possible through its gameplay, and not through the narrative thought up by the designers. And since it is the player who is in control of creating the narrative it also opens up for a greater level of immersion into the narrative. One element of the contents of the game that the player does not have any control over is the element of chance. Chance is important when explaining replayability because events of chance have a great emotional impact on the player, probably because he has no control of them. The rush of feelings attained by these events (both good and bad) adds an extra level to the game experience that has considerable influence on the replayability of a game.

The narrative that the player creates through the gameplay in many cases becomes quite elaborate and strong despite the lack of deep characters and an epic-scale storyline. Often the narratives revolve around the diplomatic treaties made with the other races in the galaxy, trade agreements become non-aggression pacts and non-aggression pacts become peace treaties, and the mutual diplomatic relationship slowly climbs to harmony[22]. A relationship of harmony is only achieved after many years of cooperation and peaceful co-existence with another race. This time of potentially perpetual understanding might be spent on conquering other races' territory, do important research or boost infrastructure; all the necessary steps towards a new high score. After a while a situation arises where the next step towards beating that high score is to break the treaty with the ally and start a war against their race. This is a step that is not easy to take despite the obvious reasons to go ahead and do it. This is due to the narrative that the player constructs around the specific gameplay situation. All the small stories of co-operation against mutual allies and the many years of sharing technological knowledge and wealth have become a central part of the narrative constructed in that particular play session. The importance of this discovery in relation to replayabilty is closely connected to that of the one mentioned above.

It is important to make many possibilities for narrative structures in a strategy game, since the more there are the more ways to play the game is open to the player. The more objects, events and actions that invite to inclusion into a play session narrative the better. The more ways to interact with the AI and the more realistically it responds the better for the play session narrative. It is interesting that the things that improve on the replayability from a narrative perspective are the very things that decrease the narrative control from the designers' perspective: more player control, high malleability and a ludic game space.

Finally it is necessary to mention the geographical narrative, since it is probably the singular most important feature causing replayability to occur in a strategy game. All the respondents, in the survey conducted for this thesis, mention the joy of exploring the surrounding world, taming nature or elsewise expanding their territory as one of the prime reasons for replaying their favorite game. The whole process of making space into place and see how your nation thrives by its expansion and development is central to reaching a high level of replayability in a strategy game.

8.3 To Make a Strategy Game Replayable.
To sum up what it takes to make a strategy game replayable, this little chapter has been added.

- The rules must be simple and easy to learn and navigation likewise, but they must offer the possibilities for playing with many different strategies, so that the game continues to be challenging also after the rules and the navigation are mastered. Even better would be if playing the game did not rely on previous experience with playing games of the genre or even using the console.
- Before the game begins the player must be allowed a certain level of control in how the world is set up and in his starting situation.

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[22] Next to each envoy in the race screen there is a bar that changes accordingly to the nature of your two races relationship. It goes from feud to harmony.

- The 4x's need to be fulfilled: the game must include exploration of space, expansion into place, exploitation of new found place and the extermination of enemies. This ensures that the geographic narrative is included in the game.
- The narrative written by the designers must be sketchy and provide a good frame for different stories to evolve in.
- The game must have a very high level of malleable elements and ludic space, and there must be possibilities for a good deal of micro-management. At the same time many player controlled actions must have a function allowing them to be automatized later on in the game, when management otherwise could become tedious. This will ensure that the game session narratives can evolve in many directions and that the game is dynamic to the very end.
- The AI has to be believable when the player interacts with it and when ruling its nation, so that the opposition it offers to the player is always challenging.
- There has to be a multiplayer function, preferably one that allows cooperative play and online play. A high score list is important for solo play.
- The game should be turn-based, but preferably have a function allowing for real time play sessions, to accommodate as many types of players as possible.
- An element of chance must be included in the game to add extra suspense and the emotional rushes of having good or bad things happen to you for no apparent reason.
- It is important but not imperative that many strategic choices have consequences, meaning that to choose this stance towards this enemy, or this technology instead of that, of this belief system instead of that kind of government must mean an exclusion from the possibility of reverting to the other choice later.
- Good artwork and good music are good for replayability but not imperative.

As it clearly shows the bullets above are in most cases only applicable for games of the strategy genre. Future work based on the findings in this thesis might include adapting the bullets above to fit other game genres as well. Such work would be challenging since some of the central elements e.g., the ones relating to the emergence game nature of strategy games simply do not apply to progression games without serious revising. Also the span of time a game has to be played to be called replayable seems to be very dependent on game genre as well, since especially fps's are relying heavily on new graphics and good AI, and therefore do not have as long replay value before becoming obsolete.

Another way to do future work based on this thesis would simply be to try to build a strategy game based on the findings in this thesis and see how it will be received by the players of games.

8.4 What Makes *MOOII* Such a Unique Game?

Gene Wolfe's words introducing this conclusion are on literature. He speaks of how good literature is something that the reader is not done with after having read it one time. In fact good literature can be read again and again revealing new meaning every time it is read. I believe it is the same when it comes to playing games. A good game like *MOOII* will keep on giving the player new experiences no matter how many times it is played. Besides the points mentioned in the chapter above, *MOOII* has something unique about it that adds to its replayability; it has the race selection screen. The race selection screen creates the

possibility to add seemingly unlimited variation to a game session. Change just one thing like the creativity of your race and it adds a whole different way to do research. Make your race lucky and you change the randomness parameters of your race. Add fighter pilot skills to your race and plan your strategy based on that decision. The race selection screen is the master stroke of *MOOII*; to make a truly replayable game, one that will span decades instead of just a couple of years in popularity, something unique like that is needed in the design.

9 Bibliography

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10 Appendixes