Aalborg University Copenhagen

Semester: 4th

Title: The Narrative Quality of Games and Play

Project Period: Spring 2017

Semester Theme: Master Thesis

Supervisor(s):
Luis Emilio Bruni

Project group no.:

Members:

Bjarke Alexander Larsen

Abstract:

This thesis will describe a new framework for analysing and describing how games, narrative, and play work together. The framework, called the "Narrative Quality of Games"-framework, describes the relationship between a game and its narrative, the mechanics and context of the design, and highlights how the narrative is created through play by the relations between a game's ludic and non-ludic elements. A narrative is further divided into a game's rhetoric, aesthetic and afterstory---a result of emergence. The framework is defined to describe the contentious and often uncertain relationship between how a game is made by an author, and how a game is played, and what narratives both parties get out of that. With the framework, five games are analysed, and the framework thus far shows promise for analysing many various games, to highlight their narrative and discoursal content. Further work on using the framework for design is still in question, but potentially possible.

Copies: 1
Pages: 154
Finished: 1/6 - 2017

AALBORG UNIVERSITY, COPENHAGEN

The Narrative Quality
of
Games and Play

by

Bjarke Alexander Larsen

"Of course it is happening inside your head, Harry. But why on earth should that mean that it is not real?"

- Albus Dumbledore (Rowling, 2007)

AALBORG UNIVERSITY, COPENHAGEN

Abstract

Technical Faculty of IT and Design

Department of Architecture, Design, and Media Technology

Masters of Science, Medialogy

by Bjarke Alexander Larsen

This thesis will describe a new framework for analysing and describing how games, narrative, and play work together. The framework, called the "Narrative Quality of Games"-framework, describes the relationship between a game and its narrative, the mechanics and context of the design, and highlights how the narrative is created through play by the relations between a game's ludic and non-ludic elements. A narrative is further divided into a game's rhetoric, aesthetic and afterstory—a result of emergence. The framework is defined to describe the contentious and often uncertain relationship between how a game is made by an author, and how a game is played, and what narratives both parties get out of that. With the framework, five games are analysed, and the framework thus far shows promise for analysing many various games, to highlight their narrative and discoursal content. Further work on using the framework for design is still in question, but potentially possible.

Acknowledgements

Contents

List of Figures

To Aksel, for giving my father an education,
so he in turn could give me one.

Chapter 1

Introduction

It was almost surreal, if not outright comical, to see Ian Bogost's new article "Video Games are Better Without Stories" (Bogost, 2017) crop up on social media in late April as I was writing this thesis. Here I was, knee-deep in trying to reconcile games and narratives in a way that circumvented and reused large parts of that old ludonarratological debate, using, in part, Ian Bogost's work, and here he was, rekindling that same old fire for little reason other than to poke at it. Many found themselves asking what good came from this provocation; and what good, indeed, comes from reliving a now 20 year old debate[1] that, perhaps, didn't actually exist (Frasca, 2003a). And while most of the provocation lies in the headline, and not the article itself, it is noteworthy how such a headline can still attract attention the way that it did. Clearly, the relationship between stories and video games is not a rested case, and there is still contention and opposition to the idea that games should tell stories, or that they shouldn't.

Instead, we see (in crude generalizations) progressions in Interactive Storytelling (Nack and Gordon, 2016) try to reconcile games and stories through systemic uses of narratology, while ludologists, proceduralists, or "narrativists" (Bogost, 2007; Frasca, 2003a) focus on systems to a degree that often omits all kinds of narratology from the conversation, while the games industry realized long ago that games with "narratives" in them was a profitable venture, and thus has kept making them (Klepek, 2017).

But what then, is the legacy of that old "virtual" debate? If not a conclusion, a definition, or at least a hypothesis, then a series of articulated, differing viewpoints, analyses, and commentaries on games, that, despite their inconclusive and heated upbringing, have later been taken and reshuffled, retooled, and readjusted to modern game studies. Today, the "debate" still lies as a memory, and, fortunately, primarily as a

---

[1]The "Great" Ludo-narratological debate. While the debate is largely referenced as from the early 2000's it can be said that the true starting point was Murray (1997)'s "Hamlet on the Holodeck and Aarseth (1997)'s "Cybertext", both from 1997.

memory. What we can do today—and what some have done since—is take those differing viewpoints—which were never so different after all—and reconcile them, reinterpret them in a modern context, and through that, come with an understanding that was inconceivable back then.

This reconciliation is part of what I want to achieve with this thesis. I hope that the studies and framework presented here will be useful as a frame to analyse and talk about games in the future, to bring forth some of the less discussed (or at least, less defined) possibilities and properties of games, namely the storytelling capabilities of mechanics and play. And also, finally, I bring the debate up here, because I want to put it to rest early. Every time we talk about narratives in games, an inclusion of a reference to a 20 year old debate seems obligatory, and frankly, it is tiring, when both sides have long since moved on and there is little reason to discuss it still. Instead, I hope that I can safely come with my arguments presented in this thesis, not through reference to the ancient and unreal, but rather through acknowledgement and a desire to talk about games and narrative without being quagmired.

This venture started because I wanted to investigate what I called "The Narrative Quality of Game Mechanics" (Larsen and Schoenau-Fog, 2016), where I was looking at how the mechanics and their definitions can be analyzed to see a "narrative quality", a desired intent, a value system, or a morale, through the system itself. However, I realized over time that this close investigation had to be brought up to a larger stage, as I realized how the mechanics weren't just "telling stories" by themselves—but were doing so because they were placed in contexts within the game. And thus, I have ended up writing something much larger about the nature of games, authors, and players. Through looking at mechanics and their context, how games are played, and the experience that comes from that, we can say things about mechanics and narratives, sure, but we can also make some conclusions about games in other ways. I'm not pretending to make something as grandiose as a de facto definition of games, or narratives for that matter. Rather, I aim to offer a viewpoint—a lens—through which we can understand how games and narratives work, and how games tell stories through their definitions of rules and how they are framed.

Through this thesis, I will attempt to do two things:

- I will analyse and investigate the relevant literature concerning games, rules, narratives, etc. in much greater detail than I had the possibility for previously, to highlight both weaknesses and strengths with my previous work, find conflicting and supporting ideas from other scholars, game designers, and games themselves.

This is not meant to be all-encompassing, but inclusive enough to where we can draw connections and form a framework of games and narrative.

- Then, assemble the research and the old model into a new framework that aims to be more robust, more elegant, and more effective at describing, analysing and conveying the narrative properties of games. This framework is intended to describe how games tell stories, and thus how games and narratives relate, through their design and play.

The topic is both broad and narrow, and I will bring forth the elements I found were relevant and discuss their implications and uses. This means that each element you read will be used in the eventual framework, even if it was not something not typically thought as being relevant to the topics of mechanics and storytelling.

1.1   An Overview of the Thesis

To give a brief overview, these are the elements I wish to discuss:

First, I will give a brief overview of my starting point, my previous paper on this topic, which needs a little setup in order to understand my direction (section 1.2). Then, we will dive head-first into one of the primary new additions, the concept of *Procedural Rhetoric* 2, and the expressive power of simulations, which I will use to discuss the terms *Simulation* and *Representation* (chapter 3), as they have been used in game studies, and come with my own view on it. This is important for a number of reasons, and I will use it to frame much of the ongoing discussion.

Then I will define and discuss *Narrative* (chapter 4), and present my understanding of how I see narrative, story, and discourse, and how they relate to games. After, I will look at that constant word *Play* (chapter 5) and what the players' role in a game is, their relation to the game and to the characters' they are controlling. Understanding *Play* and *Narrative*, we can grasp the underlying concepts of *Emergence* (chapter 6), and the *Afterstory* (chapter 6.5), as we can see the connection between the "unauthored" play the player is doing and the emerging storytelling.

After that, I will get more detailed, and define what I mean by *Mechanics and Rules* (chapter 7)—and how they relate—before discussing the other side of the coin: What I call the *Context* (chapter 8). Then, I will discuss the implications of *Space* (chapter 9), as another new element in the framework, and how space is used in games.

Through those, we get an understanding of games and play, yet we are missing the final two parts of how the player sees it, *Interpretation* (chapter 10), and the sometimes overlooked role of the *Author* (chapter 11).

With all those elements defined I will discuss the misgivings and failings of my old model (section 12.1), as well as give an overview of other frameworks of games that relate to mine (section 12.2). Finally, I will bring all the elements together and reconcile a few key terms and issues (chapter 13).

After that, I will present the new framework (chapter 14), that attempts to reconcile, connect and define all the previous elements in relation to each other. I will connect every topic into a single framework that I consider to describe at least one way to see the relation between games, interaction, play, and narratives. With this, I will analyse a set of games (chapters 15–17), as different case studies for usefulness of the model, namely, INSIDE, Spelunky, Chess, Telltale's Game of Thrones, and Crusader Kings 2.

1.2 The Old Framework

My previous model is explained and defined in my previous paper (Larsen and Schoenau-Fog, 2016). I will briefly show and discuss it here, but if you are interested, I would suggest reading the paper for further information. However, since it is very relevant to the current work, and I will reference back to it, it is important to establish somewhat of a basic sense of what the framework was, and what it was intended for. That is the purpose of this section.

The "Narrative Quality of Game Mechanics" Model (Larsen and Schoenau-Fog, 2016) was a first draft of a model designed to show how mechanics and narrative fit together in games, and started off from my own curiosity into how games could be (and are) using game mechanics and other ludic elements in combination with what has traditionally been called "storytelling elements", in order to convey a narrative. The model can be seen in figure 1.1, and was inspired by the MDA framework (Hunicke et al., 2004), Aarseth's ontological model (Aarseth, 2012), Koenitz' IDN model (Koenitz, 2015), Frasca's simulation levels (Frasca, 2003b), Ryan's view on narrative (Ryan, 2006), and Bruni and Baceviciute (2013)'s Author-Audience Distance.

The model is presented as going from left to right, with the story as the initial idea and content that the author wants to design. Then, this is defined in the game design, as two separate elements: First, the mechanics, which are the basic ludic components, rules etc. that make the system run. These are divided into four types of rules, goal rules (what the player must do to win), manipulation rules (what they can do to affect the game), system rules (what the system can do in response), and finally, meta rules (rules super-imposed by the player on top of the already present rules). Second, the context, which is the presentation and style, the visuals and audio, and what is traditionally called "story elements". In short, it is all the non-ludic parts of a game, everything not
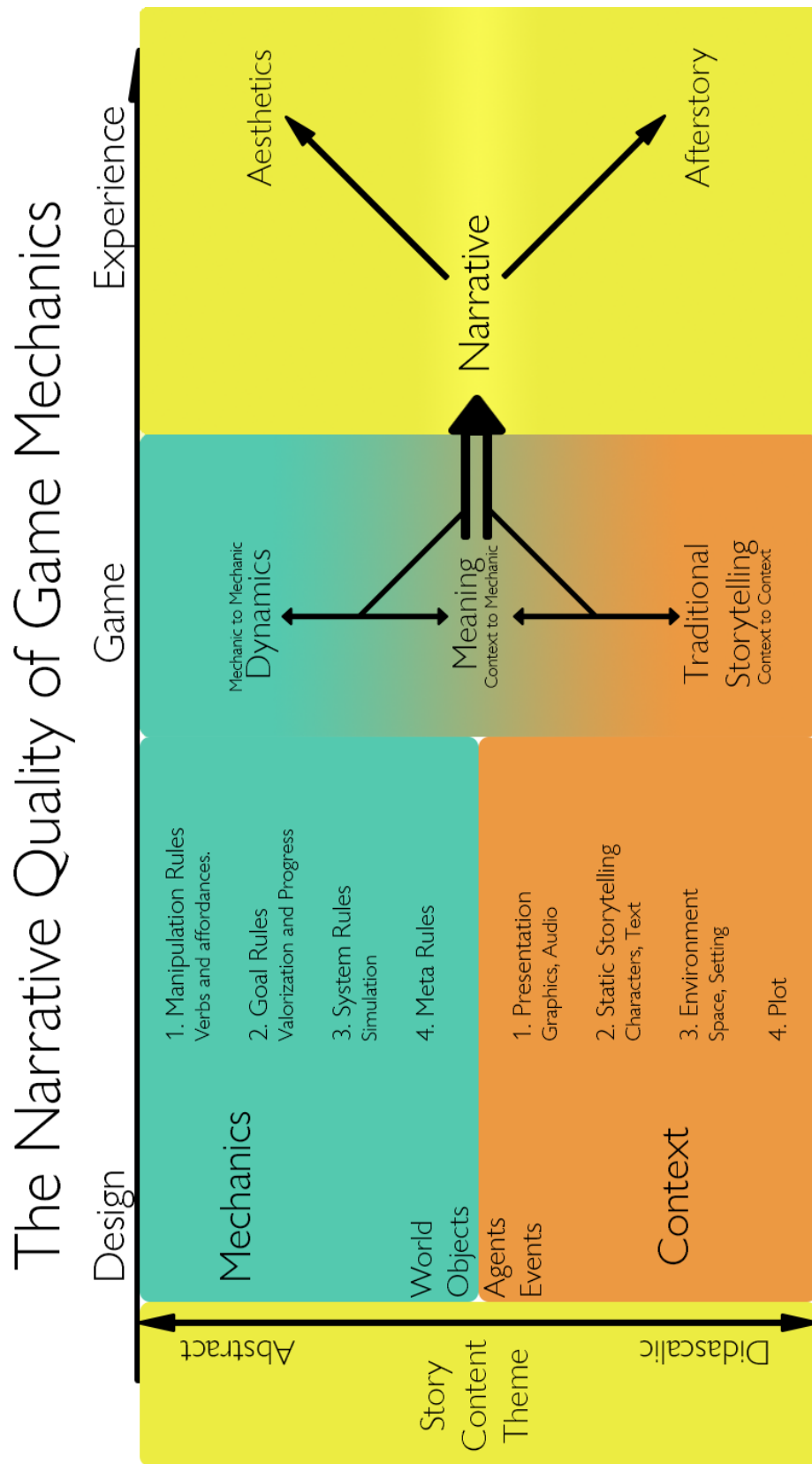
FIGURE 1.1: The "Narrative Quality of Game Mechanics" model. (Larsen and Schoenau-Fog, 2016)

systemic or mechanical.

These two aspects relate in the middle of the model where the game happens, and through these interrelations and interconnected events, the game begins to shape and form and give meaning, produce dynamic behavior, and tell stories. This leads leads to a narrative, which is seen as the grand sum of the experience for the player, but can be split into the aesthetics (the emotional experience) and the afterstory (what actually happened). The core concepts that are pertinent to know for this thesis is the idea of relational meaning being created not from a specific element of a game, but rather their relation among each other, and the concepts of goal- and manipulation rules, since this is a large part of what I used to find how the system works to create meaning and expression.

There are more nuances to this model, but throughout this thesis I will explain in depth the concepts omitted here, as well as some other aspects that are relevant.

Part I

The Expressive Power of Simulation

Chapter 2

Procedural Rhetoric

This part will discuss simulations and expression through the term "Procedural Rhetoric", defined by Ian Bogost. This topic might seem beside the larger discussion of games and narratives, but as will be clear once this part is over, it is indeed vital to my future definitions of how games work and create meaning.

Procedural Rhetoric is one of Ian Bogost's primary concepts, presented in the book "Persuasive Games" (Bogost, 2007). The core idea at play here is that procedures not only outlines how simulations (in games) run, but also makes claims about how the simulated, real systems operate, through what he calls their Procedural Rhetoric. Or, to put it in his words *"Procedural rhetoric [...] is the practice of using processes persuasively"* (Bogost, 2007, p. 3) To understand this concept, as it is quite crucial to my thesis, I will spend a little time explaining in detail this concept. First, to break the term down, let's look at the two elements:

2.1   Procedure

The term "procedurality", Bogost has from Murray (1997), who defines procedural as a computer's "defining ability to execute a series of rules." (Bogost, 2007, p. 4) [1] As Bogost says, *"we tend to think of procedures as fixed and unquestionable"* (Bogost, 2007, p. 3), and thus, we can see the clear relation between procedure and rules—and rules are a defining part of games (see chapter 7). Bogost argues that procedurality, however, is not purely a construct seen in computational structures, but *"we can interrogate literature, art, film, and daily life for the underlying processes they trace."* (Bogost, 2007, p. 5)[2].

---

[1] "Procedure" has some slightly other meanings outside of computer science, but as Bogost is fundamentally dealing with this sense, this definition is the most applicable.

[2] This also helps clarify that we are not merely talking about computer games. As Bogost says, *"Human actors can enact processes"* (Bogost, 2007, p. 10)

These representations of life are not any less valid, but they function differently than a computational representation does: Rather than representing a procedure through a fixed representation, *"procedural representation explains processes with other processes"* (Bogost, 2007, p. 9) (emphasis, theirs). This does two things. First, it gives us as creators of processes the ability to simulate other processes in a more direct manner, but it also gives us a powerful ability: Expression. Because while the rules governing processes are often thought as limiting behaviour, the *"imposition of constraints also creates expression"* (Bogost, 2007, p. 7). Rules don't only state limitations, they state possible actions as well, a topic I will touch more on in play and emergence (chapters 5 and 6).

2.2   Rhetoric

The word rhetoric stems from ancient Greece, and has predominantly been connected to oratory persuasion. This classic rhetoric is often, as Bogost mentions, considered *"language used to occlude, confuse, or manipulate the listener."* (Bogost, 2007, p. 15), and thus not seen in a positive light. However, in recent years, the meaning has begun to shift, into, rather than focusing on *persuasion*, it focuses on effective *expression* (Bogost, 2007, p. 19). This allows rhetoric to be viewed, not only in direct persuasive situations, but also in art, dialogue, and other artifacts intended for other purposes than persuasion, yet still wanting to achieve expression. Then, alongside this, rhetoricians like Kenneth Burke began expanding the domain of rhetoric from verbal communication into nonverbal domains, by placing an emphasis on the idea that rhetoric can happen in any symbolic system. *"Wherever there is persuasion,"* writes Burke, *"there is rhetoric. And wherever there is 'meaning,' there is 'persuasion.'"* (Burke, 1969, p. 21) (read in (Bogost, 2007)). And while these newfound paths for rhetoric are all useful in their own right, Bogost points out a lack of definition rhetoric using the unique properties of computation, such as procedurality (Bogost, 2007, p. 26). Hence, Bogost presents the term Procedural Rhetoric.

2.3   Procedural Rhetoric

As stated in the beginning, procedural rhetoric describes using processes persuasively[3] Bogost brings up some important points about how this works.

---

[3]Note how Bogost just made an argument that rhetoric is not just about persuasion anymore, yet still uses that phrase. I don't think he means persuasion in the classical rhetorical sense here.

First is the idea of what processes need to become rhetorical. There are plenty of examples of computational processes that are not. Most production software, for example, is created to be functional, rather than expressive, yet contains a ton of procedures in order to make their functions work. Bogost brings up an example with photo-editing software, to explain how this by itself would not be enough for a rhetorical argument about beauty and photo manipulation, even if we can edit photos to make them more beautiful. Being able to perform a process is not enough. Instead, a rhetorical argument of the same might include an abstract set of editing tools particular to what the procedure wants to represent. Instead of giving the user the almost limitless possibilities of an entire photo editing software, they would only be given a series of abstracted processes that specifically are designed to "beautify" a person. Here, they would much more easily understand the consequence of each process—thus presenting a more effective argument. This highlights an important point that I will also return to in section 3.2, about the importance and power of abstraction in simulations (as this is a simulation of a photo editing system).

Yet, what a procedural argument does compared to a traditional argument is it allows the user to play around with the photo editing processes rather than being shown how they work through a traditional, visual or verbal, communication scheme. This interaction is powerful, and at the fundamental core of what it means to use procedural rhetoric—and the core of games.

The second aspect of procedural rhetoric is the limitations presented by the system. When a game system does not allow certain actions, Bogost says that is not a limitation of the system, but rather how it becomes procedurally expressive. By allowing something and not allowing something else, an expression is formed about the underlying simulation—certain things become valued while others things devalued. These limitations are a vital part what an author of a procedural system uses to create the rhetoric. The rules themselves, which as mentioned both allow and limit behavior, is what creates the system and is as such the fundamental building block the author has to express their intent.

Bogost uses the game *"Madrid"* as an example of a game with a procedural rhetoric. The game is a simple browser game released shortly after the terrorist attacks in Madrid in 2004 (see figure 2.1). In the game, you see people standing with candles, that slowly dim, and the player must keep clicking them to keep them lit. This, Bogost says can be read as a procedural rhetoric since *"no amount of mourning is ever adequate: we must keep lighting the candles eternally."* (Bogost, 2007, p. 89). However, as Bogost says, this is an incomplete reading, as it is possible to win Madrid, which gives it a different procedural rhetoric. By keep clicking the candles, we can eventually change and achieve something. The player will, through the interaction, experience how they

FIGURE 2.1: A screenshot from Madrid. From Bogost (2007).

can never achieve the goal of lighting all the candles, but eventually receive a reward for keeping at it for long enough.

Procedural rhetoric highlights one final point about how games—or any interactive media—becomes different than other forms of persuasion. Bogost mentions the classical Aristetolian form of argument of the "enthymeme", which is based on the logical syllogism, where two individual arguments forms a third, logical conclusion. The enthymeme is the persuasive argument where a reader will be presented with the two first arguments, but are expected to fill in the third themselves, which can be a powerful persuasive tool. What procedural arguments do differently is that in the process of filling in the third argument, users literally input it into the game. In a way to prove it, both to the game and to themselves, the reader actualizes the conclusion in the game to see the result, and by performing this interaction, they should be rewarded by seeing that yes, indeed, the conclusion was as they thought. In the Madrid game, players input lighting of candles, which actualizes the enthymeme of the game. This shows how a traditional rhetorical technique becomes something that isn't only left as an interpretational act, but also as a direct interaction within a procedural system.

2.3.1 Understanding the components of Procedural Rhetoric

However, let us break down what is actually going on in this Madrid game rhetorically. Because the mechanic is really simple. You click on a candle and it lights. Candles slowly go out over time when not clicked on. That's it. The difficulty comes in in the fact that there are too many candles to take care of at once, and it takes physical time to move from one to the next. The procedural rhetoric comes in in the fact that it presents an difficult goal of lighting all the candles—which we as readers interpret as mourning.

However, ludically, the formal mechanic itself suggests no such thing. If we replace the non-ludic aspects, the visuals of the candles and the people, there is nothing about the fundamental mechanic of clicking on objects that links to mourning. The abstract mechanic of clicking on multiple objects can be done in a number of ways, and really, has been done in plenty of games without achieving this effect.[4] The idea of mourning—the actual rhetorical point—comes in when the candles enter the picture. The candles, representing mourning by being a cultural symbol for loss and mourning, bridge the gap between an abstract mechanic and the concrete intent of the game. Now, it might sound like I am speaking against the idea of the rhetoric coming from the mechanic, but I am doing no such thing. The mechanic of clicking is still vital to the rhetoric, but it is important to keep in mind that it is not the whole rhetoric. The interaction itself is rarely enough for us to get something out of a game: We need a context to interpret as well.

To clarify, the syllogism of the game becomes such:

- The ludic rhetoric: No amount of clicking is adequate to win the game.

- The non-ludic rhetoric: Candles represent mourning.

- I click the candles. Thus, no amount of mourning is adequate.

I hope this shows how *both* the ludic element and the non-ludic element is important in creating the rhetoric of the game. And it is not only the two elements, but more importantly their relation (the third step) that is how the procedural rhetoric works. However, before we finish the topic of simulation and expression, I want to talk about one more aspect of this argument, specifically the word *Representation*, and how it relates to what it has sometimes been separated from: *Simulation*.

---

[4]An example could be the "Sun" mechanic in "Plants vs Zombies", where the player must click on sun-icons before they disappear to get a resource they can use to build their defensive plants in the game.

Chapter 3

Simulation and Representation

Simulation is a concept often brought up in the vicinity of games. And while it does have a lot in common, it is important to keep in mind that there is a distinction and that simulations are not necessarily games—simulations do not require any form of interaction at all, but can function purely as models for a system. To quote Frasca, to simulate means to *"model a (source) system through a different system which maintains to somebody some of the behaviours of the original system."* (Frasca, 2003b) A simulation, thus, shows how another, often larger, system works by modelling it as a system—often with the intent of making it more easy to comprehend than the source system. Since a game is also a system modeling some behaviour, most often inspired or taken from some other (real-life or imagined) systems, there is a clear correlation— *"games are a particular way of structuring simulation"* (Frasca, 2003b) The distinction, interaction, I will get to in Chapter 7, where I define mechanics and rules. However, for now, it is clear that all games include simulations of systems of behaviour. And as shown previously, how these systems work is a vital part of the rhetoric of the game. However, the term simulation is actually a little more divisive than this.

Frasca points out a clear distinction between simulation and representation, which he akins more to narrative in the same way he akins simulation to games (Frasca, 2003b).[1] This distinction is used to show the differences between simulations (games) and representation (traditional narratives), which primarily shows through the idea that simulations run on rules that guide behaviour rather than on predefined outcomes. Said in other words, a simulation author does not create a specific scenario, but rather creates a structure wherein change can happen and then show the consequences of that change.

Frasca takes this to the conclusion that narrative (representation) is a form that shows the past, drama shows the present, and simulation is a form that shows the future.

---

[1]This game-narrative split is a trait of the ludological-narratological debate, but the distinction is less clear than that, as I will show.

(Frasca, 2003b) This echoes a common argument against the idea of games as stories (Grønvoll, 2015; Post, 2009), since it is impossible to tell a story that has not already happened, and a simulation's events has by definition not happened yet. However, Jack Post provides an interesting counterargument to this, using Jacques Fontanille, who says *"meaning is only attributable afterwards"* (Fontanille, 1998)(read in Post (2009)). Both in traditional narratives and simulation, we have to read (or play) them first, before we can interpret any meaning. So we must allow a simulation to play, and then we can begin to understand what the simulation wants to say. The simulation, it is thus argued, turns into a story. Albeit, that outcome is only one possible outcome of the simulation, and the simulation is *not* this resulting story, or what Koenitz would refer to as an *"instantiated"* story (Koenitz, 2015). Rather, as I call it, this is an "Afterstory" (section 6.5.

However, this is not the whole picture either. Because Frasca has one very final point about his distinction between simulation and representation: Rules. His beginnings of a typology of simulation rules[2], which I used for my initial "Narrative Quality of Game Mechanics" model (Larsen and Schoenau-Fog, 2016) , shows how *"the designer's agency can slip into the game's inner laws"* (Frasca, 2003b)—in other words, its rhetoric. As he shows, it is not just through attributable meaning to the story after we have played. Frasca notes how we can analyze the rules of a game system to understand its underlying rhetoric—something I did with *Tetris* (Pajitnov and Pokhilko, 1984) in Larsen and Schoenau-Fog (2016), and Frasca does with *SimCity* (Maxis, 1989) and *The Sims* (Maxis, 2000). For example, a conservative version of *The Sims* would not allow same-sex relationships by its manipulation rules, but, by doing so, the game shows a more liberal agenda. This example shows how the rules can show ideology, simply through their definition. We did not play the game and experience two people of the same gender get married in *The Sims* (Maxis, 2000) to understand that.

However, rules in simulations are obfuscated. It is primarily *through* play that we actually discover the rules, and rarely that we have all the rules spelled out for us before play. So, in a sense (barring digging through code or receiving a rule-list outside the simulation), we do need to experience an instantiation of the simulation (or several) in order to begin understanding the rhetoric of the game.[3]

---

[2]The Goal rules, Manipulation rules, Meta rules I defined in the previous paper (Larsen and Schoenau-Fog, 2016) (or see 1.2) (although without System rules, as that is my own addition)

[3]A potentially relevant argument against this are board games or physical games, where all the rules are spelled out in the beginning, because they are necessary to understand to play. Yet, I would argue that effective analyses of game rhetoric require some form of play to understand the consequences and interplay of the rules, both ones that seem immediately inherent but also to see elements that might not be obvious from first glance.

3.1 Representation

Returning to Frasca's typology, he includes "narrative representation" as an ideological level that can be manipulated in order to convey ideology (Frasca, 2003b). This shows how, in his view, simulations *include* representation, even if they are not the same, in his view. Yet, when looking at other people's definition of simulation, the picture gets muddier. Salen and Zimmerman says *"simulation is a procedural representation of aspects of 'reality'"* (Salen and Zimmerman, 2004). Here we have simulation *as* a form of representation. Representation becomes an umbrella category in which simulation (and other forms like traditional narrative) sits. It is easy to see how simulations act as representations: They represent a system by simulating it. *SimCity* is thus a representation of city governance, created by allowing the player to govern a simulated city. Also, if you go back and read the section on procedural rhetoric, you will notice that Bogost takes it for granted that simulation is representation. This form of representation works quite differently than if we were to tell a story about a mayor governing a city, as Frasca well argues, yet it not only follows a completely different authoring process but the reading of it is very different as well.

Yet, keeping in mind that simulation is a form of representation solves one of my problems with Frasca's split: Simulation cannot not be representational. It will always represent something, either real or imaginary or arbitrary, from the world and those who created it. Frasca's solution to this is to include representation as a part of simulation, but that doesn't cover the basic point that in order to simulate we represent inherently. Thus, by rephrasing simulation as a part of a larger scope of "representation", the role of simulation becomes more clear.

From Rules of Play:

- *Games can represent: the game includes signs that represent other things.*
- *Games are representations: As a whole, the game represents something.*

(Salen and Zimmerman, 2004)

As a final note on that, Frasca, Bogost and Salen and Zimmerman are actually quite similar in how they argue for the rhetoric (or meaning) of simulations, so while Frasca and Bogost might not want to use the words "narrative" or "representation" in the same vein as simulation, the difference in opinion is less strong than we might initially think, and largely comes down to a disagreement on terms.

However, with all this said of simulation and representation we do require a term to describe the representation *within* simulations, that are different from the procedural

aspects: Something that describes the non-ludic, non-procedural representation, or what is traditionally considered the "narrative" or "representation". In my previous model, I used the word "Context", to describe this, and in section 8, I will describe why this is still a useful term, despite some caveats with the broadness of the word.

3.2   Abstraction in Simulation

But before we finish, we need to delve a little more into how Simulation works. Ernest Adams and Joris Dormans, in their book *"Game Mechanics – Advanced Game Design"*, (Adams and Dormans, 2012) mention Chris Crawford, saying: *"a game is not merely a small simulation lacking the degree of detail that a simulation possesses. [...a game] suppresses details to accentuate the broader message."* (Crawford, 1984) (read in Adams and Dormans (2012, p. 9). This echoes Bogost's look on the limitations of a game system and how it is used for procedural rhetoric. We could simulate 1:1 how an airplane works, but then we'd just be creating an airplane, not a game used for any other purpose—similar to the previous example of photo editing software. It is by abstracting that we achieve something else with our simulation, and turn it into something that can potentially hold meaning. Adams and Dormans (2012) define how this element of abstraction works. They say there are two kinds of abstraction: Elimination and simplification. (Adams and Dormans, 2012, p. 286) Elimination is easy to grasp: The removal of anything irrelevant to the specific aspects you want to simulate or anything that has too little consequence to matter: For a car game, for example, the aerodynamic effect of the windshields or the interior matters less than the shape of the car. In some cases, a complete removal of any aerodynamic force could be fine, but for other simulations, you may want to keep it a consideration, for example for a high-detail racing game like Project CARS (Slightly Mad Studios, 2015). Here, though, you might want to use the other type of abstraction, simplification, and instead simplify how aerodynamics work in your simulation rather than exactly how it physically models in the real world, as this might be too much detail to bother with for a player.

An important point Adams mentions about these is how, even though we might not see the exact causes and variances in the system through this abstraction, we can still study the effect (Adams and Dormans, 2012, p. 286). If we say a piece of equipment has a 10% failure rate, through an abstraction of a random roll that fails 10% of the time, we can study the *effect* this failure rate has on the system, without knowing the underlying cause. This can be used for many interesting applications, and is often used for tactical games to create interesting choices between uncertain outcomes and dealing with their effects (see a game like XCOM (Firaxis Games, 2012), for example).

A final note I have almost touched upon, but Adams and Dormans (2012) brings

up succinctly is the idea that *"Simulations can lie"* (Adams and Dormans, 2012, p. 287). It is a natural conclusion from the idea of procedural rhetoric, as rhetoric does not have to tell the truth—it is only concerned with the *how* of the telling.

Part II

Narrative And Play

Chapter 4

Narrative

This part will address two major aspects of this thesis. First, we will discuss narrative, as that is a necessity to have clearly defined, in order to proceed. Then, Play will be discussed and define and related to what we know previously from the last part. Then, these two topics will be brought together to discuss Emergence, and lead to the eventual definition of the different types of Emergence and what I call the Afterstory.

Narratology is an ancient discipline, potentially reaching as far back as storytelling itself, however, most of (western) narratology originates from Artistotle (350 B.C.), and much of what he outlined about plot, character, etc. is still used (or at least referenced) today. This is not because there has not been any new developments within narrative, but because a lot of what is described in this Aristotelian description of narrative is fundamental and sound enough that it lasts regardless of time, culture, and medium. Developments were made, though, and narratology has changed much in the last years. The next major wave we can identify is what Herman (2004) today calls "classical narratology", which both builds on Aristotle, but also adds many structuralist ideas (Campbell, 2008; Greimas, 2015; Propp, 2010) and then, following that, post-structuralist thought (Barthes, 1977; Genette, 1983). As Ryan points out, these tended to focus on the narratives most present at that time: Written, literary narratives.[1], which defines narrative as *"as an act of storytelling addressed by a narrator to a narratee, or as the recounting by a narrator of a sequence of past events."* (Ryan, 2006, p. 5) Narrative as a recounting is the prevailing and predominant understanding of narrative, still today, although modern narratology has largely moved away from it. Classical narratology also gave us another common definition: The story/discourse split. Ryan highlights H. Porter Abbott's definition *"Story is an event or sequence of events (the action), and narrative discourse is those events as represented."* (Abbott, 2007, p. 16) (read in (Ryan, 2006,

---

[1]Yes, Tv, movies, and radio did exist during Barthes and Genette's writings, (and theatre has existed since Aristotle), but narratology has always tended to focus on the written word regardless.

p. 7)), but it is also seen in the Russian formalists' fabula/suzjet split (Abbott, 2007). Narrative is then the *"textual actualization"* (Ryan, 2006) of the story—the story when it is told through a discourse. However, Ryan challenges this split a little, and especially the understanding of story: *"Abbott regards stories as sequences of events, but this characterization cursorily equates stories with events, when events are in fact the raw material out of which stories are made."* (Ryan, 2006, p. 7). The story, Ryan says, is not a thing found in the world, and not the textual representation (that's discourse), but instead story is *"a mental image, a cognitive construct that concerns certain types of entities and relations between these entities."* (Ryan, 2006, p. 7). This understanding of story as a cognitive construct is what can be classified as "modern" narratology or maybe even "postmodern" narratology, and was pioneered by Herman (2004), and is now adopted in many different aspects of narrative discussions, also about games and interactive domains (Dubbelman, 2016; Koenitz et al., 2016), and has often become the de facto easy understanding for how games can become stories: If stories are cognitive constructs, then it is easy to see how games can form as those kinds of constructs in the mind of the player. However, this, as Ryan notes, has lead to a dilution of the word narrative. If it is all a construct in the mind—or a way to process information, as the some cognitive scientists see it—then everything quickly becomes narrative (Ryan, 2006). And if everything is, nothing is.

Instead, Ryan sees narrativity as a "scalar" property, with the point that narrative is not an either-or binary, but rather a question of degrees. We ask *how* narrative something is, not *whether* it is. Ryan defines four types of narrativity that is defined as a series of "concentric circles", where the outer definitions has very little narrativity but includes many types of texts, and further in it becomes more and more specific in what it would define as a narrative. These types can be seen in in Appendix 4, where a table of them and what types of texts they eliminate has been created, from Ryan (2006)'s descriptions.

Furthermore, she defines two ways to see narrative. The first is the property of *"being a narrative"*, which *"can be predicated of any semiotic object produced with the intent to evoke a story to the mind of the audience"* (Ryan, 2006, p. 10–11). Here it is important to mention that with intent, she doesn't mean the author's intent, but rather the reader's ability to read the author's intent (Ryan, 2006, p. 11). This is an important distinction, because it allows that readers can read an intent different from the author's. The other way of seeing narrative is through the phrase *"having narrativity"* (Ryan, 2006, p. 11), which means being able to evoke a narrative script, whether or not there is an authored text. It is thus not predicated on the creation of a narrative, but rather, on the reader's ability to see something as possessing narrativity. By extension, I can see this as excluding the need for the author too, since if the reader can still read intent

into an object and sees it as having narrativity, it does not matter whether there was an author's intent behind it or not. However, by using these two phrases, we can distinct between objects designed to be narrative and ones which are not. I find these two overlapping, but I think that fits within Ryan's intention. Something that is a narrative has narrativity (inherently), so I see having narrativity as the broader category. Ryan is also careful to point out that this reliance on the cognitive interpretation of a narrative does not imply that everything is seen as a narrative, since she does find sense-making operations that do not take narrative form (Ryan, 2006, p. 11).

4.1   Games and Narrative

To broach the topic of games, Ryan sees no problem with games possessing narrativity. She argues against the use of classical narrative definitions for games, and notes how the debate might revolve *"more around the scope of the term 'narrative' than around the nature of games"* (Ryan, 2006, p. 200). While there is arguably also a debate about the definition of games, the problem was (and is) one of definition. As Stern and Mateas (2005) noted: *"While it may be tempting to provide a priori definitions of story and interactivity, and from these conclude that interactive story is impossible, or conversely to argue that all games are symbolic narratives or potential narratives (in the sense of being tellable), both positions fail to provide insight into the underlying design space."* (Stern and Mateas, 2005). We can read games through classical narratology (as Aarseth (1997) attempted and Post (2009) did) or read it through ludology, as Eskelinen (2001); Frasca (2007); Juul (2001) have done, but neither position begins to understand why the debate existed, and more importantly, how we can use it constructively. Aarseth mentions how the ludological perspective had been misunderstood as a *"focus shift onto the mechanics of game play"*, but should instead be seen as a focus *"to emphasize the crucial importance of combining the mechanical and the semiotic aspects and to caution against and criticize the uncritical and unqualified application of terms such as "narrative" and "story" to games."* (Aarseth, 2012). This doesn't sound so different from the "narrativist" position posited by Frasca (2003a). Ryan's argument for keeping narratology in the mix was *"to come to terms with the imaginative dimension of computer games—a dimension that will be overlooked if we concentrate exclusively on rules, problem-solving, and competition."* (Ryan, 2006, p. 203). This, once again, doesn't sound so different. I believe we can safely lie the debate to rest with the following three statements:

- Games are reliant on rules and interaction, and thus we should research those elements as the core functionality of games.

- Games possess narrativity.

- Games are not stories, but stories are not so different from games as to completely bar the use of narratology in games, nor, potentialy, the use of ludology in narratives (there's a thought!), while we must keep in mind their differences and perspectives as to not perform *"sloppy scholarship"*, as Aarseth (2012) warns.

With this said, I do have a few statements about *how* games possess narrativity, that differ from Ryan. She states: *"One may conclude that the unique achievement of computer games, compared to standard board games and sports, is to have integrated play within a narrative and fictional framework"* (Ryan, 2006, p. 182). Ryan implies here that "traditional" games, outside of a computer setting does not have a narrative and fictional framework. Or at least, that the narrative framework tends to exist more stronger in video games than other kinds of games, like football. This is false, not because football has a lot of narrative framework, but because we can find plenty of board games that do. *Settlers of Catan*, *Netrunner*, and *Monopoly* all have narrative frameworks, without which the game would function differently. Even *Chess*, which she calls out, saying *"that chess pieces are called kings and queens does not matter a lot to chess players"* (Ryan, 2006). I would argue that it does in fact matter, but not for the reasons of narrative retelling, as Ryan focuses on in her book, but rather, for the narrativity of the game Chess. While we could envision a version of chess that replaced its kings and queens with cats and dogs (as per Ryan's example), it would perhaps to some not become a different game, but it would become a different narrative. Chess works as a simulation of feudal warfare because of its utilization of the king and the queen and the other pieces in relation to each other, thus defining the power relationship between the different entities in the real world. The name helps clarify what the game's narration is talking about, and thus is a vital part of the discourse. Disregarding this as a "replacable entity" (in a rather Eskelinenian manner) fails to understand why it is relevant to analyze specifically the version of chess that *has* kings and queens. That other versions of chess exist does not mean that we cannot analyze and understand the "prototypical" version of chess. Even if it wasn't the de facto rendition of chess, we could analyze it, the same way a new rendition of old plays are created all the time, all with their unique telling of similar tales. Ryan's focus on retelling is important—and I will use it in my definition of afterstory—but it is not the entire foundation of the narrative in the game.

Rather, Herman provides insight. He states that narrative analysts should: *"chart constraints on the variable patterning of the textual cues with the mental representations that make up storyworlds."* (Herman, 2004, p. 12) He might have intended it for traditional narratives, but we can read this as a guide on how to do game analysis just as well, only by understanding textual clues in the semiotic sense of text. Charting

the constraints on the variable patterning of games seems to make inherent sense when thinking of them as systems already, as that is in fact what we are doing when we look at games ludologically: We analyse the rules and the patterns that emerges from them. So if we can do this both when analysing games ludologically and narratively, we might be at a strong spot. This use of Herman's quote has one final implication, which lies at the foundation of much of my thesis: By analyzing and charting the contraints, patterns, rules, and other ludic cues in a game, as well as what context they are situated in, we form a mental storyworld of what the game is telling.

4.2   Redefining Narrative and Story for My Purposes

In my previous paper I defined the story, loosely, as *"What you are trying to tell"* (Larsen and Schoenau-Fog, 2016), thus freeing it from the *"sequence of events"* status that classical narratology binds it to. But if we instead understand story like Ryan, as *"a mental image, a cognitive construct that concerns certain types of entities and relations between these entities"* (Ryan, 2006, p. 7), we are more rigorous in our understanding. The story acts as the mental construct that takes place without any telling. It is what the telling revolves around and depicts and what it wants to express (but not how it expresses it), but it does not exist as a "substance" in the world. Expressing story like this gives us the freedom to understand that stories can be told through many discourses, and by consequence, many mediums, and many stories told through games could also be expressed in a book, or a play (not that it'd necessarily be better served by that, as McLuhan's famous quote implies, the medium is indeed (part of) the message.).

That said, it is important to not split story and discourse completely, as this line of thinking has a tendency to do. Herman mentions that the story/discourse split should not be taken as a literal split, and that while this split has proven useful from an analytical standpoint, is not a definition for how narratives work. (Herman, 2004, p. 214) The discourse shapes the story too. The fact that we choose to tell a story procedurally colors that story and redefines that "cognitive construct" the reader (and the author) will have of the story, and also how that procedural construction is created and defined, will shape how a reader perceives and interprets it. So while I said in my previous paper that *"the difference lies in the telling"* of a game, and how it is primarily the discourse of games that differ, I will agree that the game's story and narrative is shaped in large parts by the fact that it is procedural. This is an obvious fact to anyone who's played a game, but it bears repeating when we talk about narrative. That we present the story not as a linear sequence of events but rather as a set of procedures a player plays with, means that the story is not formed by interpreting event after event,

but rather by interpreting directly the *"relationship between the entities"* that comprise the game—that relationship being constructed by the rules. If we were able to see that construction in the mind of someone, it might still be shaped as a linear sequence of events, since everything was experienced linearly. However, it is important not to confuse what the story is shaped as and what it was shaped *from*, although they will influence each other. Instead, how we should see it is that the reader of a game experiences it linearly, and through that interpretation begins to understand the underlying system, and thus begins to perceive it less and less like a series of linear interactions but more and more as a procedural system. I will describe this more in detail in section 14.8.

Chapter 5

Play

When we ask "what is the player doing?" the immediate answer lies in the word itself: They play. This word is one with a long history in academia (Caillois, 2015; Huizinga, 2014), and it has often been debated, both in and outside games literature. Here, I will briefly provide an overview of the modern take on play before delving into the player's role more specifically and what play means in the context of the player's interaction.

Salen and Zimmerman provided, in their book "Rules of Play", one of the most cited and commonly accepted views on play in games. First, they define that play exists in two ways in relation to games:

- *Games are a subset of play*
- *Play is a part of games.*

(Salen and Zimmerman, 2004, p. 303)

The first relates to the fact that you can "play" other things than games. Pure toy play, playing instruments, playing with words, etc. are all examples of play that exists outside of games. Secondly, play is something that exists as a part of all games and what they are. We literally play a game—that's our primary interaction, or at least, the way we describe that primary interaction linguistically, and that play is meaningful to what the game is. But what is it, exactly? Salen and Zimmerman define it as the *"free movement within a more rigid structure"* (Salen and Zimmerman, 2004, p. 304), which they say support all ways of doing play in any context. The key here is the term "more rigid structure". The structure within which the play exists doesn't have to be completely rigid, just *more* rigid—rigid enough to provide structure but not so rigid as to inhibit play. The scales a musician plays by is an example of such a structure that's more rigid than any sound they could make with their instrument, but still allows for

ample opportunity for play. Even pure "toy play", or what Caillois would call "paida" (Caillois, 2015), exists within a more rigid structure, the structures of everyday life, of gravity or of social constructions etc. But, for our purposes, we will focus on play within games, as that is the focus of this thesis.

Bogost suggests adopting this view on play as well, and it makes sense for his procedural rhetoric. As he says, what's happening when we play games is *"we explore the possibility space its rules afford by manipulating the game's controls."* (Bogost, 2007, p. 43). The space itself isn't play, and movement itself isn't play, but when we move within a more rigid structure, thus moving in a possibility space, which a more rigid structure paradoxically creates, you play.

Salen and Zimmerman don't just define play, though, but also defines the arguably more important term: Meaningful play:

> *"Meaningful play in a game emerges from the relationship between player action and the system outcome; it is the process by which a player takes action within the designed system of a game and the system responds to the action. The meaning of an action in a game resides in the relationship between action and outcome."* (Salen and Zimmerman, 2004, p. 34)

This is important for two reasons. One, it shows something very simple about how games function: player acts, system reacts. Two, it highlights the importance of the *relation* between this action and outcome. In other words, play becomes meaningful when it *matters*. When the player's actions have consequences in the game world and they can see the effects and reactions. This kind of play—with focus on action and reaction—is deceptively simple. It sounds natural, echoing basic interaction definitions, for example the one by Crawford (1982). Salen and Zimmerman (2004) do reference this, and talks about two kinds of meaningful play: One being *descriptive*, as something that happens in all games (every game allows actions and produces outcomes), and another as *evaluative*, as something we can evaluate in a game to understand the relationships between its actions and outcomes. In this last sense, Salen and Zimmerman (2004) sees meaningful play as the *"goal of good game design"* (Salen and Zimmerman, 2004, p. 34)

Furthermore, Salen and Zimmerman (2004) define the two requirements "discernable" and "integrated" as judgments for meaningful play in this evaluative sense. These define two ways of evaluating whether a game achieves meaningful play in a way that is discernable for the player (that is, is visible, and understandable), and is integrated into the systems of the game so the player feels and sees that it has consequences—not just immediate ones, but long-term. Meaningful play happens when the players feel their actions matter to the game state, and thus can be understood in purely a "within-game"

sense—as something that happens primarily in the game. However, I don't think this the whole story, nor entirely all of what Salen and Zimmerman (2004) intends. While it is an important tool for evaluating game design and seeing how the actions relate to the outcomes within the game, I find that accepting meaningful play as an experiential phenomenon that affects the player outside the game has value as well. As Salen and Zimmerman (2004) says, games can be said to be more or less "meaningful", and here I don't see this as purely the game supplying more outcomes for more actions, nor more discernable or more integrated ones. But rather, we can understand this in the same way a person finds any experience meaningful: Something that impacts their lives, makes them think, and find meaning in the world. While there is a sense of meaning within the game itself, I find that the games that are most "meaningful" are those where the outcomes are not just present within the game and relating to the game, but relating to the experience of the player at large. This sense of meaningful play, is at the core of what I define as the "narrative quality" of games: How they create meaning.

To relate it to the topics we already know, we can quickly disserminate how procedural rhetoric and meaningful play function together.

5.1   Play and Procedural Rhetoric

I mentioned the game *Madrid* in my explanation of procedural rhetoric (section 2.3.1, and I will here mention one more game that Bogost also mentions that has been used frequently to show the rhetorical power of games: *September 12* (Frasca, 2003c). In September 12, you control a gun reticule looking at a middle-eastern looking city. Around the city walk civilians in aimless routes, except occasionally, you see a stereotypical terrorist with a gun out, walking ominously along the street. Being a post war-on-terror game, the next action is clear. The player aims the reticule at the terrorist, and fires. A missile launches and explodes on top of the terrorist. However, the missile has a wider explosion area, and damages the nearby buildings, maybe even killing a civilian or two. This makes more terrorists pop up around the map, and as you increasingly try to get rid of them, more will pop up. The message is clear: War on terror doesn't work, it only creates more terror. This is a clever use of a traditional "whack-a-mole" mechanic (which, is similar to Madrid's, actually), to enforce a rhetoric, yet it has very little play to speak of.

To understand why, we have to clearly define the two types of meaningful play I stated above: There is "in-game" meaningful play, which is when a game, discernably and through integrated behaviour, has strong outcomes to the actions of the player, and then there is the "out-of-game" meaningful play, which is the player's outcome in a

experiential sense. This last one can be rhetorical in nature, and thus be driven by the procedural rhetoric of the game, but it can also not be, if the game is not particularly rhetorical—and still have a lot of meaning for the player.

Games like Madrid and September 12 employ a single mechanic to skillfully present a point. They use a strong procedural rhetoric to define their out-of-game meaningful play. However, they employ little in-game meaningful play. There is little reason to keep playing once one has understood the point the game is trying to make.

Remember that the play is the "freedom of movement within a more rigid structure". There is very little movement in September 12, as there is practically only one choice: Shoot or not shoot. And not shooting does not progress, change, or alter the game state in any way, thus, doesn't have any outcome. Therefore, the only meaningful action is the one the player is punished for. This is not a mistake by itself, as it is what creates the rhetoric: We are punished for shooting. There is nothing wrong with September 12's way of applying this rhetoric. Yet, games as a medium thrive on meaningful play, and as such I want to make the argument that games that employ *both* in-game and out-of-game meaningful play work more effectively than games that only employ one or the other.

September 12 and Madrid are a fine games for seeing how procedural rhetoric works. In these types of games, there is only submission to the game's message. And while that can be effective (that is the way most traditional media convey messages after all), yet, this is not the entire capability of games. Sicart (2011) makes a similar critique of procedural rhetoric, in that it seems to sometimes forget the player's ability and want to play with a game. To contrast, see a game like Papers, Please, analyzed both by me (Larsen and Schoenau-Fog, 2016) and by T. Dubbelmann (Dubbelman, 2016), as well as Alexander (2013); Juster (2013) outside academia, which shows a game that has a strong procedural rhetoric and is much more engaging as an artifact of meaningful play. And, without any concrete evidence, I typically find that games which both employ in-game and out-of-game meaningful play become more effective at both.

5.2 The Player Character Question. The Player's Role in Play

The question of the player and character might seem like a detour from the larger question of play, game, and storytelling, but, through the almost banal nature of the statement "yes, there is a player and they play the game", we begin to immediately ponder what the meaning of that relationship is, and the further we delve, the more we realize it wasn't as simple as that all along.

But that is only the very surface-level of what the player is doing. Because, the second discussion about the role of the player—namely, what they are doing narratively—has implications for what the player becomes in the game's system.

This is, in other words, the discussion of the relationship between the player and what they're controlling: Often called the avatar. And by further extension, the character in the gameworld. It should be mentioned, before we delve into this, that not all games have avatars or characters directly controlled by the player, but as I will show by the end, this discussion will also show how those games work, as it is not really the avatar that is in question, but rather the perspective provided to the player, through an avatar or through something else.

5.2.1   The Player as a Character

There are, in general, two extremes in this debate. One is the argument that the player is not a character in the game, as exemplified by Pearce (2004), and the opposite is that the player is a character in the game world, as argued by Ensslin (2015). Pearce's argument is that *"the drama resides in the strategic conflict between the players, not in empathizing with characters"* (Pearce, 2004), so while she does not see games as having characters, she does state that games do tell stories and include narrative elements in the play—she just doesn't consider the players characters, as their character-elements are not important. Ensslin, on the other hand, mentions, almost in passing, that *"in gameplay users are turned into characters"* (Ensslin, 2015), which, at first, completely contradicts Pearce's argument. The ultimate consequence of this argument is that even in games that have no characters within the system, there are still at least one character: The player.

Pearce mentions the example of the narrative of chess being about "two kings battling", and highlights how this narrative, at a large level is similar to that of Macbeth, a traditional narrative, and while following much different structures, a comparison can be made in how their theme is constructed (Pearce, 2004). However, if chess has two kings battling, then aren't they the characters? Pearce doesn't comment on this, and while her point that games as systems aren't about empathising with characters still stands, I cannot see how this example doesn't help support Ensslin, rather than her own view. Thus, I think that these two viewpoints are not irreconcilable, but rather just that Pearce wants to focus on a different aspect than Ensslin in her description of narrative in games. And it makes sense, too, if the player-characters are seen as viewpoints, rather than actual characters, the goal of the system isn't trying to empathise with them—we *are* them—but rather to use this viewpoint to achieve some other purpose.

However, the character-player relationship is more complicated than this. For example, as mentioned by (Vella, 2013), by playing Nathan Drake in the *Uncharted* game series, no player would acknowledge themselves as being Nathan Drake completely—and yet, we, when we do something in a game, say "I jumped up that cliff", rather than "Nathan Drake jumped up that cliff."

Salen and Zimmerman (2004) provide some of the answer in use of the term "double-consciousness", from Gary Alan Fine, which states that the player is *"a character in a simulated world, as a player in a game, and as a person in a larger social setting"* (Salen and Zimmerman, 2004, p. 454), however However, Vella (2013) himself provides an additional layer into the relationship.

5.2.2   Vella's Ludic Character Relationship

Inspired by Ryan's concept of *"recentering"* (Ryan, 2001), and Calleja's *"incorporation"* (Calleja, 2011), he highlights that *"the process by which the gameworld becomes intelligible to the player, is precisely the same process by which the player is virtually embodied in the gameworld."* (Vella, 2013). This he shows through outlining the two uses of the avatar: *Avatar as instrument* (as player input surrogate, as *"puppet"*, in Salen and Zimmerman (2004)'s words), and *Avatar as embodiment* (as a being the player embodies). It is through the embodied actions of the player that the world around the player becomes a *world*, as an "object of consciousness" (Vella, 2013). Thus, similarly to how the game's possible actions are an important part of its rhetoric, the possible actions also become how the player views the world—their viewpoint. And the possible actions, in an avatar-focused game, is generally the actions made possible by the avatar, and thus the avatar becomes the viewpoint. Nathan Drake becomes our instrument and our embodiment in the world—what he can do, is what we can do.

Vella continues, though, and takes a look at the concept of character. First, there is the *Character as Frame*. This is from Bateson (2006)'s idea of a psychological frame, in which *"a class or set of messages (or meaningful actions)"* (Bateson, 2006) are delimited (or defined), which we use to view the world. In games, our frame is decided by our character, and is the most clear in the character's abilities. By giving the player the ability to climb on ledges, the player will look for ledges to climb. Some things take on more importance and focus than others, and through what our possibilities in the game are, we naturally focus on that which we can influence or use.

Some games take this almost literally, for example when *Mirror's Edge* (EA DICE, 2007) gives the player "Runner's Vision" which highlights climbable objects in red, so the player can easily see which parts of the world are interactable and which aren't. This is a direct incarnation of Character as Frame, but often it doesn't have to be as literal,

as even when there isn't a specific rule or mechanic for it, the player will still perceive the world through what is possible for them to do. A player would never consider tying off their shoes, or buy the shampoo advertised on the virtual billboard in the game, unless these are specific affordances they have available. Instead, one breakable crate means that the player will be on the lookout for more breakable crates, and any one will be highlighted in their mind (even if the game doesn't do it for them).

Vella also mentions how the non-ludic aspects of the character informs the player's viewing of them. Through all audio-visual cues about who they are, the player has to acknowledge them as a seperate character entity within the world. But furthermore, they *"imaginatively perform"* (Vella, 2013) them, meaning a player will already begin to understand how to act as that character before they are given control—simply through forming a consciousness about who this person is. We can see who Nathan Drake is, and thus we understand what his character would do and what he wouldn't do. This performance is then taken into the literal domain in *Character as Performance*, Vella's last category. Here, the identity of the character is shaped by what they do—by what the player does. Identity is defined as a "patterning and repatterning", from Palmer (2004), and playing the game becomes *"an active effort to bring form into being"* (Vella, 2013). The performative aspects—the play—enacts the character in the world, while at the same time providing them with the frame and embodiment to exist within it.

This is the core of Vella's argument: That the player performs the character, given to them through the non-ludic and ludic aspects of who they are, and thus enacts them in the world, while the player is, through the same process, able to place themselves in the character's viewpoint, embodying them and seeing the world from their perspective (frame), which is then used to play.

To return to the question of avatar, not all games have a directly controllable avatar that allows this player embodiment. In a game like *SimCity* (Maxis, 1989), for example, you are a god-like mayor in control of all manner of aspects of the city, without any in-game reasoning for why a character in your position exists. There is no direct avatar to speak of, which might sound like it rejects all the previous points about character and avatar. Except, when looking back at the discussion of Ensslin and Pearce, we see that the player themselves can become a character—or rather, the player accepts a character-like viewpoint upon the world (they don't, even in a game like *SimCity*, have access to everything), and thus that creates a frame, which allows them to perform and enact their character into the world. Granted, it is a more abstract idea of the notion of character, but I believe the fundamentally same processes still take place, just with slightly different focalizations (to use Vella's term)—slightly different points the player hinges on to create their performance. Bateson (2006)'s term of frame is especially relevant, as this cognition of what is in the player's focus will always happen

as long as they have any viewpoint—which they always will—so the idea that the player's affordances will color their onlook is always present and should be considered part of what the game uses to inform the player of its rhetoric and meaning.

Chapter 6

Emergence

With play and narrative defined, we can discuss a term that can be said to be the two working together: Emergence. Emergence is—like many of these terms—a broader term than what is used within game contexts, originating from complexity theory (Adams and Dormans, 2012, p. 26), but is also seen in the philosophy of science etc. (Silberstein and McGeever, 1999). Inside game contexts, it has primarily been used in two ways, although those two have overlapped, coincided and sometimes been used interchangeably. First, is the idea as Adams and Dormans (2012) uses it, of emergence as the outcome of multiple parts of the game interacting in complex, often unforeseen, ways—or in other words, behaviour that "emerges" from even relatively simple rulesets. I call this *"systemic emergence"*. Second, is the idea of *"emergent narrative"* or *"emergent storytelling"*, which is the idea that stories can emerge out of a game's behaviour and interactions, or "storylike" events can begin to take shape. When I've researched this topic, I found several people referencing either (or both, interchangeably) as the core way that games *do* tell stories (e.g. (Bunting, 2013; Pearce, 2004)). However, what I want to do in this chapter is debunk—or at least dethrone—emergence by itself as the primary storytelling engine in games, and rather focus on how this emergence tells stories, by clearly defining these two types of emergence. I will go through both of them here, and then attempt to reconcile them.

6.1 Systemic Emergence and Emergent Narrative

As Walsh says, there are two ways to consider emergent narrative in digital media: *"The first one could be classified as the storification process, while the second is seen as a product the of interaction between the user and the digital agent (or bot) within the*

simulated environment." (Walsh, 2011) I will here clarify this by defining these as two separate terms. The first I call emergent narrative, and the second, systemic emergence.

Systemic emergence in games is a common one for game designers, which is the idea that games can produce "emergent" results during its play. Games like *Chess* or *StarCraft* (Blizzard Entertainment Ltd., 2010) are famous examples of simple, rigid rules that create such a large set of combinations of different actions that no two matches can said to be the same. This "new-every-time"-feature is in essence what systemic emergence is. It is that a *"game's challenges and its flow of events are not planned in advance but emerge during play"* (Adams and Dormans, 2012, p. 23).

The other aspect of emergence was what Aylett (1999) defined as *"emergent narrative"* or also seen in what Henry Jenkins popularized in 2004 as: "Emergent storytelling": The emergent behaviour that creates stories (Jenkins, 2004). Even if people disagree that games are narrative, they would most likely not disagree that emergent narrative is a form of storytelling that exists in a game, or, as Jesper Juul says it: *"the player can tell stories of a game session"* (Juul, 2001). This basic concept has been used for many applications, and its use stretches out to other domains, such as the Interactive Storytelling domain (Koenitz, 2015; Nack and Gordon, 2016), and, as Aylett (1999) showed, for "virtual environments"—and it can come experiences in regular life, just as well. Emergent narrative have been lauded to be able to solve the "irreconcilable" aspects of narrative and gameplay, many going so far as to claim it is the *"holy grail"* of computer game design (Walsh, 2011). However, the definitions of emergent narrative get muddy, and often, we find them overlapping or conflicting with systemic emergence. Here, Walsh (2011)'s definition is useful, as it focuses on the storification *process*. It is the act of storifying the game that is emergent narrative. Yet, as mentioned in Narrative (section 4), this storification process is one that happens outside games, and is possible to "storify" many other things than games. As Aarseth (2012), argues, we need to be careful with emergent narrative, as it quickly can become "everything" we're looking for, and thus we will forget the game that created it in the first place. Therefore, we need to carefully define how emergent narrative and systemic emergence is useful and how it relates to the game and the narrative. Before, we get to that, I will briefly define the differences between the two types of emergence, and how they should be seen.

- Systemic emergence is always, regardless of potentially staggering, incomprehensible combinations—finite. There is a fixed amount of possible games of Chess, and while that number will probably never be reached in humanity's lifetime, it *is* finite, which separates it from emergent narrative. There is no way we can quantify or calculate the different possible ways a person can "storify" an event,

and no possible way for us to enumerate how many different interpretations exist of even a single event, let alone a whole sequence of them.

- While both types can be said to be in relation to the player's actions and play, the emergent narrative is far more relating on the player's ability to read into the game something that isn't necessarily there. A systemic emergent phenomenon will appear (or at least be describable) as the same for two people watching the same game, but they will each get a unique emergent narrative from it—these will most likely never be the same, merely because we are talking about two different people, with their own interpretations, viewpoints, opinions, etc. and thus they will "storify" different things to different degrees.

These two points made, it is important to clarify that these two operations are not mutually exclusive. They will most likely happen both at the same time, and often with, because of, and in support of each other. A systemic emergent behaviour can be read as an emergent narrative and we can read an emergent narrative into something that was not systemically emergent. Seeing systemically emergent behaviour without also reading an emergent narrative into it is theoretically possible, but I see it as difficult to ever practically happen.

Now, we can take a look at how these two terms can be used in games.

6.2   Emergence and Procedural Rhetoric

A problem comes when we take emergence in relation with, for example, procedural rhetoric. The ideal emergent experience—in terms of systemic emergence—would be one where a player can "do anything", or at least, where the game has a coherent re-action to any behaviour the player thinks of. This is, for many, the utopic ideal seen in for example the "Holodeck" (Murray, 1997), a virtual environment that will adapt to any behaviour, want, need and action the player can have. In other words, it is an "infinite" game. As just mentioned, Systemic emergence is defined by the fact that it is finite. This definition comes in through the fact that it is impossible to create systemic emergence that isn't finite—it is so far impossible to create a system without boundaries. Therefore, this utopic game is purely hypothetical, as it would be impossible to create. However, if we assume this game was one day real, let us, briefly, consider all the consequences of such an artifact.

This "game" would have no limitations and thus no rules in which we could read any form of message or intent from the author. There would be no distinction between this game and "life"; in fact, we would probably be able to do more in the game than

in life since we aren't bound by socio-economic, cultural, or physical boundaries within a digital product. This means that the author—as an expressive, creative individual—would have done nothing for this game. There is no mark this author could leave, as anyone should conceivably be able to make this, otherwise it would not afford the same freedom and emergence. If no predefined constraints exists and everything that happens is a consequence of the systemic interactions, it is practically impossible to define any procedural rhetoric, as there are no limitations that bind them.

The closest we have to this a hypothetical game would probably be *Dwarf Fortress* (Adams and Adams, 2006) (barring calling "life" a game), where the amount of interactions, details, and systems at play are staggering even for experienced players. However, Dwarf Fortress still has many limitations, not only through its obtuse and difficult interface, but also through how its narrative is constructed (you always play as a group of dwarves, for example), and the structure of the game (as a god-game[1]). Many of these limitations are deliberately there to create a more coherent and functional game experience, as this "do anything"-game would easily feel eclectic at best, schizophrenic at worst.

As Bogost says *"rules always limit behaviour but the imposition of constraints also creates expression"* (Bogost, 2007, p. 7). Said more succintly, rules limit behaviour but allow expression. It is part of the core idea behind procedural rhetoric that the limitations are part of the message. If this hypothetical game were ever to exist, it would have no procedural rhetoric, and no message to impart from its creator. It would not be expressive of anything. And while you might argue that this hypothetical would instead provide an endless opportunity for interesting emergent narratives through its endless systemic emergence, I doubt that would be worth much, as the arguably closest thing—life—is not a shining ideal for game design (as we deliberately simulate, abstract and condense life into interesting game experiences). You have to limit the work in order to say something.

Jenkins brings up the example that a game doesn't open on a blank screen: Not everything is possible in *The Sims* (Maxis, 2000), even though it has sometimes been called a "life simulation"[2] Rather, The Sims has been created *"ripe with narrative possibilities, where each design decision has been made with an eye towards increasing the prospects of interpersonal romance or conflict"* (Jenkins, 2004) The game was designed with its systemically emergent properties in mind, and honed to skew towards more narratively interesting outcomes, and not just any outcomes, but *specific* narrative outcomes, regarding what The Sims wants to focus on: Romance and personal conflict. And

---

[1]This might sound like it is deliberately designed to give no limitations as you play as a "god", but there are still limitations to what you can do: You cannot control any character directly, for example, create objects without the right materials, or control the layout of the land.

[2]See http://www.bbc.co.uk/newsbeat/article/36441867/life-simulation-video-game-the-sims-removes-gender-barriers-in-virtual-world.

I'd argue, too, that working with your limitations and trying to use them in the best way possible to convey what you want is a far more interesting (and feasible) approach, rather than trying to achieve a grand ideal utopic "game".

Finally, I will note how systemic emergence *does* help procedural rhetoric. In fact, procedural rhetoric wouldn't exist, or rather, it wouldn't be noticeable, without emergence. The systemic emergent behaviour makes us see the procedural rhetoric. To take The Sims, its procedural rhetoric becomes visible because we see these emergent elements play together. When we play, we see our sims love, fight, argue, feel, etc. and this creates our emergent outcomes. The fact that a character in the sims goes to the toilet and another one is there so they begin to complain is a purely systemic emergent reaction, but it is a *created* action—it was programmed that sims want to pee in private. Each element of an emergent interaction was programmed and designed beforehand, and how that design is constructed—in other words, the rules and mechanics that limit and create these interactions—are what we analyze when we see the procedural rhetoric. The rules themselves are not emergent, and we do not play the rules directly. Rather, we play a game wherein those rules act, and thus we see that the characters want to pee in private, and we have to react to that as players—producing play, and emergent narrative through its systemic emergent limitations.

This is similar to the concept "enabling constraints"[3], which is, in a grand sense, what makes games function. We wouldn't have much reason to keep kicking around a ball, if we didn't create that constraint that we should only do it inside a square to make it go into a net, thus enabling us to kick the ball with reason. The constraint itself is arbitrary, in a sense, since it has nothing to do with the ball, but it is created in order to facilitate an interesting interaction with the ball—creating the game football.

6.3   Emergence and Progression

Another aspect to systemic emergence is how it changes over the course of the game, as it progresses. Juul (2002) made a dichotomy of "games of emergence" (games focusing on emergence, have flat progression and systemic interaction)[4] and "games of progression" (have little emergence, but focus more on progression over time). Juul later agreed that most games are hybrids that include both some form of emergence and some progression (Adams and Dormans, 2012).

---

[3]See Stacey (2001) for an example of this term used in complexity theory.
[4]His emergence here is akin to my systemic emergence.

Salen and Zimmerman provide a more nuanced explanation: *"Within emergent narratives[5], coupled interactions produce global patterns across a system; context-dependent interactions ensure that the exact arrangement of these narrative patterns dynamically change over time."* (Salen and Zimmerman, 2004, p. 384). These two terms, *"coupled"* and *"context-dependent"* interactions, are coined by them as well, as meaning *"the elements of the system that are linked recursively, creating more than the sum of their parts"*, and *"interactions that are not the same every time, but dependent of other factors"*, respectively[6]. The first part is pretty identical to most definitions of systemic emergence, but the latter part creates an interesting implication: Not only is it the emergence itself, but how it changes over time, over the course of the game, that can matter. And more specifically, how these interactions change depending on which contexts they are used in matters, and is used to create overarching, large-scale structures in emergent situations. For example, a game like *Civilization* (Firaxis Games, 2014), that is largely emergent and based on systemic interactions between the player and AI agents, follows a structure of starting in the early timeline of civilization, and ending up in a modern (or near-future) era, with modern technology, weaponry, and culture. Every game of civilization follows this structure, despite what happens in between and throughout the eras, and is reinforced by a designed restriction on when you go forward in eras (and the fact that you can never go back). This progression creates a structure on top of the emergent behaviour, which in turn reflects upon the emergent behaviour itself and creates new narratives: Attacking with a modern army of tanks to someone who still has knights is a classic example.

6.4   Emergent Narrative in Games

You might note that both of these emergent aspects of games are about systemic emergence, and not emergent narrative. This is because, while systemic emergence exists elsewhere, there is an even broader existence of emergent narrative outside of games, and the general rules apply to all of these. Since emergent narrative is more about the cognitive aspects of how the player perceives the happenings in the game, the game is less able to alter that through its definitions, and there is less about how a game is constructed compared to a life experience that alter the notion of emergent narrative. That said, there might be some aspects of the limited nature of games that inherently causes a more emergent narrative approach to a situation, since there are less variables to consider and thus it becomes easier to consider how they work together. However,

---

[5]Here they mean something more akin to systemic emergence, even if they use the words "emergent narrative".

[6]Note that the use of context here is slightly different from context I will define later. Here, they are talking about different situations within the game where the same interaction is used to different effects.

that is pure hypothesis on my part. Lastly, the concept of "Agency", which underlines the player's interactability onto the game can also change the understanding of emergent narratives. Yet that is unfortunately out of scope for this thesis. I suggest reading Murray (1997)'s definition on the term.

However, there is one point I must make about emergent narrative, as it is vital and has often been misunderstood. In Aylett (1999)'s definition of the term, narrative 'emerges' out of the events of the game, into a recognisable narrative structure out of the events that happen during the game. Their example is that we can see structures from a football match, where narratively interesting events happen as a result of many elements playing together in a way we can retell as a fascinating story afterwards: The late substitution scoring the winning goal, etc. This, however, confuses the idea of the possibility of emergent narratives as present, with the resulting narrative itself. This one story of a late substitution is *not* an emergent narrative. It is a narrative that did emerge. Emergent narrative, rather, is the concept that this narrative emerged from the game. It is both the possibility and the fact that the game, without a clear rule saying that this narrative moment should happen, produced such an event. Aylett (1999) seems to use it in both ways, and thus I want to clarify this distinction. Instead, the "emerged narrative", I will call the "Afterstory".

6.5   Afterstory

Afterstory is a term I coined in my previous paper (Larsen and Schoenau-Fog, 2016) to talk about the "story-after-you-have-played" that comes as a result of the player's experience of what happened in the game. This term is specifically the (static) story itself, rather than the behaviour that creates it, which helps me differentiate between emergent narrative and the story it produces. The Afterstory is not a game, it is not a systemic or procedural thing. It is, to use Koenitz (2015)'s word, a "product" of the systemic interaction—and the player's perspective on it. Any game can produce an Afterstory, and every game does when you play it. This is the experience you bring when you talk about what you did with your friends—the so called "water-cooler conversations". The Afterstory can vary greatly from person to person in a more emergent game or be more similar in a more linearly constructed game, but there will always be subtle nuances, since the player's interpretation, reading, and feeling of narrativity will be different, even in a completely scripted sequence (even in a movie).

Afterstory is thus not only a direct product of the systemic emergence, but also of the emergent narrative of the game. A player's interpretation of an event is part of the Afterstory, as well as the event itself. A player will always keep in their own

idea of what happened, rather than what actually happened, since they perceive things through their own play and interaction and mind. However, systemic emergence and emergent narrative do contribute different things to the afterstory. Systemic emergence contribute the variability of system, of "random" or uncertain events and their outcome. It contributes, through agency and otherwise, the sense that the player had ability to affect the system, and that the system had ability to change, thus creating a part of the Afterstory. Emergent Narrative contributes the other part: The "meaning"; what this means for the rest of the game and its narrative, and how the player will read this in context with what else they have found. How the narrative emerges, and how a player perceives it, comes through in their Afterstory and colors their perspective on it. While systemic emergence causes certain outcomes to happen, and creates events for the Afterstory, the emergent narrative relates to what those events contribute to everything else: It colors and forms, and shapes how those things feel and whether the player considers them narratively relevant, or interesting, or valuable.

The strength of an Afterstory is not necessarily tied to the quality of the game, although they often correlate. As Ryan says: *The greater our urge to tell stories about games, the stronger the suggestion that we experienced the game narratively.* (Ryan, 2006, p. 193) However, it is important to remember that an afterstory is not just a product of the game, but a product of the game *and* the player's interaction and interpretation of it, and thus, the player can in theory get a great story from a bad game. The afterstory as a broad concept happens in many scenarios, and is a consequence of seeing story as a "cognitive construct". Even in real life, we often find ourselves storifying incongruent events that happened into a larger whole, drawing connections that we couldn't see in the moment (or that sometimes aren't there). The last piece of this will be discussed in Interpretation (section 10), before I will use Afterstory in my final framework (section 14.4).

Part III

The Discourse of Games

Chapter 7

Mechanics

Mechanics as a term is one of the most common words when talking about games, both in and out of academia. It is almost impossible to talk about games without mentioning their mechanics—as in many cases, people consider games to *be* their mechanics. However, the term is also widely accompanied by the caveat that we do not have a shared definition of mechanics (Sicart, 2008), and rather use a bunch of varying, often overlapping but slightly distinctive views on what mechanics do, which has implications for how we talk about rules, interaction and player actions in games.

In 2008, Sicart (2008) was the first to try to bring an overview over the differing views on mechanics and tried to present a comprehensive definition, which is widely cited and used today (Cardoso, 2016; Clementi, 2015; Dubbelman, 2016; Hammar, 2016), but even still, it is not unanimous, as I will show. His definition is: *"methods invoked by agents, designed for interaction with the game state,"* (Sicart, 2008), but before I will dissect this closer, I will first discuss more common definitions of mechanics.

7.1 Different Takes on Mechanics

Game Designers, like Ernest Adams, have typically defined mechanics with descriptions like *"rules, processes, and data at the heart of a game"* (Adams and Dormans, 2012, p. 1) or Jesse Schell, with: *"the interactions and relationships that remain when all of the aesthetics, technology, and story are stripped away."* (Schell, 2014). These show the typical understanding of game mechanics as the underlying base that exists and lay the foundation for the game: No mechanics, no game. The *"story is stripped away"*-comment, especially, as I have commented on before (Larsen and Schoenau-Fog, 2016), indicates a certain level of dependency for games on mechanics. However, I will discuss

later just how (and how little) such a game would actually work (section 8.1). These, and others like like Lundgren and Bjork (2003), seem to mention no distinction between mechanics and rules, as mechanics *"are regarded as a way to summarize the rules."* (Lundgren and Bjork, 2003) (read in Sicart (2008)). However, Sicart (2008) argues for the need for a distinction, as presented by Avedon (1981), where there are *"procedures for action"* (mechanics) and *"rules governing action"* (Sicart, 2008), especially for game design, as it highlights one part that exist within the system and another for how the player interacts with it.

7.1.1   Sicart's Mechanics

Sicart's definition is an extension of this. In his definition, as I will repeat here: *"methods invoked by agents, designed for interaction with the game state, as constrained by the game rules"* (Sicart, 2008), mechanics are any method invoked by any agent, be it player or simulated agent within the system. And while this often concerns the player's method for interaction, it is important to remember that other agents can interact with the game state too—an enemy shooting the player is not a player action, but an AI action, that alters the game state: The player dies. How these mechanics are defined are just as important for the game as those the player directly uses. Following this, Sicart defines his ontological difference between rules and mechanics: Mechanics concern the interaction, while the rules provide possibility space where that interaction is possible, and furthermore states that *"rules could be considered [...] properties"* (Sicart, 2008) of the game. Sicart's example is the "stamina" property in *Shadow of the Colossus* (SCE Japan Studio (Team ICO), 2005), which governs how much a player can climb (a mechanic) in the game. Another example could be a typical rule allowing only one jump (or two for a double-jump) in a platformer like *Super Mario* (Nintendo, 1985), but not more than that at once, so the player cannot keep jumping forever into the air, but can only jump again when you land on the ground[1]. The limitation then becomes a property that defines how an agent can use the jump mechanic.

7.1.2   Adams and Dormans' Mechanics

However, looking deeper at Adams and Dormans (2012)' way of describing mechanics, we get a different picture. His distinction between rules and mechanics is that rules are what is typically thought of as visible to the player. In a board game, this becomes literal, as the rules are spelled out in a manual beside the game and are required to

---

[1]This might seem like an obvious consequence of gravity, but remember that in video games "gravity" only exists to the extent that it is programmed. This jumping example is a necessity to program in whenever you create a jump mechanic in a video game.

understand in order to play the game. Mechanics, then, are typically hidden from the player, and are more detailed and concrete. His example is from the board game *Monopoly*: *"the mechanics of Monopoly include the prices of all the properties and the text of all the Chance and Community Chest cards—in other words, everything that affects the operation of the game."* (Adams and Dormans, 2012, p. 4) This is quite different from Sicart's mechanics, and is more similar to the properties (rules, not to be confused with the "properties" in Monopoly) rather than mechanics, as the text on a card is not related to a specific interaction, rather the cards are tied to the rule that players must draw a card when you land on the correct tile. Adams thus prefers to use the word "mechanism" for a singular mechanic, as an object that can include several rules, yet still still acts as a single game element or interaction. (Adams and Dormans, 2012, p. 4) This, interestingly, almost seem like a complete reversal of Sicart's ontology, despite that they both start from the premise that "Rules define mechanics".

7.1.3 The MDA Framework

The MDA framework (Hunicke et al., 2004) uses a similar approach as Adams and Dormans (2012) for their mechanics in one definition: *"[Mechanics] describes the particular components of the game, at the level of data representation and algorithms"* (Hunicke et al., 2004), yet elsewhere they define them as *"the various actions, behaviors and control mechanisms afforded to the player within a game context"* (Hunicke et al., 2004), referencing back to the idea of mechanics as player actions. This discrepancy is one Sicart points out as well (Sicart, 2008). However, the way the MDA framework uses mechanics is interesting, and worth a mention. The MDA framework (see figure 7.1 has three sections, Mechanics, Dynamics, and Aesthetics, each leading to the other. The mechanics are as already defined. The Dynamics are the dynamic, run-time behaviour of the game where the mechanics start interacting with each other in play. The Aesthetics are the "desired emotional responses" (Hunicke et al., 2004) in the mind of the player,
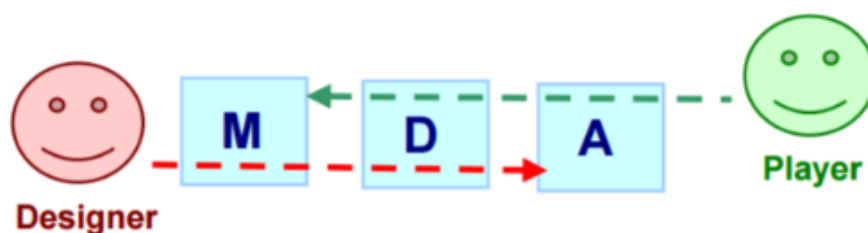
FIGURE 7.1: The MDA framework, with the relation between the designer and the player. From Hunicke et al. (2004)

that the designer wants to achieve with their mechanics. The important thing here is it shows the idea of second-order design: The designer does not create the aesthetic directly, but instead create the mechanics, leading to dynamics, which then leads to aesthetics. However, the player experiences it the other way, and sees the aesthetics first, before understanding the underlying dynamics and mechanics. I used this structure in my previous model, and will use it again in the new framework.

7.1.4 Mechanics as Verbs

Sicart mentions that *"mechanics are best described with verbs"* (Sicart, 2008), which is a statement mentioned by others (Crawford, 1982; Järvinen, 2008), as this is an understandable way to begin thinking about agent actions in a game and how that relates to the system. However, while this is useful from a design standpoint, defining a mechanic as only its verb does not yield many useful results.

Järvinen (2008) presents, in his thesis, a list of analyses of basic verbs of 100+ games (Järvinen, 2008). Here, I could not help but notice that *DOOM* (id Software, 1993), and *Halo* (Bungie, 2001), have the exact same verb set. They both have "shooting" as a core mechanic, "manoeuvring" as a submechanic, and "taking" as a modifier mechanic (Järvinen, 2008). This is problematic as it presents these two games as the same. While I don't think that Järvinen argues that these games are the same, this shallow analysis provides no insight into the differences of play, or feel, dynamics or aesthetics of the game. I'd wager that anyone who has played these two games would say they feel and play very differently, because they are constructed with two very different aesthetic and rhetorical goals in mind. Thus, using any basic verb is not useful for much more than classification of type, and it becomes impossible to convey the differences in procedural rhetoric using only verbs. We have to go deep enough into understanding the differences between the shooting and manoeuvring and taking of DOOM and Halo, as well as what context it is placed into, in order to grasp how the game works and makes you feel as a player. This requires a deeper understanding and definition of mechanics than what verbs give alone. The MDA framework is useful for reminding us that designers are not creating the play—or in some cases even the verbs—directly, but instead they are creating the rules that facilitate them. Yes, often designers have in mind what verbs they want the player to use and think about, but it is in the definitions of the rules that constitute those verbs that the identity of the game comes. It is in the properties of the shooting and manoeuvring that the differences between DOOM and Halo can be seen, and it is thus also those properties that we must analyse in order to understand the games.

7.2 Summarising Mechanics

That said, I do think Sicart (2008)'s split of mechanics as "methods for interaction" and rules as "properties"—rather than Adams and Dormans (2012)'s reversal—is the most useful split, as it provides a clearer vocabulary. A mechanic as a word implies a change in state, a functional movement, which is useful to think of when we are discussing mechanics. However, mechanics should never be torn away from the rules that create them. It is important to remember that mechanics are often created and defined by rules, and it is often more relevant to discuss and analyse the rules that create the mechanic rather than the mechanic itself—at least for analysis. Therefore, in order to define rules and mechanics, I will use the following approach:

Rules define mechanics, as seen in both Adams and Sicart. Rules are algorithms, properties, data—the concrete numbers that make up the game. Rules provide possibility space by setting boundaries on movement. In other words, they define the limits of play. Mechanics are the *"methods invoked by agents, designed for interaction with the game state"* (Sicart, 2008). Formalized with verbs, but are not only verbs, as their specific definition, defined by rules, is important for the concrete mechanic. Dynamics are when mechanics and rules interact with each other or by themselves at run-time.

With this definition, we can understand each example in a clear light.

- The prices of properties and cards in Monopoly are rules, in that they are properties of the game.

- Climbing in Shadow of the Colossus (SCE Japan Studio (Team ICO), 2005) is a mechanic, defined and limited by the stamina property, which is a rule(set), as Sicart (2008) defines.

- Similarly, shooting and manoeuvring in Halo (Bungie, 2001) and DOOM (id Software, 1993) are mechanics, but together they provide Dynamics.

Chapter 8

Context

With mechanics and rules defined, we return to the other part of games: The non-ludic elements. In section 3.1, I described the tension between using representation and context for these elements, and here I will argue why I use context.

First, let us agree what we are talking about. When I say "non-ludic" elements, I mean every aspect of the game's visual, auditory, informational elements. These are the parts most closely related to other media as they are present in other media. Elements like soundtrack, visual style, plot, characters, environment in the aesthetic sense, etc. are all part of this, but also the more granular elements of characterization, individual visual elements (images, textures, etc), and individual sounds (sound effects, musical cues), to the look of the interface and the structure of the game at large. This is broad, and it is meant to be, as it encompasses everything that is not procedural. This doesn't mean that the mechanics or rules can't interact, change, modify or adjust these elements, but it means the elements that are fixed in the game, regardless *how* it is played.

The reason why I used "context" for this in my previous framework (Larsen and Schoenau-Fog, 2016) was that it, quite logically, becomes the context *for* the mechanics, when I look at a game from a mechanical, procedural point of view. This view is one I maintain, as it is useful to remember that the procedural aspects of games are the most important when analyzing and designing, and what makes a game a *game*. Remembering that everything else is "only" context is useful to frame the mind to remember how games work. However, the role of context is immensely important. To understand this, I will look at how context is used, and by this, hopefully reinforce the usefulness of using "context" as a term for this purpose.

First of all, context is a much broader word than used in just games. For example, it is widely used in an anthropological sense for the *"the environment that frames thinking and action [...] all the cultural elements that influence activities and outcomes."* (Mack

et al., 2013). It is, in other words seen as all that shapes the current activity: The room we're in, the mood, the current political landscape, the weather etc. can all adjust the context for whatever activity we are doing at the moment and thus how that activity feels and how we act within it. For games, this is also true in this large, cultural way: The mood we're in, where we play, how we play, whom we play with etc. can all shape our feelings about a game immensely. However, this is a broad topic and outside the scope of this thesis, but it is important to keep in mind that this outside context exists. However, if we focus on the game itself, for the context within, this definition is also useful. *"The environment that frames thinking and action"* is easily translated to the non-ludic aspects I explained above. Everything in the game that helps contextualize (there's that word) what you are doing as a player is the context. These elements can be viewed both as the frame in which play happens (read more about this in "Space" (section 9)), and also as the frame wherein play is interpreted (as defined by the character's frame, see section 5.2.2). Salen and Zimmerman says this about meaning: *"Meaning requires a formal system to generate relationships between signs, as well as context for interpretation."* (Salen and Zimmerman, 2004, p. 366) Here, the distinction is highlighted, and context is viewed as a means for interpretation. This supports my previous analysis of *Madrid* (section 2.3.1), where I showed how the non-ludic aspects helped frame the interaction to a specific procedural rhetoric: To a specific meaning. This understanding of context is very important for my view on the narrative quality of games. The context for the interaction helps frame and shape how the player perceives the interaction itself. Therefore, the context is very important for when you want to tell something with a game, but that said, the word context helps emphasise how it is always in relation to the specific interaction the player is performing rather than producing all meaning by itself.

Similarly, the word context provides the secondary feature of defining contextual references to outside the game. Similarly to how symbolism and intertextual references are used in literature, context also provides this same symbolic and referential matter within games that we can analyse and interpret as players—while playing. The context within the game can hint and use all the cultural and social references we have as people *in a larger social setting* Salen and Zimmerman (2004, p. 454). Here, I still don't mean the outside context in the "where/how" you're playing the game, but focusing on the in-game's relations to previous experiences of the player. Seeing the dystopic vision of *Bioshock* (Irrational Games, 2007) is created through many references to previous dystopic visions of the same, and this all contextualizes the player's actions in the game.

8.1 There Can Be No Game Without Context

Finally, I wish to dispel another myth about games, hinted at both by Jesse Schell in his *"story is stripped away"* comment (Schell, 2014), seen previously (section 7.1), and also exemplified here by Grønvoll: *"The context [his use of the same word] is necessary for games as meaning bearing constructs through which we can communicate, but it is not necessary for play, only the rules are"* (Grønvoll, 2015, p. 92). While I agree with the basic premise that the context helps create the meaning, it is strange to assume that play is possible without it. It is a common understanding that the rules define the play, and that the procedural elements themselves can exist within many contexts, but it is actually impossible to play completely without context. It is physically impossible to see the rules and the mechanics of the game without a context to present them. A game like chess is nothing without its rules, but similarly it is nothing without the board on which it is played, without the pieces which we move. These, by their definition, are contextual, in their shape, their form, their feel, their name, their weight and everything else that forms them outside of purely what the rules present them as. A pawn is not just a unit that can move forward one space and attack diagonally. It is also the visually smallest piece on the board. Visually, we can see the power structure present. And even if we were to flip this and present the pawn as the largest piece, or present it as a dot of color on a screen, this would still be a contextual way of showing the piece to the player(s).[1] This might seem banal, but it is important to remember that context can never be fully stripped away. We can analyze and inspect the rules by themselves, but in order to *play*, the context is necessary. And, arguably, playing is necessary for a proper analysis.

I understand that context is a loaded word, and that it probably will receive some contention upon this definition, as well as my use of it. And while there are other words that seemingly might be used, like "presentation", I am yet to find one that is as useful and apt as context, despite its many misunderstandings and intepretations across fields. The parts I'm describing in this section are what has previously been called "representation", or "story", or similar, and I wish to avoid any of those nomers as that leads to the thought that the ludic parts do not help convey a story or are a part of the representation, which context does not in the same way.

---

[1] And it would still be called a "Pawn".

Chapter 9

Space

Space might seem like a strange inclusion into this thesis at first glance. But when we understand what space is, we see how it is a specific aspect that is present in both games and traditional narratives. Space is present in traditional storytelling, and has always been the other side of the coin compared to the temporal development (Herman, 2004). As Herman (2004) states, space should be a *"core property that helps constitute narrative domains"* (Herman, 2004, p. 296). Furthermore, space lies as an inherent property of games. If we accept that play is a requirement—an implied necessity to all games—and we accept that play is the *"free movement within a more rigid structure"*, it stands that all games must include space. Otherwise there is no room for this "free" movement.[1] This free space, this "allower" of free movement, is not to be underestimated. It might seem basic, but this "possibility space" (as Salen and Zimmerman (2004) call it), is in fact what the rules of the game create. By limiting and allowing behaviour, the game sets up the space in which the player can play, and thus the definition of this space is of vital importance to the definition of the game. The space is a natural, often implicit extension of the rules: There are no clear rules that say you cannot go out of a room, but placing walls will make that clear to the player. But it is important to mention that we are not just talking about physical space—or in video games, "virtual space" understand as 3D/2D environments [2]—but also metaphorical space, and room for movement. Tetris doesn't have space in the sense that there is an environment that you can move around, but its playfield is very much restricted by a rectangular box, and each tetromino is defined in size, and ability move in a grid. Even more abstractly, choosing between two playing cards can be seen as space, as the two cards present the "wiggle room" the

---

[1] Bogost, in his use of this definition, even includes that play is the *"free space of movement within a more rigid structure"*. Yet there is a difference between play being the space, and play being the movement itself.

[2] I will from here describe "physical space" interchangeably with in-game rendered space like this, because there, for the game, is no difference

player can choose between. Thus, the space is very much linked to the game's procedural rhetoric, as the limitations and affordances of the game are often defined—or at least presented—through its space.

9.1   Spatial Design for Games

But this understanding of space is not exclusive to games, but has, as hinted at, been a prevailing discovery within modern narratology as well. Outside Herman's wish to refocus more on space, the "spatial turn", as seen through scholars like Lotman, Bakhtin, Foucault, etc. shows how even in traditional narratives, a focus on space could prove to be useful. Meyer (2016) proposed a convergence of this spatial refocus from narratology onto games as well, in her recent paper (Meyer, 2016). Here, she wants to focus on "spatial story design", or how authors make *"formative creative decisions by designing a narrative space, and spatial dynamics that then translate into user generated storylines"* (Meyer, 2016). She describes three spatial narrative concepts, and how they could be used in games. I will go through them briefly here.

The first is Lotman's *"Semiosphere"* (Lotman, 1990), which translates literally to "sign space", which can both be a literal, geographical place, and metaphorical space or "plot space", and these semiospheres often have correlations with real-world cultures or other semiotic spaces. Semiospheres are defined by properties like their centers, peripheries, insides and outsides, and boundaries (Meyer, 2016). A room is defined by its contrast to another room, and the boundary between them is visible. This boundary, for Lotman, becomes the most important topological feature, defining the text into at least two disjunct areas, "M", and "Not-M". Examples include a high space and a low space, good or evil. This, combined with content inside the spaces like characters, states, functions, show contrasts and similarities within the world. Meyer's example is a city vs mountains, where the city is low and evil, and the mountain is high and good, thus separating the two ideological (semiotic) viewpoints in the story through space.

The second term Meyer uses is Bakhtin's *"Chronotope"* (Bakhtin, 2002). The chronotope defines the relationship between space and time: *"Space organizes the chronological order of the narrative events, and time fills the space with meaning"* (Meyer, 2016). Time and space have a give-and-take relationship. More space makes time feel less important, whereas a confined space makes time matter more to the story. Meyer's examples include a road-trip movie, where space is infinitely far and thus the exact time doesn't matter much, contrasted to a prison movie where time plays a prominent role because of the confined space. As Meyer mentions, this property is something game designers are often quite aware of. Tight spaces are used when they want to control

the player's narrative actions, and large, open spaces when they let the player roam as they will, without regard for when they achieve certain objectives. As Meyer notices, in games we tend to *"mark time often with the question, "where" we are in the game rather than "when" we are in the game."* (Meyer, 2016). Certain chronotopes have conventional symbolic significance, such as the threshold, the gate, or the path, and these can be used in different ways to achieve certain effects within the story[3]

As a companion to that, Meyer uses Foucault's *"Heterotopia"* (Foucault and Miskowiec, 1986) as the final concept. This is not purely used in narrative contexts, but often has narrative implications. A heterotopia is a space that reflects on social conditions by negating or reversing social relations and customs. In a heterotopia, you act differently than you would do in other spaces, because the space demands—through cultural, societal, or practical customs—a different set of actions. Examples include churches, prisons, festivals, ships, theaters, etc. As Meyer mentions, narratives often take place in these spaces—not coincidentally. A heterotopia can be used to understand deviant behaviour, or to reflect on the "other", and to analyze the abnormal and, by extension, the normal. Heterotopias are bound by openings and closings, and entering or exiting one of these places requires a certain ritual, either through complex "ritualistic" affairs, or mundane activities like paying for an entrance fee. This ritual entrance governs who has access to certain heterotopias and thus decides who is inside and who isn't.

Meyer uses these three concepts to define what she calls "Spatial Story Design". This is very potent, as, while we cannot control what a player does with their time, we *can* control the space they do it inside. In spatial narrative design, events also undertake a new meaning. For Lotman, an event is when a character moves from one semiosphere to another (Meyer, 2016). In order to identify the events, the author must thus first define the sign spaces in the narrative, through defining the norm and what violates it, which is then what the characters can do or access in order to achieve this event. What defines the hero in Lotman's terms, compared to the other characters is that the hero is a "mobile" character: They have the ability to cross boundaries into other semiospheres, whereas other, immobile characters are stuck in their spaces. This should be easy to see how translates to a game, as in fact, it comes almost intuitively to most games' construction: The player can move freely within the spaces, the rest of the characters are stuck to their predefined paths, many times standing completely still for the entire duration of the game. These "NPC's"[4], are often seen as statues, barely moving or interacting with the player unless specifically told to do so (either by the plot or by the player engaging in a conversation (or trying to)). By understanding them as

---

[3]See the game Journey for excellent consistent uses of these types of chronotopes to mark the player's progress through the game.

[4]Non-player character's. A common term for any character outside the player's control.

immobile characters, however, we see that that by itself is not an inherently bad thing, and something that traditional storytelling also does with most of their non-protagonist characters (at least in the traditional fairy tale. It does get muddier when we move onto more complex stories). Furthermore, Lotman defines that a story ends when the hero becomes immobile, which once again is almost a literal immobility in a game: When the game is over, the player cannot move around in the space anymore.

The key difference between games and the traditional storytelling which these terms were used to describe is that in games the player themselves govern the crossing of boundaries, the movement within the space, and the interaction with it. In a traditional story, all those actions have also been defined by the author. This Meyer takes and defines that games thus focus more on "co-authorship" and user generated storytelling, rather than author-defined storytelling. However, this, as described in section 10.3, is only some of the picture.

9.2   Small Case Study: HITMAN

To show how space can be used for the narrative quality of a game, I will briefly analyze the game *HITMAN*^{TM} (IO Interactive, 2016), and how it uses space.[5] As the name suggests, the player plays as a legendary assassin, "Agent 47", and must "hit", or assassinate, many high-standing, often corrupt, people. These people are often well-protected, and difficult to get to, and to complicate matters further, players are rewarded for kills where they aren't discovered, or their presence isn't noticed upon the scene (thus achieving the prestigious "Silent Assassin" ranking). HITMAN uses space extremely consciously, as the game almost entirely revolves around the space and how the player traverses it. In order to not attract suspicion, the player will walk around the rooms like an ordinary person, blending in with the hotel guests or background security, in order to fool the other characters into believing that they are supposed to be there, so they can begin their devious plans. The spaces in HITMAN are all intricate, multi-layered levels that the player has to puzzle their way through to understand, but at the same time, also have free reign over, within limits. In fact, HITMAN's levels are exclusively a series of heterotopias. In order, they are: A fashion show, an Italian tourist town, a Moroccan city during a revolt, a high-class hotel in Bangkok, a private military base, and a high-technological hospital. These are all, in some way or another, well-known heterotopias or spaces where norms are being violated, or wherein the characters perform deviant actions to what the rest of society conforms to. The norms within the level is then clarified and played with through the disguise system. The player can knock out almost any NPC

---

[5]I will here analyze IO Interactive's newest installment, just called HITMAN^{TM}, but it is not be confused with the original title from 2000.

and steal their clothes, pretending to be one of them; for example a chef or a gardener or even a security guard. This grants access to new areas where that type of person is typically allowed, and where you would otherwise be called out for snooping around in; e.g. the kitchen for the chef. Thus, boundaries are constantly crossed in the game, through what disguise the player is wearing at a certain time, which opens and closes parts of the space to them. The openness of these spaces are, in chronotopic fashion, contrasted with the fact that players have practically infinite amount of time to plan out and execute their hit. If the player begins to act and is discovered, the space suddenly shrinks rapidly as security might begin looking for them, etc. but as long as they do things quietly and inauspiciously, time is not an issue in HITMAN. The characters will loop in their routines, always go back to where they were before, etc. This might be seen as a negative from a narrative point of view, since the characters seem flatter and less interesting than narrative characters that act out of "free will". However, they were designed to do so in order to facilitate systemic interaction with the game, not to produce deep characters, and thus, from the system's point of view, they are very successful. And they might seem like they thus fail the narrative potential, but when we see them in terms of the space they achieve their purpose with excellence. Their routines fit with their position as immobile characters and many of them present the heterotopia they are a part of through dialogue or interactions with the other characters, that sets them up as despicable villains and creates a sense of humor that permeates through the whole game.[6] Through these systems, HITMAN becomes a game about utilizing the players' knowledge of the space, including the norms present in those spaces. A well executed mission in HITMAN has the player weave in and out of semiospheres, disguises, and interactions, all without anyone realizing what the player is doing.

By this, the game produces another, meta-space on top of all these spaces, that violates the individual semiospheres: In every space, the character must kill a person. This, thus, becomes a sort of meta-heterotopia wherein the character's actions are different than all the other actors within a scene. It becomes "normal", almost ritualistic, to enter each space with the intent of killing a person, scouting the space, hatching a plan, and executing on it, hopefully without—but often with—unintended outcomes. The player, in other words, gets to enter these known heterotopias, and get to break all the rules of them, by superimposing their own ruleset (imposed by the game) on it. It is common knowledge that breaking rules—especially without consequences—is fun, and thus HITMAN shines through the fact that we get to enter traditional, well-known spaces with established rules and then get to subvert them without anyone noticing.

The player does create their own stories, and plenty of fun, afterstories occur

---

[6]I don't have space to delve into this in further detail, but how the game uses humor to juxtapose the violent actions is a fascinating venue of analysis, as well.

from HITMAN, and you can find plenty of them on the internet today. However, these afterstories is not the only narrative the space defines (in fact, the space doesn't define those narratives at all, it just allows them to happen). The structure of creating a heterotopia and letting the player subvert it, is a structure designed and crafted by the game's designers. The individual stories the players experience are all placed within these structures. These structures create a narrative through how the space is defined and how the player traverses it. Much of the narrative in HITMAN also comes from how the mechanics of the game interplay within that space, but that analysis is out of scope for the moment. I also didn't have time to delve into the topological or geographical nature of the spaces in HITMAN, but purely how they are used narratively, but just through this, I hope I showed how space is used for more than just the playspace in which systemic emergence happens.

Space is a really important tool for game design, and designing the space determines a lot about how the rules are defined and interact with each other, which informs how the narrative of the game is presented and perceived. I compared the choice of game mechanics to the choice of framing (cinematographically) in movies (Larsen and Schoenau-Fog, 2016) and space has an easy comparison to mise-en-scène in theater (or movies). However, it is actually more akin to archictecture than the static mise-en-scène that isn't designed for exploration. Architecture, instead, is designed as space people move through—just as space in games.

Part IV

The Player and the Author

Chapter 10

Interpretation

Part II considered the player as someone who plays the game, and discussed the implications of that. Part III looked at the design of the game itself, and how that influenced the narrative of the game. This part will discuss the two conceptual people who interact thing we call a game: The Player and the Author.

The player has already been discussed in terms of play, so this chapter will discuss the player as a reader, instead, and focus on what they get out of playing. This is therefore not specifically related to what happens in the game or what the player does in the game, but instead, what happens inside the player's mind while they play (and potentially after).

I will explain this with a now infamous reading of *Tetris*, first by Murray, then by Eskelinen. Murray interpreted Tetris as *"a perfect enactment of the overtasked lives of Americans in the 1990s-of the constant bombardment of tasks that demand our attention and that we must somehow fit into our overcrowded schedules and clear off our desk in order to make room for the next onslaught"* (Murray, 1997) This is an example of an interpretation of meaning. Eskelinen criticized it, saying she *"tries to [...] project her favourite content on it"* (Eskelinen, 2001), or in other words, interpreting a narrative out of the text that Eskelinen does not perceive to be there—it is not clear from the game that it is. And while it is a jump from the abstract boxes and shapes of Tetris to American work-life, I do not think she is unreasonable or wrong, and as I will get to, this kind of interpretation is not one she can be "wrong" at. Eskelinen's approach is much more rigid, and he instead want to analyze the *"features that make Tetris a game"* (Eskelinen, 2001), and provided a formal breakdown of the features and elements of Tetris. This is an extreme version of the ludological viewpoint of games as not-stories. Eskelinen, rather than wanting to understand and interpret what he gets out of Tetris, wants to understand what Tetris is (Eskelinen, 2001), and thus, I assume, get

to the meaning of why it works. However, I am not sure he gets there. Whitson (2012) heavily criticizes Eskelinen's approach: *"[Eskelinen's] table of temporal relations, while accurate, is an obtuse deconstruction that does not describe the experience of Tetris in a new context that will explain the game to those who have not played it, or expand upon what a player could learn by simply playing the game."* (Whitson, 2012) And this is my fundamental problem with Eskelinen's approach, as well: There is nothing in it that helps us understand what the meaning of Tetris is. Maybe his goal was simply to outline what Tetris was and go no further, but I must then ask why, because what Tetris is becomes obvious when playing it, and does not require a later analysis. His focus on "what makes Tetris a game", while useful from a theoretical standpoint, does not get us further than identifying that, yes, it is indeed a game, and this is how it is so. As Bogost says: *"The problem with the Murray/Eskelinen approach to abstract puzzle games is that one wants the game to function only narratively, and the other wants it to function only formally."* (Bogost, 2015, ch. 13) A purely formal interpretation fails to understand why Tetris as a game has been more captivating than many other similar abstract puzzle games, why people play it, and how it uses its elements to construct meaningful play. (And Murray's interpretation can be critiqued for not highlighting what parts of Tetris makes her see that interpretation, or for not fully defining how the elements of Tetris influence her reading.) This does not necessarily mean that Eskelinen's approach was wrong, but rather, that he doesn't get enough out of it to the point where the interpretation becomes useful. Eskelinen doesn't talk about the meaning of the game, and I don't think he considers that his primary focus. We might even argue that Eskelinen does not get as far as an actual interpretation of Tetris, just a feature breakdown of elements.

Gadamer offers further explanation: *"A person who is trying to understand a text is always projecting. He projects a meaning for the text as a whole as soon as some initial meaning emerges from the text."* (Gadamer, 2004, p. 269) (Read in Whitson (2012)). This follows from the view that all form of interpretation is subjective, and thus, taking the author's intent alone from the text is virtually impossible. Here, Murray's projection is not seen as a bad thing, but rather as a necessity. It is impossible to interpret Tetris without projecting your own self into the interpretation. In the act of interpreting, we take our outside context, our *"commonsense understandings people have of the real world"* (Salen and Zimmerman, 2004, p. 454), and those are naturally a part of our interpretation. An American student will analyze a text differently than a Danish elderly, and those differing interpretations are not invalid simply because they are done from different perspectives. That Murray takes what she did away from Tetris does not mean that everyone does. And here is why Eskelinen is so critical of Murray: He assumes that Murray's interpretation is what the game is—but that is not what Murray says, but rather that is what she *sees* in the game. Murray's interpretation,

too, is not invalidated by the fact that she doesn't assume the game to be literally what she reads from it—rather her interpretation can be used to discuss and read into the game what we get from it, and what the meaning of it is. You might not agree with Murray's interpretation—I also see it as quite the logic jump—but that doesn't mean she is wrong in taking that from Tetris. There is no reason why her interpretation is invalid because others read it differently. There is a discussion to be had about whether that was the reading the author had intended, and there is indeed good reason to believe a Soviet engineer did not intend to make a game about the overtasked lives of Americans, and while that is not necessary for an interpretation, there is something to be said for discovering what the author intended—or getting as close as we can to it.

10.1   Interpretation in Emergence

Bruni and Baceviciute (2013)'s concepts of "narrative intelligibility" and "narrative closure" are relevant here. Closure is what Murray achieves in her interpretation, as she finds a closed understanding of the text that might or might not be what the author intended, but it is a closed reading regardless. She, in other words, leaves the game satisfied with her interpretation of the narrative. Narrative intelligibility is the other side, where we as interpreters attempt to approach the author's intent. A work is intelligible if we can understand what the author wanted to say with it. These two processes lead to two different kinds of interpretation, or can be said to *be* two different kinds of interpretation. Not all works will inevitably lead to narrative intelligibility "if you just read it closely enough", nor will all works be abstract enough in their definition that we can say to get wildly different views from it. Yet, each personal interpretation of any text will have variance, and that variance should not be squandered or seen as negative, but instead as a way to approach games differently.

The abstract nature of games—and especially abstract games like Tetris, which are typically more difficult to interpret, as Bogost (2009) mentions—doesn't imply that interpretations shouldn't be done. A large part of the idea behind abstraction is that it leaves a greater degree of interpretation for the reader to fill in their own narrative closure, rather than define an intelligible narrative to puzzle out. Thus, taking in and discussing those different interpretations of abstract work is valid.

The question for games, though, is how we should approach interpreting emergence. Celia Pearce presents a typical approach: *"Games do not ask the player to construct or interpret what the author is trying to tell them. Rather they function as a kit of parts that allows the player to construct their own story or variation thereof."* (Pearce, 2004) This is a traditional understanding of how to approach narrative in games, through

emergent narrative. However, if this afterstory, which is what this becomes, is the only thing we interpret, we fail to interpret the actual game. That is Pearce's point—that games do not want players to interpret them—however, I do not believe that to be the case either. Procedural rhetoric as a concept shows how this is not the full picture, since we can analyze the meaning in systems, through the ludic aspects of the game—or more accurately, how the mechanics are used and in what contexts. To use another example, to critique Eskelinen's also infamous ball quote: *"If I throw a ball at you I don't expect you to drop it and wait until it starts telling stories"* (Eskelinen, 2001), I would say this: We don't expect the ball to tell us stories: We expect, as procedural rhetoricians, or as narrativists, that the ball throwing means something. This is what we interpret. What the playing does to us as players, and what we get out of it in the end.

However, what we are talking about here are two different things, which should not be confused. What Pearce talks about is narrative closure. She does not suppose games have any inherent narrative intelligibility (nothing the game wants players to interpret), but instead just purely a "kit of parts" that allow players to construct and close their own stories. What Ian Bogost is looking for with procedural rhetoric is narrative intelligibility: Something that the author intended to say with the system. Said in another way, a purely emergent reaction that was not intended by the designer can only lead to narrative closure, whereas one that was intended by the author can lead to narrative intelligibility.

10.2 Where is the Author's Intent?

Yet, it is not so simple, because how will a reader interpret what is and is not intended by the author? This is not an easy judgment, and is something that can be misinterpreted. An anecdote I remember was, after Vlambeer's game *Luftrausers* (Vlambeer, 2014) was released, some people read it as a game with nazi-symbolism, because of its aggressive tone and look, but that was not the intention of the authors (Ismail, 2014). However, this does not mean that their interpretation was wrong or unjust or that they shouldn't take that from the game just because that wasn't intended—a point, the author was clever enough to remark (Ismail, 2014). Instead, the resulting post from the author Rami Ismail showed how they accepted the unintended reading from the game and realized how the elements they had designed could be read in that way they had not intended. This remarkable reflection from the author shows how "intent" from the author can be misread and misinterpreted by those who do not know the author's intent, but instead judge purely on their interpretation of the work.

But there is in fact another wrinkle to this, because it is easy to assume from this that we read interpretations into whatever, regardless of intent or not, as per Eskelinen's critique of Murray. However, that is not fully the case either, at least not regarding intelligibility. While we can perceive closure in something that was not created by an author and thus has no intent, it only makes sense to assume there is intelligibility in that which has intent, and thus we do not attempt to interpret intent in that which has not been authored. But rather than intent directly, what I'm talking about is perceived intent, or the idea that the reader perceives there to have been some intent there in the first place.[1]

If we are to perceive intent (intelligibility) in emergent behaviour, we have to first assume, as interpreters, that this behaviour is created in the first place. Without that assumption, interpreting a deeper meaning behind it is pointless, as there is naturally no meaning behind the creation to find. However, by accepting that the rules and mechanics that lead to this emergence is a designed construction, and that it is not unbiased, we can read what the author wanted to say (or what we guess they wanted to say—or as in the example above, what they happened to say). While we can get a different reading than the author's intent, it is an implied necessity to any interpretation of intelligibility that there is intent in there—otherwise there is indeed no meaning behind the ball-throwing. I believe this to be the underlying misgiving leading to this difference in understanding behind interpreting and analyzing games: Whether you see the game as something constructed with an intent of meaning, or whether it is purely an artifact of play without any intent at any point.

My stance is somewhere in between. Most games are constructed with some intent, and while some games are primarily a playspace in which interactions happen with little intent, I am hard-pressed to find examples where nothing was created with a purpose—leading to intent.

One final point about author intent, though: Not all authors are "real". While we today can often point to creators of games as the authors of their products, despite being whole teams, there are games that defy this, especially old physical games and sports. Chess have no author that we know of, football neither, and both went through a series of iterations over time, similar to the changes seen in oral storytelling. However, this doesn't mean we cannot interpret these games. The author we speak of here becomes a more conceptual author (as also seen in Lockaby (2011), and not a person or team, but we can still read intent into the game. In fact, I will analyze Chess further in the thesis (section 16) to show this. This is acceptable because the game is a cultural product,

---

[1]You might notice these concepts as similar to the ideas described in Narrative (chapter 4) about "the property of "being a narrative" and "having narrativity" from Ryan (2006), and it is because these are indeed quite similar (being a narrative implies intelligibility, having narrativity, closure.)

and it was created by people, even if we cannot define exactly who. Those people had intents, desires, and cultural norms, societal opinions etc. and those were influencing their use and creation of those games.

10.3   Player Authoring

Finally, I want to discuss a common viewpoint these topics tend to lead to, also exemplified by the previous quote from Pearce, as well as Bunting (2013); Koenitz (2015) and Meyer (2016). This is the idea of "player authoring" or "co-authoring" that the player participates in, rather than understanding the player as a passive audience member that takes in and interprets the story. First off, as argued by Lockaby (2011), interpretation can be seen as an interactive process, and therefore, this interactive *"story creation along the work"* is not unique to games, but is frequently seen and used in many other mediums. The unique element in games comes through the fact that the player has agency to change elements within the system at run-time, leading to new states—or a reordering of states, which is otherwise impossible without the procedurality games provide. This is what leads many people to see games as more a tool for player authorship from the system, or a sort of co authorship with the original author. And while this viewpoint makes sense from a classical narrative point of view—in the sense that the author doesn't create the story, they create the system with which the player can tell afterstories—I feel this is selling the author's role a little short. There are degrees to this argument, and while I do agree with some of the sentiments—that's what the afterstory is about—the extreme version where the author has little to no say in what the resulting narrative is, I find problematic, because it assumes the author cannot tell stories or give meaning through the system, which is fundamentally against my thesis about how games work. The above discussions on emergence, narrative, player interpretation, and procedural rhetoric (chapters 6, 4, 10, and 2), as well as the following chapter on the Author, should show plenty of arguments for why player authoring by itself fails to reveal the entire storytelling power of games.

Chapter 11

The Author

With all this talk of the player and player authoring, and narrative as a cognitive construct, I was left with a question:

What is the author doing?

If the power of storytelling really lies with the reader, and the author really is "dead" (Barthes, 1977), why do we even need authors? If we can conjure stories in our minds, why do we need pre-scripted events to happen at all? If those questions sound banal, it is because they are. It would take no discussion to say there are differences between *Harry Potter*, *Sophie's Choice*, and a blank page. The difference between these lies, primarily—outside of interpretation and interaction—with the author. Similarly, the difference between *DOOM*, *The Sims*, and a game engine like Unity lie with the author(s). Thus, the easy answer is that the author creates the game. But the answer is never as simple as it seems.

The first, easy step, is to focus in and say that the author creates, not the game, but the rules and mechanics that constitute the game. But not only that, because they also create the context that surrounds them, conjures situations in which they are used, and crafts challenges for which those rules and mechanics interplay with each other. Game authors craft the simulation and the presentation to fit, they find the subject matter from which they want to draw out the system and tune it and abstract it to the point where it works and lives up to the intentions they have in mind for what the system should achieve. In terms of the interactivity, everything but the actual button presses of the game is created by the author. The author maps the buttons and decides what the interactions are; the only choice left to the player is when to press them. Suddenly it seems like the author does almost everything—but of course we shouldn't discount the fact that this power of the player is actually a very potent one, as timing, it often

shows, is key. Within that timing is where the player plays, and moves around within the system. To take it outside the realm of video games, we still can say the same, although, here we are not pressing buttons, but moving pieces, reorganizing resources, etc. all which have been decided beforehand by the rules, but the *when* of it happens in play.

Outside the interactivity, there is the cognitive processes the player is also doing: The character-avatar construction, the interpretation and cognitive story construction etc. This, the author has far less direct control over, but I would argue that the control the author does wield is still substantial. Here, the authorial control is the same as any other medium, as when we remove interactivity, we get a movie, or book or theatre play. In those mediums, as the examples above show, no one would argue that the author's input is meaningless. Rather, the author creates everything that we interpret. Our basis for the cognitive processes is the work itself, and while we do bring something to it from ourselves, we cannot deny that the work is the foundation upon which we try to gleam interpretation from—despite our failings to do so accurately. The author thus frames the debate inside our head that we call interpretation—for it is rarely a singular, uniform event—and everything we perceive and experience in the text is what we use to recontextualize our interpretation. The fact that a character jumps a certain height and has blue trousers and how quickly the enemy is moving and how quickly you can get from point A to point B are all elements we take in when we try to interpret what happens in *Super Mario*. None of that is determined by the player. The procedural rhetoric of the game is not determined by the player, but by the author. How we choose to interpret that, is to some extent up to us as readers, but, and especially if we work leans more on narrative intelligibility, we take in what the author put in there and try to grasp the meaning behind it. Often the question behind any interpretation is "Why does this work exist?", and if that is what we aim to answer, we have to assume that the author created it with intent.

Thus, the authorial act becomes one where an intent is taken and brought into the real world through a text. That is often the author's focus to take something they want to express and turn it into something other people can experience. Be that through a book or a movie or a game, this is often where it starts. The traditionalist view might argue that, for a game designer, it doesn't start here, but rather at the focus of wanting to make something engaging to experience, rather than with a specific expression in mind. But I think this is a fallacy, as the form always comes secondary, or at least complementary to the story, and not as the primary factor. Sure, you might get an idea for a formal, stylistic, mechanical, or systemic function first and then discover how to "wrap it" narratively, but here the intent is then to find expressive uses of this formal thing you found. And then once you found that, you can create a work. A text is never

just form by itself, so even if it starts there, some content has to fill in the gaps at some point, and what that content is shapes the experience as much as anything else. Creating something to experience means you have to create an experience, anyway, and thus you have to think about the expression inherent within. Some designers might not think about that, but I would chalk that up to careless design, rather than intentionally unexpressive—not paying attention to the rhetoric and meaning within your system doesn't mean it isn't there, as it is possible to create unintentional meanings within a system.

However, games do offer a wrinkle in how the meaning develops. While the author decides the meaning behind their game, and thus the meaning within the game design, ruleset, context etc. the player decides the *specific* meaning behind *their* interaction. By this I mean that the player themselves decides that they will do this specific action at this time, and make the arguments for why, entirely by themselves. They might be swayed by information from the system, but the decision (as well as the decision to play at all) is theirs alone. This doesn't mean that meaning in the interaction at large is up to the player, as that is also governed by the procedural rhetoric, the expressive simulation, etc. But the specific actions in the moment are decided solely by the player, which in turn informs their afterstory. This strange connection is in fact where the "co-authorship" lies the strongest. Since the author has to yield control over the players' exact actions, the author's strongest point of authorship over this is through how the rules, reward and punish those interactions (I will return to this in the framework (chapter 14)). But the player's own storytelling, as much as it exists, comes through how and when they interact within that rule-system, and how they create their own agency through that. The player accepts the constraints of the system (by playing the game), and enacts events through that system. This is what others might call authoring, but I believe there is a disconnect between the creative process and that of the player. The player, when playing, is not creating a brand new experience for someone else, nor defining the meaning of the system. The interpretation act they perform is also not creative in the authorship sense, either. In interpretation, we start with something meaningful to extract meaning from, whereas in creation we go through a process of finding that meaning in the first place. There is overlap in these processes (one can retell an experienced story, which could be said to be "for someone else", and authors do extract meaning from places and inspiration from sources, not from nothing), however I see the difference as relevant, and thus will not call the player an author.

Part V

Bringing It All Together

Chapter 12

Approaching a New Framework

This part will aim to bring together everything learned so far, to eventually create and describe the new framework in Part VI. First, I will return to my previous model, to point out what that was lacking or missing, now that the proper research can be taken into account. Then, I will describe other, similar frameworks, and how they have done it. Then, in the next chapter, I will reconcile the major topics to get a cohesive understanding before we proceed to the actual framework.

12.1 Evaluating The Old Framework

To return to my old model, with all the information we have present now, I will here provide a list of elements I find missing, unfocused, or otherwise incorrect about the previous model. For reference, refer back to section 1.2 where the old model was shown.

1. The narrative's definition and its relation to the aesthetics and the afterstory, was too loosely defined in the previous model, and with greater research into the topics, narrative (chapter 4), emergence (chapter 6), mechanics (chapter 7), etc. I will attempt to present a stronger case for these terms.

2. The mechanics lacked some focus as well, as the split of goal, manipulation and system rules felt too undefined and focused on goals without looking at other types of play, and a greater discussion of meta rules and their use.

3. The concept of play was entirely missing from the old model, which I realized was an oversight, as play is immensely important to any game (chapter 5).

4. As shown in chapter 9 I found that a greater emphasis on space and its use in games, was useful as space covers both the mechanical and the contextual parts of a game.

5. Relating this model to the concept of procedural rhetoric proved extremely useful (chapter 2). This needs to be reconciled with narrative and play.

6. I found the model lacked a clear reference and definition of the player's and the author's role, and their different perspectives on games and narratives and play, as shown in section 5.2, 10, and 11.

7. I found, after debate, that Aarseth's ontology, presented in the left side of the model in between the context and the mechanics, proved less useful, and thus I have decided to omit it in the future, as I believe what I add elsewhere covers for what the ontology was attempting to do.

As can be seen from this list, many aspects of the model was faulty, or not properly considered to the point where they were accurate or useful. These will all be addressed in the new framework (chapter 14). With this list, I will describe the current state in game frameworks and discuss how to approach creating a framework for these purposes.

12.2   Literature Review of Other Frameworks

Here, I will briefly bring up and showcase other frameworks created for design and analysis of games, without going too much into detail with any one, since that is out of scope for this thesis. I will look primarily at frameworks that attempt to define, describe, or otherwise give an overview of games, and potentially narrative. It should be no secret now that this project is not merely concerned with the narrative's relation to games, but attempts to provide a framework for *games* in general, and thus, I will focus on that here. Here, there has been done significant, if a little scattered, work, yet the fact is that there is no definitive—or even agreed upon—framework for games, either for design or analysis. This is in large part to the impossibility of even defining what a game is (Aarseth and Calleja, 2015), but also in part to the scattered nature of the industry and sharing of information between that and academia.

Almeida and Silva (2013) provided a review of the current game design frameworks and models that had so far been created, and reached inconclusive results—no model yet was practically useful, nor formally accurate enough to describe all games, nor was any actively used in the practice of creating games. Instead, they provided a series of guidelines that any future model should intend to follow, if they want to succeed as a

game design tool. I will compare my new framework with these requirements in section 18.4.

In this paper, they cite the need, expressed by game designers (Church, 1999; Fullerton et al., 2004), for a shared, agreed upon vocabulary for games across the industry. However, we still do not have such a shared understanding of every term present in game development. This was first attempted by Doug Church, who created the "Formal Abstract Design Tools" (FADT) (Church, 1999), which attempted to be unambiguous, yet applicable design practices and guidelines for games. Yet, the project was never completed, despite an attempt to include other designers through a public forum. This approach is seen in other attempts as well, such as the Game Design Patterns Project (GDP) (Björk and Holopainen, 2006), and the attempt at dictionaries like the "400 Rules Project" (Falstein and Barwood, 2002), the "Video Game Lexicon" (Burkart, 2005), and the "Game Ontology Project" (Zagal et al., 2007) (or see Carvalho (2016)). These all attempted to create a shared design vocabulary and dictionary to use across games, with some, such as the GDP creating an online wiki where other designers could interact and provide their interpretations of the terms. None of these projects have seen widespread use and recognition, and many of them are today decrepit, or with confusing, conflicting information, throughout their pages.

Other approaches have been to analyse game concepts by looking at existing games, and creating taxonomies, typologies or classifications based on that. Djaouti et al. (2008)'s "Game Bricks", or Järvinen (2008)'s "Library of Game Mechanics" (mentioned in chapter 7) are good examples. These both focus on the mechanics or verbs present across many games. Cardoso (2016)'s "7D Action-oriented Framework" which takes a similar starting point of the "action" in games, but presents a more whole view on how action relates to many parts of the game. However, this framework falls into a similar trap as the GDP in that it becomes too unintuitive and complicated for its own good, and thus, it has not seen much use.

Another approach is designing a framework for a specific type of game, or with a specific focus, as seen in Mitgutsch and Alvarado (2012)'s framework, where the model was designed for use in "Serious Games"[1], but is, in fact, applicable to other types of games as well, just with slightly altering use-cases. However, this model, while a decent overview of different parts of a game, fails to elaborate on how they relate and interact with each other, and thus, becomes less useful for seeing games as more than their constituent parts.

A model that does this is the MDA framework (Hunicke et al., 2004). I used this for reference in my previous model, and discussed it in section 7.1.3, and I will repeat

---

[1]Games that follow an *"explicit and carefully thought-out educational purpose and are not intended to be played primarily for amusement."* (Mitgutsch and Alvarado, 2012)

here that it is useful for understanding how low-level mechanics interact and form a game for a player, through its 3-part definition of Mechanics, Dynamics, and Aesthetics. While this is not a complete framework, as it fails to include many things games do have, it is useful for showing the relations between these three specific elements, and to show the difference between designer and player in relation to a game. (For similar models, see Dillon (2014) and Koenitz (2015), which all incorporate a similar, three-level structure.)

Weimin (2015)'s "ludonarrative model"[2], is an attempt to describe how a game's ludic properties and its "narrative" relate. This is a split I have voiced some concerns about previously (Larsen and Schoenau-Fog, 2016) (or read chapter 4), yet, this model is still interesting to see the types of relations that can be seen when looking at these two elements. However, it also becomes quite convoluted and complex to follow along when you see the whole framework. Pérez Latorre (2015)'s model on game's ludic design and its meaning potential stands as a strong companion piece to the above, as they both highlight a bunch of ways of looking at how the ludic and non-ludic parts of games relate and interact. Yet here is lacking a cohesive model, and it merely offers as set of categories and questions to consider, which, while useful, doesn't help us see a grander relation. Whitson (2012)'s *"Interpretive Spiral"*, like Weimin (2015)'s, offers a wide scope and presents many aspects of game, and is focused on showing how a player or analyst interprets a game from the initial understanding of its fundamental processes, to a grander translation into meaning-making. However, this model, again, suffers from over-complication and lack of flexibility through its rigid structure.

The opposite can be seen in Aarseth and Calleja's recent paper on defining a game (Aarseth and Calleja, 2015), where they described a game as a process and an object of cybermedia, and defined the three-part structure of the object as the "Sign", the "mechanical system", and the "materiality" (see figure 12.1). On top of this comes a human agent—a player—and provides a perspective upon this object, which creates the process by which the game is played. While I hold some caveats at its split of "sign" and "mechanical system" (as mentioned by Adams and Dormans (2012), the mechanical system can also bepart of the "sign"), this does have one key utility over other analytic tools: It's versatility and ability to adapt to multiple systems within one game. Aarseth and Calleja (2015) points out how several mechanical systems can be present within one "game", and the model accounts for that by creating a new triangle for each, with the same materiality and sign as the other system (if that is indeed the case), and thus we can get an overview of every mechanical, material, and sign system, present in a game, as well as the articulation that they are different.

---

[2]This thesis was read as a soft-copy, provided by the author. Read Toh (2015) for a preliminary discussion.

Aarseth (2012) previously made an ontological model, showing the four aspects that games have in common: Worlds, objects, events, and characters. However, as mentioned, this ontology I find not too useful, as it at once both incorporates a ludonarratological split and is also too vague in its definitions of those aspects to be a formal definition.
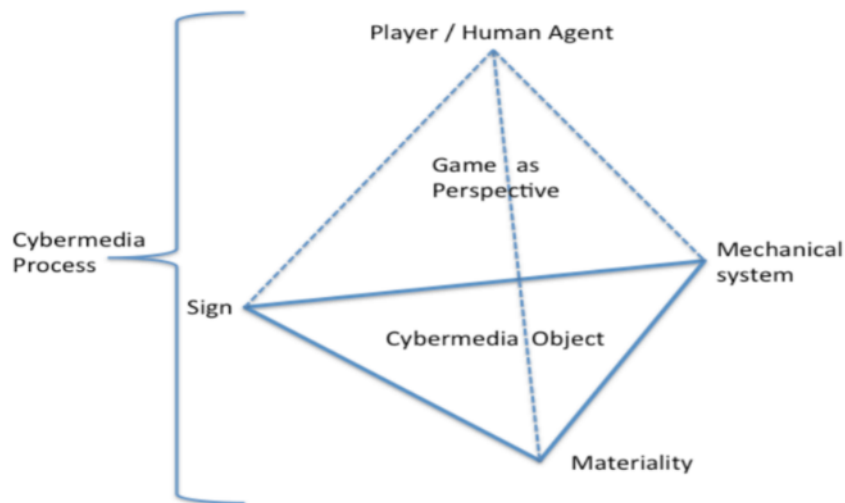
FIGURE 12.1: The cybermedia model. From Aarseth and Calleja (2015).

Almeida and Silva (2013) brings up another kind of design tool, namely the "visual language tools", such as Karakaya et al. (2009); Kuittinen (2008), with the most recognized being Dorman's "Machinations" (Dormans et al., 2012), although none of these have seen wide appeal and use outside of their creation and definition. These, quickly become unintuitive for the uninitiated to use, and requires a longer learning process before even understanding how to appropriatly write in them, before being able to apply them to actual games.

Finally, there are concepts that are not specifically models or frameworks, but rather terms and ways to understand aspects of games. Anna Kipnis coined the term *"Expressive Simulation"* (Kipnis, 2015), which is the idea that a simulation is expressive through what is represented and simulated, and with what fidelity and scope. From the basic idea also expressed by Pedercini (2016), that a game reflects the designer's beliefs and value systems, and by simulating something, we express meaning about what we simulate. Kipnis, being a game programmer and designer, offers practical advice on how to create these types of simulations in her talk, which, while useful, does not offer an overview of the concept (and does not attempt to, to be fair). These both echo ""Procedural Rhetoric" (Bogost, 2007), as you may have noticed, yet offer slightly different perspectives on the matter. "Expressive simulation", I especially find a saying term.

Lastly, there is Dubbelman (2016)'s concept of *"Narrative Game Mechanics"*, which at first sounds very applicable to my thesis. However, here, he describes mechanics that primarily focus on creating narrative situations we can storify (in other words, mechanics that lead to good emergent narratives), and while that is useful, it doesn't approach expression or rhetoric in the way the other terms do.

12.3   Main Takeaways

Taking a look at all of these different approaches, we can conclude several things. First, as mentioned in the beginning, there is no definite, widely used game framework for either design or analysis, nor any that has seen much use other than by their creators. And while that grand goal might still be a ways off, and arguably impossible, as Aarseth and Calleja (2015) says, and that might not be beneficial in the long run, either. Still, there is some value in frameworks and models that can be used for analysis and description of games, in order to, as Almeida and Silva (2013) mentioned, to create a shared vocabulary and a shared design idea of what games do, which would help shape the discourse about games to be more fruitful since we share a language to talk about them with (rather than endlessly discuss what "narrative" or "mechanics" are).

This is roughly what I attempt to do with this framework. I am not directly creating a toolbox for design, or a set of guidelines, or a process description of how to make a game that tells a narrative. What the framework aims to achieve is to provide a structure with which to understand games and evaluate them. It should be seen as a way to view games and to understand how they function, by seeing how the disparate elements interrelate to form an experience within the player. Therefore, I am not creating a complete vocabulary, nor a dictionary of every aspect of games, and I do not attempt to be encompassing in my description. Rather, I wish to take an approach more similar to the MDA Framework (Hunicke et al., 2004) and The Cybermedia model (Aarseth and Calleja, 2015), albeit with slightly more detail, and provide a specific understanding of how to analyse and interpret games, which can in turn be used to discuss and design them. I see the framework not as a complete gathering of everything a game can include, but rather a framework within which a designer, analyst, or player can fit whatever they choose to focus on in relation to other aspects of the game. I wish to be comprehensive and structural enough to provide an overview, but not so comprehensive as to provide details that might not matter to a specific game. My terms must thus be encompassing enough to include aspects unforeseen by me, while still specific enough to be useful. I acknowledge that is a challenge, and I might not hit the mark completely, which is why

I am not shy of saying that this framework can be adjusted and modified to fit the game you are trying to evaluate (which I will return to in section 14.9).

The framework is a tool to view games as a product and a to view how they are played and how their creation manifests, yet it is not a tool to show how to create nor how to play. I do not attempt to describe the process of design or play, but rather how the game exists as an artifact of design and play.

Chapter 13

How to Talk About Games

With the previous in-depth analysis of many aspects of games, players, and authors, I think it is important to take a step back and begin to understand what we are defining here. So, first of all, let us outline that there in general seems to be two different aspects of games that everyone would agree to be there, even if they call them by different names and attribute to them different importances:

- Ludic aspects, interactions, rules, mechanics, processes, dynamic behavior.

- The things that are not that. The graphics, the audio, the "skin" (Aarseth and Calleja, 2015), the context, etc.

Oh, and there's a

- Player, and an

- Author.

But let us ignore those last two for now, at the risk of sounding like they aren't important (because they are), because their role is wholly different and a topic onto its own.

Notice that the second category is almost purely defined by the fact that they are not ludic in nature—and have typically been described as that which can be removed, interchanged, altered, and substituted without creating a different "game." The difference comes in what we see as the game: Is the game purely the formal parts, or the actual product of everything? For example, is any version or rendition of Chess still Chess?

To answer that, let us take an example from out of games. In opera or theatre, new renditions of old stories are released frequently. Every rendition of *"The Magic Flute"* is different, yet they are all called "The Magic Flute"—or at least is recognized as that basic story. Similarly with Chess, any rendition of those same rules would still be called Chess. Thus it can be said that a narrative is not purely defined by its discoursal properties, but by something else as well. However, each rendition of The Magic Flute *is* different. They are not the same narrative, and each can be analyzed as its own narrative, coming from its own culture. And in turn, that change does color the original story and changes the understanding of those formal rules of Chess. While it might spring from the same (or very similar) stories, the fact that each is told differently will make each narrative different. As argued in section 8.1, The Magic Flute doesn't exist formally. Chess doesn't exist formally. It only exists with a "wrapping", to use that slightly derogatory word of it. While we can hypothesize of a formal version of chess, we can never play it, as there must always be something to play.

Thus, I see the game not as its formal, ludic properties, nor as its contextual properties, but as a function of both.

From this, I draw three things. The first, as just defined, is a criticism of the idea that rules are "the only thing needed for play", as this is not the case.

The second is a criticism of the (potential) viewpoint that mechanics and rules are narrative in themselves. This is not a viewpoint I have seen anywhere, but I could see it coming out as an extreme version of what I am trying to say with this thesis. So, before the straw-men are even built, I want to set up my defense. A mechanic and rule, such as a piece can move in straight lines or only one square at a time, is almost meaningless by themselves. The mere fact that I can jump in a game is practically devoid of meaning. Where that meaning enters, as Salen and Zimmerman says, is in *"the relationship between action and outcome"* (Salen and Zimmerman, 2004, p. 156–157)—or in other words, when I see what effect jumping has. But even here, we are devoid of meaning unless we begin to understand the game as something else than an entity onto itself, but rather as a product within and of culture. And when we do see it as a product of culture, we must see that, yes, the context of those mechanics as "kings" or as "queens" does matter. The fact that it is the male ruler that must be protected and the female ruler who does all the work is valuable to read as a commentary on culture, rather than taking it purely as a formal understanding of rules that have been given a "wrapping". If someone refuses to see games as a product of culture, then sure, it is easy to see how they are purely formal abstractions of rules that, however fun to play with, are nothing more than engaging toys. However, I cannot see how one still can maintain that viewpoint in a time where *Gone Home* (Fullbright, 2013); *Spec Ops: The Line* (Yager Development, 2012); *Journey* (thatgamecompany, 2012); *The Walking*

Dead (Telltale Games, 2012); *Papers, Please* (Pope, 2013); *CART LIFE* (Hofmeier, 2011), among many other games like them exist.

And finally, a criticism against the most common argument that what tells the narrative in the game is the non-ludic aspects. I hope it is clear by many of the examples I have given, that this is not the case. The fact that the chess pieces are kings and queens doesn't tell us anything about men or women, but rather that combined with the fact that the male piece is the one that cannot move far and the female is the one who can, does tell us something about the genders.

Thus, we can conclude that rules aren't everything and that context isn't everything, but rather, the narrative of the game exists in the relations between the two. How these relations work is important, but before I get to discussing how, I will discuss a final important matter that needs reconciling.

13.1 Reconciling procedural rhetoric and narrative

Here I want to talk about a potential elephant in the room, that I have so far avoided. The relation between procedural rhetoric and narrative. Because while my paper and thesis both include "The Narrative Quality" in their titles, I have spent much of this thesis using procedural rhetoric, rather than narrative. Not that narrative hasn't been used and discussed, but it is important to clarify the distinction, in case of confusion. A rhetoric is not a narrative. Rhetorics are often used in narratives—in fact, I can't think of one that doesn't—but creating a procedural rhetoric is not a narrative in itself, although it can become very close. If a narrative is a story told, rhetoric is one of the methods (discoursal) that a narrative can be told through. Here is where procedural rhetoric is its most useful: It is a way to clearly define the discourse present in a procedural system (a game, in my case), to see how the game tells its narrative. The narrative thus becomes what the rhetoric is used for: It becomes its goal. I want to make clear that rhetoric can also be used for non-narrative purposes, but when we look at narrative and discourse, rhetoric is an inherent part of that, and when we are focused on the narrative (as I am), procedural rhetoric becomes a very useful tool for that.

Secondly, the other important way of looking at narrative is through the lens of aesthetics. If rhetoric is the way a text says something, the aesthetic of the text could be equated to its emotional quality. The aesthetics, in MDA's words, is the *"desired emotional responses evoked in the player"* (Hunicke et al., 2004), and thus what we (as designers) want the player (reader) to feel, to live through, when they interact with the text. The aesthetic experience is the most difficult experience to describe, often, because it doesn't revolve around a single event or rhetorical device, but rather a mix of what

the player perceives and reacts to emotionally. An emotional state or reaction is not a narrative by itself either, but narratives are often judged by their emotional affect, rather than their point-to-point story. This important discoursal property of a narrative is not to be forgotten, and in games, the interactivity (mechanics), plays a large role in that, which the MDA framework (Hunicke et al., 2004) as already spelled out for us. In narrative terms, then, the aesthetics of the game form the emotional layer, and becomes a large part of the experience for the player, even when the narrative is "thin". How the player feels during an experience is a huge core of what they take away from the game, as it is any narrative. Did they feel happy? Powerful? Horrified? Sad? Frustrated? This, even in a "narrative-light" game like *Tetris*, is something that everyone will take away—combined with an afterstory.

The link from narrative to afterstory I have already explained a bit (section 6.5), but it bears further clarifying. Ryan mentions how *"The greater our urge to tell stories about games, the stronger the suggestion that we experienced the game narratively."* (Ryan, 2006, p. 193), which hints at a relation between afterstory and narrative: The better the afterstory, the better the narrative. However, it is merely a correlation, and not a direct causation, as we cannot say that any game with a strong afterstory also inherently has a strong narrative—as it could be lacking in other points enough to detract it. A strong afterstory is a good indication that a game has a strong narrative, but it cannot be said to be the sole way to perceive a narrative in a game, and thus, it remains a possible correlation. A game like *Loneliness* (Magnuson, 2010), which has a quite effective rhetoric and aesthetic quality, through its consistent minimal tone and feeling of loneliness as other characters (presented as cubes) will always move away from the player character. However, the afterstory of Loneliness is quite boring: "I moved up and then as I moved close to someone, they moved away from me, and this kept happening until I was all alone". This is not nearly as effective—or as prone to retelling as playing the game is.

Thus, from this, we can clarify how these topics work together:

A player's experience comes through the aesthetic and the events that form the afterstory, which are formed by the rhetoric in the game (present through relations), and emerging into a narrative.

The narrative can lean more on the rhetorical, persuasive side of the game. It can lean more on the emergent side, leading to clearly defined afterstories. Or it can lean more on the aesthetic side. All three are valid approaches, and games use all three to a certain extent, although some games use one or two more than the other. This triangle of elements (rhetoric, aesthetic, and afterstory) is what we use to understand what the narrative of the game is.

With that said, I think ultimately, the medium of games can be broader (or reach out of) the realm of narrative. Some games lean so little on these elements, or does so so abstractly, that many would not call them narrative. I would myself be hard-pressed to define the narrative quality of football, outside of its cultural contexts. However, this is where Ryan's scalar narrativity comes in. It is not a problem that games are more or less narratives, as narratives themselves are more or less narrative. What matters is how and to which degree a game is narrative, and how it uses its narrativity in interesting ways. And, as the notion of "having narrativity" implies, we can always read a narrative into what others would consider a non-narrative artifact, and thus, games can always be seen as having narrativity—in this regard, games are no different than traditional texts. There are games ripe for narrative analysis, that uses its narrative quality in clever, interesting, or novel ways that we can take and learn from. There are also games that don't. What this means is not that narrative analysis is useless or fruitless, but rather that we should use it where it makes sense. What this triangulation of elements hopefully can do is make it clearer how a game uses narrative so the analysis can focus on that, rather than assume every game to possess equal narrativity.

It might seem like I am forgetting a lot of elements by focusing on these three, but those elements are all still there. What they do and how they relate to the rest will be shown in the framework, in the next chapter.

Part VI

The Narrative Quality of Games Framework
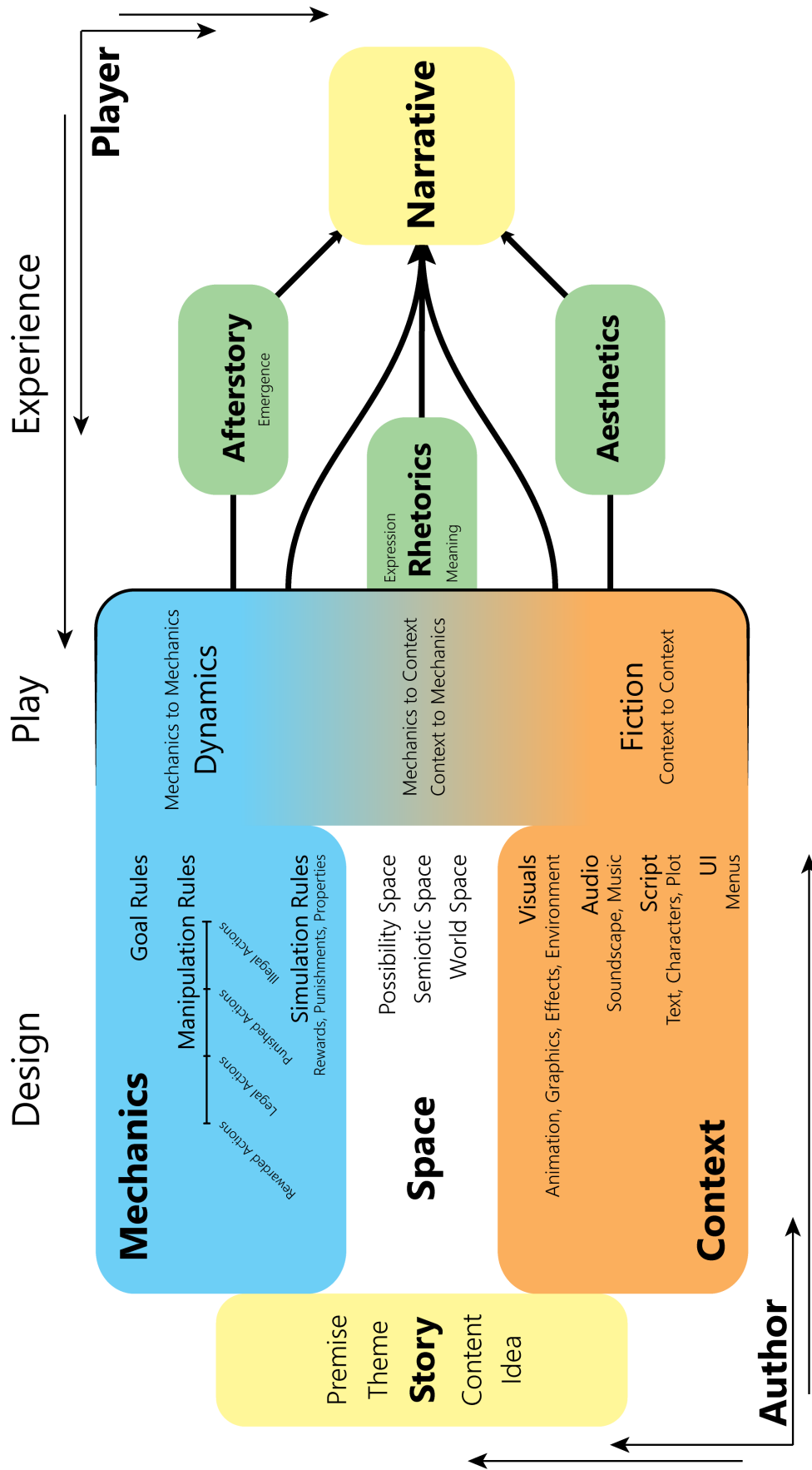
FIGURE 13.1: The Narrative Quality of Games Framework.

Chapter 14

The Narrative Quality of Games Framework

The new framework is, at first glance structured similarly to the old one. It goes from left to right considering the design of the game and the author's influence to the left, then the play and the game in the middle where the disparate elements interact and merge together when played, and then finally leading to a narrative through what the player does, sees, and experiences from their play. The key differences in the new model lies in a redefined definition of mechanics and rules, an adjusted view on story and narrative, a larger focus on space, an inclusion of rhetoric, and a clarification of the author-player relation.

Each element of the framework will be described here.

14.1   Story

To start at the beginning, we have the story. This is, as defined by Ryan, the mental construct that concerns relations between entities, events, and spaces. It is the "representationless" version of a narrative. The narrative that hasn't been told. It concerns a cognitive model of a narrative, yet is not one. It can be a theme or an idea as much as it can be a series of connected events, waiting to be told. The story in this view is what the author wants to say. It is the mental model of what the game should do for the player, or what they want the player to experience. This story is not tied to a game, or any discourse, and can be told any number ways—yet it is important to clarify that the telling will change the story itself, as authors adapt and modify their intent and mental construct depending on the medium, intended audience, discourse, technical level, and many other factors.

The story here has several similar concepts, and I have included some of them in the model as well, as I am aware that to some, "story" is something rather different. To those, one of the other words, like "Theme" or "Premise", or even "Content" (in the media sense), might suffice or might work better for what the specific story the author is trying to tell is. It can be very varied how well the story is defined beforehand—sometimes it can merely be an emotional state, sometimes it can be a message of a morale, sometimes it can be a plot or a character device, or sometimes it can be a mechanic or a new interaction one wants to explore the meaning of and within.

14.2 Design

Then, after the story, we move into the core of the model, what I here call "Design." Design could in general be replaced with "Discourse", if seen through a narrative lens, as this is indeed the discoursal aspects of games I am talking about here. Yet. Design is more useful from a game perspective, as games are designed objects. But keep in mind that the discourse is defined through the decisions made in this part of the model. This is also where the author has the primary decision-making power, as this is where the mechanics and rules are created, as well as the context that envelops them, and the space they are situated in.

FIGURE 14.1: The Story part of the framework.

14.2.1 Mechanics and rules

The, arguably, most prevalent and unique parts of games lie in their mechanics, interactions and rules. This is what the upper part of the design represents. Here, we can see all the underlying rules and systems and mechanics that make the game function.

As described in the mechanics section 7, these aren't just mechanics, but rather mechanics, defined by rules, and there is a distinction between the rules and the mechanics themselves. However, I still call this part, generally, the "Mechanics", since the mechanics are the main focus. They are the core around which all the rules, properties, parameters, etc. are constructed. Similarly to how space isn't actually defined by the space itself, but rather by the walls surrounding it (more on this in section 14.2.3), the mechanics aren't just the mechanics themselves, yet they are the core about which we

talk here.

Here, I use a modified version of Frasca (2003b)'s typology, with goal rules and manipulation rules kept as overarching categories, and with an added "Simulation rules".

14.2.1.1 Goal Rules

The goal rules are the ones closest to Frasca's, as they are what defines what the player must do in order to "win" or "finish" the game or reach its end-state. These are separate from the "rewarded" category defined in section 14.2.1.2, as these are specifically about the win-state and overall progression, rather than just anything that is rewarded during play. A common element that shows reward but not actual win-progression, is the common "collectibles" in many games, where the player can collect hidden items, for sometimes no other benefit than collecting them, but sometimes to get a reward: "experience", an item, etc. In some games, collecting these become the literal goal with the game (see Banjo Kazooie (Rare, 1998) e.g.), but in many games, it is kept to the fringes (see Assassin's Creed (Ubisoft, 2007)), and are thus not part of the Goal Rules. What goal rules tell us is what the game chiefly is concerned with. It is often assumed that a player will want to achieve this, because an author traditionally makes the whole game about trying to achieve this goal, and thus gives the best rewards, the most new content, etc. However, the player can often, at any time, begin to circumvent this Goal Rule, and play "their own game", in which this goal rule is no longer the most important thing. This is covered in section 14.6.

FIGURE 14.2: The Mechanics part of the framework.

14.2.1.2 Manipulation Rules

The manipulation rules is the actions afforded to the agents within the system, including the player. These are often formalised with verbs, but are not purely verbs, but instead are defined by the rules that make them. Within this, I have defined a more granular typology of different kinds of manipulation rules—or rather, different kinds of actions as defined by those rules. This typology of *Rewarded*, *Legal*, *Punished*, and *Illegal*, is a rework of Herman (2004)'s Licit, preferred, dispreferred, and Illicit categories, which were originally created for a very different purpose (Herman, 2004, p. 42).
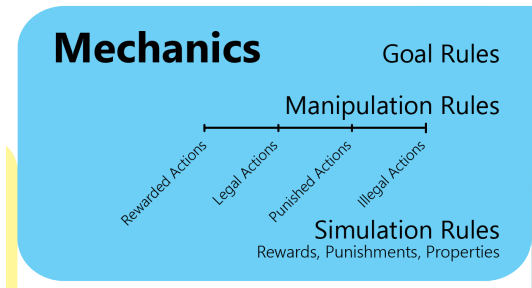
An important point about these actions is that here they are described as the player's actions, although it is possible that one could view another agent's actions in the same way. However, it is primarily the player's actions we are concerned with from the game since these are what has the most direct implication of meaning and narrative.

The last point about these is that an action in a game can jump from category to category over the course of the game. Here, it is vital to look at what an action is most frequently, or in what situations it jumps from one to the other, as this can tell a lot about how the game views the action, too.

Rewarded Actions   are actions that the game rewards. These are actions that furthers the player's resources, abilities, or options in the future. Examples could be to find some loot in *Dark Souls* (From Software, 2011), or, more abstractly, placing blocks in *Minecraft*, as this furthers the opportunity for more placing on top of that block.

Legal Actions   are actions the game neither rewards nor punishes. Examples could be "looking" in an adventure game like the *Monkey Island* series (Lucasfilm Games, 1990) or in many cases, moving and jumping (except where these actions help avoid danger, then they are rewarded actions).

Punished Actions   are actions the game recognises and punishes. These are actions that diminish the player's resources, abilities, or future options (as the direct opposite of a rewarded action). Examples of punishments could be the typical "Game Over" screen, which forces the player to retry a previous challenge without progressing, or the less severe version of losing health. However, it is important to note that the action itself—e.g. standing in front of a bullet—is the actual action here, and that this action is often not directly caused by the player, but by another agent.

Illegal Actions   are actions the game does not allow under any circumstance. These are not even punished because, for the game, they should not even be possible to do. Examples could be going "out-of-bounds" in a game[1] or cheating. These kinds of actions the game often has no idea how to react to, and thus it cannot punish or reward them.

This typology allows a differentiation and definition of various types of actions and their intent by the author who created the rules for them, and how the player is using them. Through this, we can already get a glimpse of the rhetoric of the system, but that doesn't become fully visible until the play happens. This split is useful for analysis in order to understand how the game works and how it works to systematically

---

[1]Going outside the intended area of play.

define the relations that later become a rhetoric. We can see that a game wants us to understand its messages about dehumanization through slowly rewarding dehumanizing actions and only legalising, if not outright punishing, humanizing ones (this example is from *Papers, Please* (Pope, 2013), and a rewording of my analysis in my previous paper (Larsen and Schoenau-Fog, 2016)).

The manipulation rules are where the mechanics are most clearly formalised with verbs, yet, we must remember that they are not only defined as their verb. Rather, by calling this manipulation *rules*, we remember that it is the rules that create these different types of actions.

14.2.1.3   Simulation Rules

The final category is "Simulation rules", which at first sounds ridiculous, as Frasca (2003b)'s typology was all simulation rules. Yet, here I mean them in the more pure simulation sense, of what is being simulated by the game design and *not* controlled by an agent. This is where the author wields the most power in controlling the outcomes of various actions (the specific rewards, for example, or the parameters for the simulation that isn't revolving a direct mechanic (how time progresses or how quickly resources are gathered, for example).

You might note an omission of Frasca (2003b)'s "Meta rules", which were used to describe rules the player added onto the game's rules as a meta-layer, thereby creating a "new" game or ruleset. This is omitted here, because I deal with this in another way, as can be seen in section 14.6.

14.2.2   Context

The Context is my broad word for everything contextual within the game. By context I do not mean any part of the outside context of playing the game, but rather, since this is a framework of a game, the context should be viewed as inside—or in other words, the "context for the mechanics", or the context the mechanics situate themselves in. The context is the presentation and the discourse of all non-ludic elements. It comprises in large parts of what would be considered the discourse in a non-game narrative (e.g. a movie), including visuals, use of color, cinematography, script etc., but each takes on a slightly different spin when used in games, as it all relates to the mechanics and the interaction. The context generates the in-game frame in which the interaction takes place, and thus colors the meaning of that interaction, which I will describe more in the "Play" section (14.3). It is any non-ludic aspect

of the game, and is thus awkwardly characterized as being whatever the mechanics and rules are not. It is (if the elements are present at all) the visual and auditory elements, the UI, the characters, plot, dialogue and scripted sequences, the in-game "lore" and other readable text, and the menu's and even the name of the game itself.

As argued previously (section 8), there are other elements that could be considered part of the context, as the context of the play session, the previous experience the player has, the promotional material etc., and, as described by Whitson (2012) all those elements will have an influence on the interpretation and experience of the player.

However, when I exclude it here is isn't because it is irrelevant to the player, but rather because it is uncontrollable for the author. The author themselves also has a frame of reference, previous experiences, and contexts they design within and from, yet, that is also "only" an outside influence they don't directly control. Rather, what I focus on is how they use that to create a game . Any outside context, regardless how relevant, is not a direct part of the game, and thus outside the scope of this framework. I do not wish to consider any of the outside influences as superfluous, as I understand and agree with the notion that any authored work is a product of the time, society, culture, etc. the work was created in, and not merely a single author's vision brought to life. However, when looking at a game, it is useful to deconstruct its elements as a text, as well. And it should also be mentioned that most, if not all, analyses of the context and mechanics of a game will include some elements of how those elements relate to the culture—otherwise the analysis becomes shallow and uninsightful. Thus, as I see those outside context elements as a self-evident truth that outside context plays a role, and thus, I can disregard it.

FIGURE 14.3: The Context part of the framework.

14.2.3   Space

In the old framework, space was considered as a part of the context. However, further reading of both mechanics and play (Salen and Zimmerman, 2004) and spatial storytelling (Meyer, 2016) highlights that this is no longer adequate (section 9.1). Space holds a far more important role in games, both for their narrative purposes and their functionalities as objects of play. Space exists inherently as a function of play, as it is within space we can play. Therefore, the definition of the space becomes important for the ludic aspects of the game. How exactly it works is closely tied to the rules as the space also defines the contraints wherein play happens. In a physical space, this
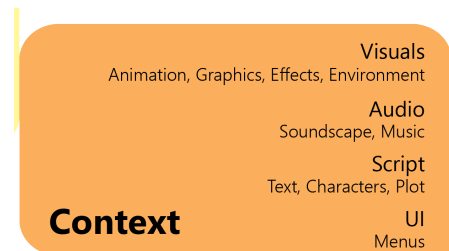
becomes very literal, through the fact that the space is constrained by the boundaries (walls, etc.) present to the player, so they can see that they cannot move further. Here the play space is visible to the player, as they understand the physical space they have available to them, as well as what their affordances are for moving around it.

However, space also means something else when we are talking about play. When we talk about space for play, or "play space", we consider the space the rules allow play to happen in, the "wiggle room" of the game. That a player can choose to play this card or that card is a space they have for movement—here between two binary paths, yet, in other circumstances it can be many more. Here the space is defined as these two paths—cards—the player can choose. When a player adjusts or manipulates something in a game, they are utilizing the fact that the game created a space for them to do so. This is the "possibility space." This is understood as the space itself which allows the possibilities. Often, however, this space is not always completely visible (as it was with the card example), but rather, much of the play comes in prodding the space and seeing where the boundaries are. This, naturally, is not necessarily for physical space (even if some games play with this idea through illusory or otherwise false walls (see Dark Souls (From Software, 2011)), but it becomes very visible when we talk about possibility space: The different ways mechanics and options work together are not necessarily clear to a new player, but as they learn the system, they begin to see how new interactions can come forth, and suddenly their understanding of the possibility space opens. This can also be governed by the game, which can open or close parts of the possibility space as the game progresses (section 14.7).

At the other end, there is the "world space", or the "contextual space". This is the space that exists outside of the mechanics and rules, and the player doesn't interact with directly through their play of the game. Yet, it is the space wherein the context has room to develop, where events can happen outside the player's interference—events that happen in the "background" or "off-screen" are all part of this. However, the world as described as "lore", as seen in for example, *The Witcher 3* (CD Projekt RED, 2015), where there is a large world of characters and fiction the player does not interact with directly, but can maybe hear of, learn or read about, etc. during the game.

Furthermore, as shown by Meyer's breakdown of spatial storytelling, the setup of the space is important semiotically, too. The ordering, function, and layout of the space becomes a vital clue for how the characters' relations are, often showing power relations, or other contextual elements of characterization through the spaces they find themselves in, while also defining the room for play. Through the semiotic space, taken from Lotman (1990)'s semiosphere , we can look at the meanings of the definitions, characteristics, and implied connotations tied to spaces in the game. This is put in the middle of the framework to clarify that there can be semiotic meaning both in the possibility space and the world space created by the context. We can understand a narrow space as

constraining for the player in terms of possibilities, and also as a narrow fictional space, that leaves the character feeling claustrophobic and enclosed. The ideal version of this, too, will make not only the character feeling this, but, through the narrow possibility space, a feeling of claustrophobia and enclosure can happen for the player too, and the player will feel those feelings themselves, rather than experiencing and seeing a character experiencing those. This highlights the power of using space for storytelling purposes in games: By making the possibility and semiotic space match, we allow the player to feel constrained by the space in the sense intended and echoed by the semiotic clues.

As a final note about space, when we define space, we actually define what defines the space, and not the space itself. Space itself is empty, and therefore is purely defined by its constraints. However, when we talk about space, we talk about how it is, not what defines it. We talk about rooms, not walls, and it is more fruitful to say that we are here in a narrow space, rather than talk about the walls that make the narrow space—although that can be relevant for some analyses.

14.3   Play and Relations

The middle of the framework is where it gets complicated, but at the same time, also much more interesting from a narrative point of view. This is where those disparate elements designed and created in the Design begin to coalesce (or not). This is where the game is played. Here, the game is subjected to a player, and the player expresses their singular, given power, to prod, poke, and test the system's boundaries and begin to understand it. By applying one mechanic in one context compared to a different one, or using two mechanics at the same time, or maneuvering through the space, or experimenting with the tools they are given, the player plays. Through this play, they begin to see how the game relates to itself, or more specifically, how the disparate elements of the game relates to each other. Here, the author relinquishes some of their power, and lets the player loose in the system. However, the game is still designed to be played in a certain fashion, and the entire play section exists as a melding and a constant dialogue of these two disparate points: What the author wants the system to do, and what the player wants to do with the system. At the top of the framework, we see mechanics relating to other mechanics, creating Dynamics, as defined by the MDA framework (Hunicke et al., 2004), which is the dynamic, "run-time" behaviour exposed as the systemic, mechanical, or simulational aspects work and affect each other. This behaviour is partly unpredictable, partly designed, and begins to blur the line between the author and the player's influence. Primarily, the mechanics have been designed with dynamic behaviour in mind, and any designer worth their chops will have given thought

into how their mechanics relate before letting a player into the mix, and thus, will have, through the definitions of the mechanics and rules, designed some dynamic behaviour that the game was designed to support. A large part of the play here is to discover this dynamic behaviour and figure out how it can be used, and how the player wants to use it. At the bottom, we have something present in many types of narratives, which I here call "Fiction", which is when two contextual elements relate to each other. This is what I previously called "Traditional Storytelling", as it is a process that happens in traditional narratives. Connecting two apparently disconnected events is a core of all types of storytelling. When context relates to context, we get a sense of a certain element in the storyworld and how it works, through, for example, how a character reacts to another, or through how a color is used to frame a certain object, etc. When cutscenes, mise-en-scène, characterization, dialogue, soundscape etc. are used in games, none of those individual elements are unique to games, and not (necessarily) part of the interaction or mechanics, and therefore could be analysed by themselves through traditional narrative tools. However, as you can probably tell, this type of analysis will not yield anything about what makes the game different from any other mediums and thus focusing exclusively on this part of the model will lead to a lacking analysis. Furthermore, this type of relation is also the one the author has most control over, because it is for the contextual elements that the author keeps most control throughout the play of the game too. No matter how the game is played, a piece of dialogue or music or scenery will be placed the same, and work the same. Of course, the author has little to no control over how these elements are interpreted, but that happens in the player's mind, and not in the play section.

FIGURE 14.4: The Play part of the framework.

In the middle, and as a spectrum between the two, we see where games truly start to become something else entirely than just a simulation, or just a series of contextual elements. As the mechanics and context blends together, we begin to form a more complete and connected idea of what the game is. Here is where the "magic" of this framework begins. This is where the relations begins to coalesce into something "more than the sum of its parts", or otherwise become something each element was not by its own. When we begin to see how a mechanic relates to its
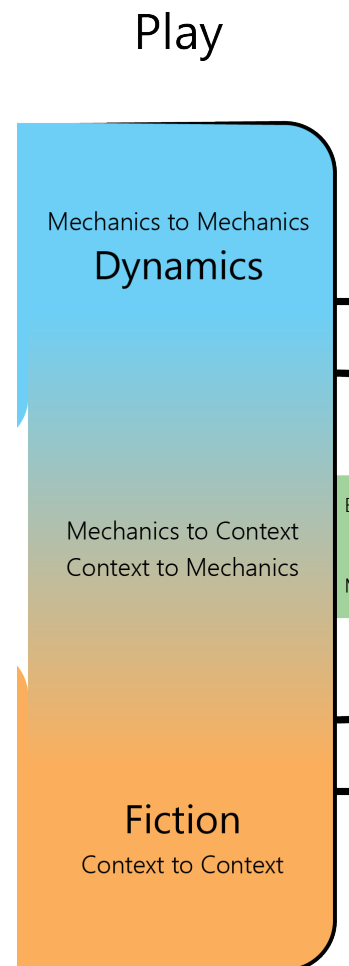
contextual elements, or see how a context relates to the mechanics within it, we begin to draw inferences and relations together that form what the game is trying to say. This can partly be done by looking at the mechanics—by seeing what the game will have me do—and partly be done by looking at the context—by seeing in which contexts it wants me to act—but it is really by seeing how it wants me to act in this context that we can truly see the rhetorical, aesthetic, and narrative power of games. The rhetoric of the game comes through both the ludic and non-ludic elements, and thus, it is only by analyzing the relations between these that we can start to understand the full meaning of the game.

You might notice that the dimension of "Quality" from the previous model (Larsen and Schoenau-Fog, 2016) is gone from this description, and it is because it was mostly a meta-layer on top of the model that I feel is dealt with by proper analysis and thorough descriptions, rather than needing to bring it up through a separate dimension. Furthermore, it was not shown in the actual previous model, and was thus already a bit of a side-note. Quality, instead, should be seen as the grand quality of the experience of the player, as a narrative, but also as seen in the individual elements that form that experience.

14.4   The Rhetoric, the Aesthetics, and the Afterstory

The play, and especially the relations between the context and the mechanics, shape the rhetoric and meaning of the game. This is very similar to the breakdown I made of Procedural Rhetoric, that shows how meaning and thus rhetoric is created by the combination of mechanical, structural elements and what contexts they are put in. This rhetoric shapes the narrative, but as mentioned before, a rhetoric is not a narrative in itself. Rather, the rhetoric shows how the play is structured to inform and value certain aspects of the system, and see what the direct meaning is with the system. The rhetoric becomes the political, sociological, cultural, philosophical, expression or meaning with the game, and often what it tries to say about the world at large. The rhetoric, as defined by procedural rhetoric, is not only present in the contextual elements, or in the mechanical elements, but in the play and interaction between them. It lies at the questions we ask ourselves when we experiment with the system and it stands at the answers we find when we discover how the game wants us to play. The rhetoric thus comes out of play, and is formed in the interplay between what the author intended and what the player does with that intention. The interpreted rhetoric is never completely controlled by the author, but it is a consequence of the author's design, and thus can be read as part of the author's intent. By adjusting the rules and mechanics, or changing

the contexts for them, the rhetoric will shift, and while there is always a distance between what the player experiences that rhetoric to be, it is a more defined aspect of the game from the author's view than, say, the Afterstory.

The other aspect the play creates is the Aesthetics of the game. This is, as taken from the MDA framework, the desired emotional states in the player. However, here we take it more as the player's experience, that thus it is not only the desired emotional states, but the actual ones, during play. For a design, it would be the desired emotional states, yet, when we analyze a game, we can talk about what emotions it gave us as players. The aesthetics is a combination of the feelings the mechanics and dynamics give us, by what type of actions we do, and how they feel (indeed, what people talk about as "Game Feel" (Swink, 2008) is a large part of the aesthetics). It is whether the game makes us feel stressed because we are making difficult choices or stressed because we have to accomplish many strenuous tasks in a short amount of time. It is whether the game punishes actions ruthlessly, or allows room for failure and experimentation.

The aesthetics have a large say in how the game is to play, and is, as is pointed out by the MDA framework, often what we tend to experience first, before we have an idea of the rhetoric or a formed afterstory. We always feel what emotions doing an action gives us. Feeling elated because you found a solution to a puzzle or feeling frustrated that you died for the fifteenth time are all part of your aesthetic experience of the game. Yet, as exemplified by the MDA framework, it is possible from a design and an analysis perspective to deduce aesthetics from the mechanics and the dynamic behaviour they create. A crude example is how a time pressure mechanic leads to more stressful aesthetics. More subtle ones exist as well, such as the slightly-too-small desk in *Papers, Please*, leading to a feeling that you always cannot get an overview of everything you need to, but constantly have to shuffle what you prioritize seeing at the

FIGURE 14.5: The Experience part of the framework.

moment—which fits the game's themes and rhetoric, forming a coherent narrative. The emotional aspects of any story is a large part of the narrative, and thus, aesthetics play a substantial part of the narrative, as it colors the experience of everything else. The emotional affect is, even if we aren't always able to pinpoint why, often what sticks with
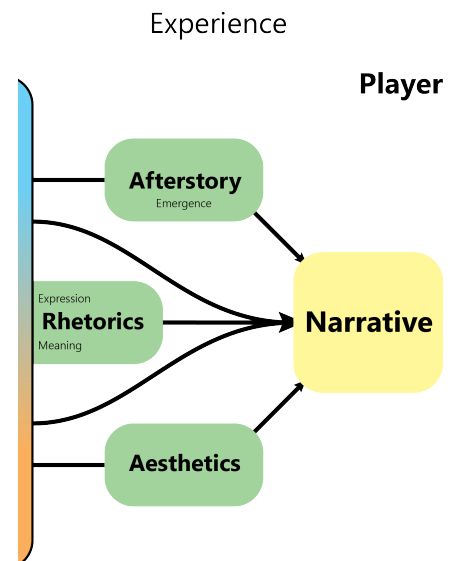
us in a story, and therefore is something that even without an analysis of *how* the game achieves its aesthetic, we can feel that it is there—which is not always the case with rhetoric.

The final sub-part of the experience is the Afterstory. This, I have already defined as the retellable, linear story that you have after having played a game. Something happened during your playthrough, and these events form a linear, traditional story (importantly, not a narrative, as these elements aren't told. The moment you *do* retell them, that becomes a new narrative, based on the afterstory). An afterstory comes from any game, but it can be said there is a degree, or a difference in how games deal with afterstories. A game like *Dwarf Fortress* (Adams and Adams, 2006) or *Minecraft* (Mojang, 2011) produces wildly different, often almost incompatible afterstories, as the possibility space in those games is so vast, and the possibility for systemic emergence within the game is so expansive that we can hear completely differing tales of experience from two different people, despite them having played the same "game". In contrast, a game like *Heavy Rain* (Quantic Dream, 2010) tends to produce much more closely aligned afterstories for different players, and, while it does vary at key points, there are certain aspects that stay the same regardless of how they experienced them. Of course, their reaction to these events and the way the afterstory forms in their heads can always be different, and this is in large part due to the difference in interpretation as well, but there is a correlation between the amount of possibility space and emergence, and the resulting variance in afterstories, that is relevant to keep in mind. The afterstory is thus a mix of both the game's set of events, plot or other structural elements that form a progression, and the player's own actions within that framework. The afterstory is shaped by the discourse of the game itself, and the player's interactions, and shaped as a story in the mind of the player. There are plenty of examples of fascinating afterstories, and while most of them are probably not interesting to share, some do gain enough power as stories and, when told, as narratives that they become properly interesting narratives by themselves. The "Solo Eggplant Run" from *Spelunky* (Mossmouth, 2008), is one such example, and it shows how a game can be transformed into an afterstory and still be an effective new narrative. However, this afterstory is not the entire narrative of Spelunky, and neither does it show the entire range of the systemic emergence. The afterstory is probably the most personal and most experientially driven of the three aspects of experience, and is the one that is the hardest to control for the author, especially in very emergent games. As already mentioned, the contextual elements and the space can be used to give a more general experience to many players, but it is not possible to say how a player plays and this is directly reflected in the afterstory. Thus it forms the biggest discrepancy for analyses, as it is here difficult to compare texts across readings,

but this is the advantage of splitting it off into its own aspect of the narrative, as we can see that the other two elements, the aesthetics and the rhetoric, are largely untouched.

14.5   The Narrative

These three aspects, rhetoric, aesthetics, and afterstory all exist in a game, and they exist to form, create, and shape the narrative. However, they exist in varying degrees from game to game. Some games have a large focus on rhetoric and little on a varied potential for afterstories (*September 12*), some games have heavy focus on afterstory and emergence with less regard for rhetoric (*Minecraft*, *Dwarf Fortress*), some games focus on both (*SimCity*, *Papers, Please*). Some games lean more on their aesthetic and don't try to invoke strong rhetoric (*DOOM*, *Tetris*), and most games do some of all three. Pinpointing an exact degree each game does of each element is potentially useful as a taxonomising exercise, but I find it generally more fruitful to discuss each game in terms of these three elements, and discuss how the game uses each element to its advantage and how it thus tells its narrative.

The narrative, thus, can first and foremost be said to be an amalgamation of what the game is trying to say through its rhetoric, what the player experienced and did, and how that felt emotionally. It is, in total, what the system represents, and its telling of its story. It is what the design was created for and, probably, why the player is playing it. These might sound like lofty ideals, but remember that I am not talking about narrative in the traditional sense, nor in the sense that the game needs to have a complex, deep, defined, and intricate narrative. I am merely saying that the narrative that is there, is why the game exists. It was made for the purpose to convey what the story is, and that conveyance—the execution of the story—is the narrative.

The narrative does not hold the same shape for every game, nor needs to hold any similar structure of events or situations. Games are too broad a medium to narrow any such structures onto, especially when we consider narratives. Here is where Ryan (2006)'s understanding of a scalar narrative can be useful. By accepting that a game can be narrative to a certain degree, and follow more or less temporal, emotional, rigid structures, we allow a game with little narrative to still be "narrative". It might sound like I am being hypocritical in saying that a game's narrative can mean that it is not *narrative*, and that is indeed strange, but I consider it practically impossible for a game to not at least have a sliver of enough of a narrative that it will always have something. A game will always fulfill the first, spatial dimension (that requires there to be a character in a space (here, the player)), and the space of the game always undergoes transformations, fulfilling part of the temporal dimension (see Ryan (2006)). I could

not find any examples of games that did not live up to these two, and thus, it makes sense to consider all games at least somewhat narrative. And then we can reach the more interesting question of how they are narrative: Which is what my framework tries to cover.

A game will always have an aesthetic, and an afterstory and a rhetoric, and thus, it will have a narrative. That narrative might be incredibly thin, that narrative might be boring or trite or uninspired or morally abhorrent—yet it is still a narrative. Just a bad one. Plenty of games have really bad narratives.

And even if someone were to argue that in no way was it the intent of an author to create a narrative with the game, there is still the possibility that a reader can read it as possessing narrativity—which excludes the need for the author (as mentioned in chapter 4). Therefore we can still read the narrative content into a game regardless of actual intent, and thus it is possible to perform a narrative (here, in my sense of narrative) read of the game. Whether that always makes sense, I will leave up to the reader. Like any tool or any idea, it can be used in the wrong context, and I am not claiming that my framework makes sense in all manners of analyses and for all ways to look at all games. My framework is intended for a specific kind of read—one that looks at the narrative quality of a game by reading its mechanical and contextual elements and how they relate to each other to form the rhetoric, aesthetic and afterstory—and while it may be used for other things, that is not my focus here.

14.6   The Player and the Author

The MDA framework has relevant insight in how the author interacts with the mechanics first, while the player interacts with the aesthetics first, and then can begin to unravel the dynamics and mechanics that make it work. For this framework, it seems a useful way to think of it as well, albeit the player's interaction is slightly more complex. Since the player's experience is comprised of a narrative, made from aesthetics, rhetoric, and an afterstory, they experience all of these things combined—the narrative—through each of those separate elements. The player approaches the game from the right, and feels the narrative first-hand at first, without necessarily seeing the "machine" that makes it happen. Through the character-player functions described in section 5.2, the player plays within a frame and enacts their character inside the game. Play becomes the literal translation from their experience to the system, and through that their experience of the narrative begins to take shape as they experience more of what the system has to offer. Their idea of what the narrative is might change over this time, but that does not alter the fact that they still experienced some sense of the narrative *first*. A player is not

directly able to predict and understand each mechanical element and how they relate to each other at first, but they still feel the consequences of their early experimentation through the aesthetic feeling it gives them, the reactions the system puts out through its rhetoric, and the beginnings of an afterstory they get.

The Player and Author are thus highlighted in the model as starting from each side, the author from the left, creating the design out of their vision of what the story is, and the player from the right, experiencing the design as a whole through play. However, there is another aspect to the Player's and Author's position in the framework: Their vertical position. This is loosely tied to the amount of control each part has in that spectrum: The author has more control in the bottom, where they can fine-tune every part of the context and relations between their characters and spatial elements, than they do in the top, where they have to relinquish control over how the mechanics are used to the player, regardless of how much they control they have over the rules that define those mechanics. In a game both parties have to coexist and manage each other's presence in the model—neither has complete control. Different games offer more control to the player, while others force the player down more specific paths, pushing the player's control even further up and into the fringes. This relation can thus be seen as a push-and-pull that lies on top of the framework and is adjusted through the dialogue the players make. While it seems obvious that the author has the largest say in this dialogue, since they are able to control and even take away control from the player through the design, there is another aspect where the player wrestles the control back, either through playing with their own rules, defining new goals, or straight up breaking the game. Here is where the "Meta rules" from the previous model (Larsen and Schoenau-Fog, 2016) has gone: Directly into the hands of the player, where it belongs. Meta rules were never a part of the system, but rather something the player superimposed on top of it, and this relation shows that much clearer. Furthermore, the dialogue can also come in through the fact that the player can reject and counteract the narrative of the game, through refusing to follow its rules. This sometimes leads to failing the game, since the player will be punished for it, but sometimes it leads to new games entirely, and as a result, new narratives. A famous example of this is the "Bunny Hop" mechanic from Quake (id Software, 1996), which was actually a flaw in the code, that made it possible for a player to, if they jumped continuously and always changed their direction, to continuously gain momentum, reaching much faster speeds than one could by running. This has later become a staple of playing Quake at a high level, thus, in a way, turning it into a different game.

I do not think that the existence of this "meta play" and the ability for a player to change the rules of the game makes it pointless to take the design on its own merits, and it is possible to disregard and look at a design through what it offers rather than
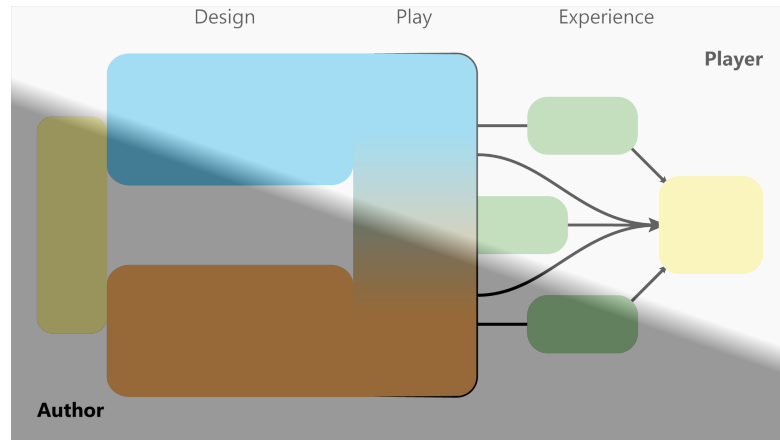
FIGURE 14.6: The Player and the Author's control can be visualised as a gradient on top of the framework, that can move back and forth.

assuming that all players will attempt to break it and make their own game. This framework was primarily designed in order to look at the experience where we assume the game is trying to tell something with a game's narrative. However, this inclusion of the player-author dialogue in their respective vertical position and amount of control, makes it possible to include those games as well, and see them fit within the framework. A visualisation of this can be seen in figure 14.6.

A game doesn't exist without an author, and neither does a game exist without a player. I have seen tendencies to both give too much power to the player (Barthes, 1994; Pearce, 2004) and too much power to the author (potentially, Bogost (2007), or traditional narratology), but I hope that this framework shows that the game exists because the author makes it and the player plays it. However, furthermore, I hope this framework outlines their roles more clearly and shows what each one does for the game. But, in other words, the Author decides the meaning in how the play of the game works, the player decides meaning in how the game is played.

14.7 The Temporal Dimension

There is one final aspect of games that I have barely touched upon, which is important for our understanding of its narrative, which stands as the natural counterpoint to space: Time. This is not a part of the framework, as it is difficult to visualise in the same manner, yet, the temporal aspect of a game is vital to its rhetoric, aesthetic, and afterstory. This is not meant in a direct sequence-of-events-over-time sense, but rather, in a looser understanding of temporal progression. As Juul commented, most if not all games are a mix of games of emergence and games of progression (Juul, 2002) (read in (Adams and Dormans, 2012)). All games tend to change over time. From

Tetris' (Pajitnov and Pokhilko, 1984) simple rules of speeding up the longer the player survives, to *Super Mario*'s (Nintendo, 1985) introduction of new enemies and obstacles as the player progresses, to *Uncharted*'s (Naughty Dog, 2016) plotline and progression of character along (beside?) the gameplay. All games tend to change not only their contextual elements but also their rulesets over the course of play, to either introduce new challenges or to provide variety, etc. How these temporal changes happen is at least as important as the individual elements themselves, and it is important to take good note of them when analyzing and designing a game. These changes can both be for the context, and for the mechanics, as the same input from the player can mean very different things in different situations. An example of a game that utilizes is *Journey* (thatgamecompany, 2012). Throughout the game you have access to a jump mechanic that is governed by the length of your scarf. Gather some flying cloth around the map to grow your scarf, and you can jump for a longer period of time. This, Journey uses throughout to give the player a sense of how powerful they are. When the player is at the end of the game, and succumb to the cold near the top of the mountain, their scarf is so non-existent the player cannot even jump—they in fact even stop being able to walk. This is contrasted to the subsequent rebirth (the literal Apotheosis from the Hero's Journey (Campbell, 2008)), where the player gets the longest possible scarf, and can seemingly fly forever, feeling far more powerful than they have ever felt throughout the game. This is supported by clear, bright visuals and happy, up-beat violin music, whereas before the mountain was surrounded in fog and ominous music. Here, it is not the fly mechanic itself that contains meaning, but rather how it is used over the course of the game, its temporal shifts in power and properties we can see the narrative of the game in.

Even in games without scripted or defined temporal shifts, there are still plenty of temporal patterns we can deduce from how the mechanics of the game works (section 6.3). In chess there are no authored temporal changes, as the rules stay the same at all times. Yet, the game shifts in tactics and strategy over the course of the game, from the defined openers, to the tactics of the mid-game, to the "scrappy" skirmishes of few pieces maneuvering among each other, fighting in a space far larger, and with far more room than they had in the beginning. These temporal shifts will happen in every match of chess, and can thus be said to be a function of chess' rules, and it does have something to say about how its narrative works: The longer a fight goes on, the less both you and your opponent has to fight with. This might seem like an obvious lesson, but chess does a great job of showing this through the player literally feeling limited in their options in terms of which pieces to move, but more free their options in where to move them.

Just as it is the relations between the context and the mechanics that form the procedural rhetoric and the narrative of the game, so do these relations and their relative

changes over time help shape it. Games tend to focus more on space than, time, which means that what does change temporally will have a lot of importance. These temporal changes are not shown in the framework, but I believe any analysis should (and probably will, inherently) include a description of the mechanical and contextual changes over time and what that does to the player's experience.

14.8 Understanding a Game

How we should perceive the players' journey through the game is not one where they passively accept the game's narrative or rhetoric, or one where they actively "play with the system alone from the get-go. Instead, I see it as somewhere in between. In the beginning of a game, the player will experience it close to linearly. They will take in the lessons the game teaches them about how the rules work and they will solve the challenges they can. Then, slowly, as they begin to understand how the system of rules interconnect, how they're contexually relevant and tied together, they begin seeing the game as a system, rather than a series of interactions. Players who play for long begin to see the feedback mechanisms (in Adams and Dormans (2012)' terms) and understand them well enough to use them, maybe even exploit them, as systems. At the same time, a careful reader and player will also begin to understand the meaning within the game's rhetorical use of those systems. The player will, in other words, gradually shift from seeing the game as a series of interactions, to seeing the system itself. When the game in this sense becomes visible is when the player can then begin to fully understand the narrative. In games, this stage is often less visible than when you reach the end of a book, as it is difficult to say when you have "finished" Tetris—you can always improve and keep playing. However, the people who have played a lot Tetris see it differently than those who haven't, and see how each piece fits into the larger system more clearly than those who are still prodding at the game to test its boundaries. It should be said that mastering a game's systems does not necessarily imply that one understands its rhetoric or narrative—and it is also possible to see the narrative without mastering every part of the system. However, there is somewhat of a correlation between perceiving and understanding the game narrative and understanding it enough to grok[2] its systems.

Many players do not reach a stage where they can claim mastery over a game's system. Likewise, many players do not reach a place where they grasp its procedural rhetoric (if there is one clear enough to find), as this does require a level of "procedural

---

[2]I use grok from Koster (2013), as an understanding so thoroughly you don't have to think to understand it—you "become one" with it. Grokking a game is similar to "mastering" it or you can alike it to muscle memory, yet it is more complete than that.

literacy"[3]. It should be obvious that this doesn't mean the game doesn't possess those things, but rather that they can sometimes be difficult to grasp. Even in many traditional stories, an average reader might struggle with what exactly a text is trying to say, even if they found it impactful or meaningful. With games being such a new medium, and especially procedural rhetoric being a rhetorical method of relatively modern fame, it is more challenging for a reader not versed in the form to extract how and why the game was effective.

14.9   Using the Framework

Before we leave the framework, I want to provide a few points about how to use it. I will not provide a complete guide on its application, as the framework is meant to be used in many capacities and not one specific way.

The framework is designed to analyse and describe a game's relation to its narrative, by which I mean that it describes how a game tells a narrative of the story intended by the author, through its discourse of mechanics, space, and context. Furthermore, it describes the relations between these as they happen through play and how the player interacts and plays with them to create their experience, and ultimately, how this experience is shaped narratively. Thus, any analysis with these purposes, or similar, make the most sense and is probably where you will find the most use for the model. Any analysis that looks at the narrative intent from the author or how the game utilizes one of its discoursal elements in relation to the rest for a specific rhetorical purpose, will also make sense with this model.

However, the framework does not describe any one of those elements in enough detail that a singular analysis of that element will work by itself, and it does not provide clarity on how all kinds of contexts or mechanics should be analysed. This is by design, as it allows the framework to stand clearer by itself without convoluted, complex relationships, and it allows a certain degree of freedom for interpretation in how to use the model. Any analyst is allowed to take the framework and modify it to their own needs, or focus on a specific element as required, and the framework should be able to withstand it—through its definitions of relations rather than singular elements. By redefining or adjusting what part of the context you are looking at, you can still look at how that element relates to the mechanics or space, or how that elements helps create an afterstory, regardless of your reshaping of context. This means that it, ultimately, might be able to fit other kinds of games or analyses than I have designed it for, which

---

[3]The ability to read games as systems with procedural rhetoric, and understand how its systems have meaning, as seen in Bogost (2007).

I am open to, as it heightens the potential use and applicability of the framework.

Furthermore, you can also, instead of focusing on an entire game, focus on a specific part of a game, and see how just this one system or one mechanic relates to just this one contextual element (similar to how I analysed *HITMAN*'s space previously (section 9.2) (although that was not a complete analysis)).

Finally, taking a cue from Aarseth and Calleja (2015), I also see it as possible to map the framework onto multiple mechanical systems within the same game, and analyse each system's relation to the same context, or several contextual systems and how they relate to the same mechanic. The framework does not show this visually, the same way Aarseth and Calleja (2015)'s does, but I cannot see why a similar approach should not be possible.

Part VII

Analyses

The following five analyses will show different ways of using the framework, by analysing different games. First, two analyses of games with similar mechanics will be analysed, namely *INSIDE* and *Spelunky*, to showcase how similar mechanics can be used for very different narrative purposes. Then, a short analysis of *Chess* will be done, to finalize what has already been said about Chess before this. Finally, two analyses of two games with similar context will be done, namely *Telltale's Game of Thrones* and *Crusader Kings 2*, to showcase how this type of analysis is also possible, as a counterpoint to the first two.

In Appendix 4, you can find figures of all the games placed inside the framework, for comparison.

Chapter 15

A Comparison of Platformers: INSIDE and Spelunky

To show the versatility of the framework, I will analyze two mechanically similar games, but with widely different aesthetic, narrative, and contextual properties. Through this, we can see how games that would perhaps be grouped in similar genres or given similar verbs can function quite differently as a consequence of their play and relations between mechanics and context. These two games are Playdead's *"INSIDE"*, from 2016, and Mossmouth's *"Spelunky"*, from 2013. Some might say that it is a preposterous act to compare these two games at all, as they are very different. However, they are both considered "Platformers", and both serve similar mechanics: running, jumping, manipulating objects in 2D space—and thus could be, under a traditional view, be seen as similar "games", although plenty of their ludic parts do also function quite differently. This will show the versatility of the framework both in defining the ways the game's work when they are similar, and when they are very different.

15.1   INSIDE

INSIDE (Playdead, 2016) was released in 2016 by Playdead, after a 6 year development(Webster, 2016), to critical and commercial acclaim and success. INSIDE has the player controlling a small, red-shirted boy, being chased by ominous police-like figures, first through a forest, then a a farm, and eventually leading into a large—almost impossibly large—facility of industrial factories and office-spaces, some intact and worked actively, but many, in disarray or drowned underwater. There are clearly things amiss in the facility, and the mystery deepens until the boy reaches the end, where he becomes part of the monster he both was trying to avoid and use throughout. INSIDE is a

FIGURE 15.1: INSIDE's opening sequence. (Playdead, 2016)

game about paranoia and control, about how being in control can sometimes lead to a lessening of those we exert control over, and about how much in control we really are.

In the Appendix 4 INSIDE has been placed inside the framework, for reference. The mechanics of INSIDE are quite simple, and are what gives it its "puzzle-platformer" characteristics: You can move (left or right, in a 2D-plane—more about that later), you can jump, and you can interact with buttons, or push certain objects around the scene. The aesthetic qualities of these are quite physical: The jump has the character's limbs flailing in the air and when he grabs onto ledges or lands on the ground you feel and see the body collapse into the objects with force. Combined with the limited degree of "air-control"[1] makes it feel heavy, while at the same time conveying the frailty of the boy. Pushing and pulling has a similar heft to it, and often you see the boy struggle and push against them, as if he is exerting great effort on his quest. Opening a heavy door, for example, takes several seconds of the player holding down a button and the boy struggling to slowly force it open. And while the player here doesn't feel the same exertion of strength the boy does, the fact that it takes time and visible force does help convey some of that feeling of effort—especially when put in situations where the player is put under time-pressure.

The contextual elements of the character also help convey this, through the animations especially, which show the boy's exertion through writhing and pushing and flailing with his limbs. All the animations have a very physical feel to them, and everything conveys a weight that gives the world a groundedness. The animations also convey the emotional state of the character, and especially how he is always on watch for

---

[1] how much control a player has over the momentum in the air. A game with a lot of air-control will let the player control the direction of a jump even after they have jumped

those hunting for him. Throughout the game, the player is escaping from scary-looking authority figures, camera's, lights, dogs, and other things out to find a stray boy like him. Subtle things like entering more of a "sneaking" posture when someone is close, or a careful look behind him as he opens a hatch are all subtle clues that the player should always be on watch. The player doesn't choose these animations, and frequently adjusts the boy's behaviour depending on other things than the player's direct input.

This is also reflected through INSIDE's use of space. The space is always narrow, through the fact that the player can always only go left or right—and occasionally up and down when underwater—and there is primarily only ever one exit and one entrance to a room, and it is predominantly to the right of where the player is currently. This gives the whole game a very "funneled" feel, as the player always moves with a direction in mind and rarely, if ever, gets lost. The possibility space, similarly, is very narrow through the fact that there is little room to play and mess with the systems, as the systems are primarily created in order for the player to move to the next sequence. The world space, however, is much larger, and there are frequently things happening in the back- or foreground that the player cannot interact with. People or creatures moving around, machines operating, or otherwise showing an aspect of the world, all outside the players' control. This helps outline the player's little power in the world: There is much going on in this humungous facility and space around them, but the boy has no choice but to move forward and escape captivity once again. INSIDE uses its space as a powerful reminder of the main themes of the game, of control and paranoia: The player always feels out of control of what happens around them, while in control of their own (destined) path towards the end.

This is enforced by many of the other contextual elements. The visual side is sparse and stark. Most of the game is dark and grey, with muted colors entering as bright contrasts (for example, as visible on the boy's shirt), and stark, overly bright lights, which gives the whole game a very severe, sombre sense of place. The sound design is especially haunting, with music only entering rarely and adding itself more as atmosphere and tone that cannot be classified as melodic (or—with one exception—rhythmical). The sound effects in general have a coldness to them, when they are not outright scary or menacing. It all serves to make the world seem scary and alien. The tone does change over time, where the forest and farm you start in feels, if oppressive, fairly ordinary, the industrial complex and main facility itself (which is so big it doesn't feel like "one" facility, but rather an amalgamation of many), slowly becomes more and more surreal. In the beginning, you run away from people, and dogs, and solve puzzles using boxes and crates and physical obstacles, but slowly, the player begins interacting with stranger and stranger things. The facility itself becomes flooded and you move up and down in a series of fashions that makes it impossible to tell how far from the surface

FIGURE 15.2: INSIDE's final sequence, where the player gets control of a deform blob of humanoid figures. (Playdead, 2016)

you are, especially when, late in the game, it messes with physics much more directly, and water is suddenly presented as following opposite gravity than that of the player. This, combined with the strange mermaid-like creaturs underwater, the more and more deform humans you see, all serve to make the world seem less and less like the one you came from when you started the game.

However, what the player does might be even more grim than that. It starts innocently, with a puzzle where you lure some chickens and a possessed pig into the right spots to solve a puzzle or two, but once in the facility, you begin finding mind-control helmets that can control the other humans. These humans, though, do not act and stand around like mindless drones when not directly controlled. The player gets the sense these were experiments created in the facility, but then discarded for unknown reasons. When the player then gets access to a (brightly orange) mind-control helmet, they can suddenly move the nearby drones around, as if the player was now controlling them instead. There is no disparity between what the player can do when controlling the boy and these other people. And similarly to the chickens before, these people are primarily used for utilitarian purposes: To solve puzzles. To reach objects the player can't, to push crates the boy isn't strong enough to do on his own, etc. This effectively reduces these mindless people to being resources used for the player's sake. Over time, the context begins to reflect this as well. While they look like people in the beginning, these drone-like creatures become less and less humanoid, begin losing limbs and move unnaturally, as if mutated and deformed, reflecting how the player only uses them as

objects and not as people.[2] This culminates in the end, where the boy is sucked into a literal blob formed of people, sewn or otherwise mashed together into one deform, terrifying blob, straight out of a horror movie (see figure 15.2). Here, the player controls the entire blob directly, and can perform things that the boy had no chance of doing on his own, such as smashing through walls. The player's' control of the drones has now become unanimous with the control of the boy, and they are now purely an extension of the boy's—and the player's—will. However, this question of the boy's and player's will is interesting by itself. Because, if the control is the same for the drones and the boy, what difference is there really between them? Taken to the literal extreme—and suggested by the game's secret ending[3]—this could be read in a way that means the character himself is a resource for the player's sake.

This is echoed by the context as well. Throughout the game we see scientists, corporate people and whomever else govern, control, manage, and decide over these drones as if they were indeed only resources. The factory and scientific, experimental nature of much of the facility helps play into this tone. The game's context brings many references to surveillance and control, from the giant camera-robots and lights out of a 1984-esque dystopia, to the Portal-esque observation windows (see figure 15.3), to the police-state like manhunts in the beginning. The trick—and where it utilizes its medium—comes in in the fact that the player partakes in this form of control too, and through the interaction, becomes complicit in its enactment. The player sees the scientists do it—and then uses it themselves for their own means. Several scenes in the game indicates, too, that the boy, or at least the blob in the end, is used for one large experiment by the scientist, and everything was planned out from the beginning—in other words destined to happen regardless of what feeling of control the player had. Here, the game uses its space, too, which I previously described as "funnelling", to achieve the same effect through the play space: No matter if a player wants to break free and escape, they will eventually go right and progress along the designed path.

INSIDE uses the literal control exerted over a character in a video game to tell a message about control in a larger sense, which is a powerful way to use the medium to convey that message. The contextual elements help set up a scenario where the player thinks and focuses on control, and all the while, they are being tricked into controlling other beings for utilitarian purposes, before realizing that what they're doing is no better than what they've run away from throughout. In other words, the game tricks the player into thinking their amount of control over the play (through the mind-control etc.) is greater than it actually is, and all the while, the author (as symbolised by the

---

[2]The boy's animations, too, change, and become more overexaggerated, almost getting a comical feel, almost as if he is enjoying exerting this control over the mindless.

[3]In it, the player finds a secret room in the facility, where they find a mind-control helmet hooked to a lot of computers, and when the boy pulls the plug, the player loses control over the boy.

FIGURE 15.3: One of INSIDE's puzzles, where you can see how it seems other people are watching the boy. (Playdead, 2016)

scientists) was controlling it all along. Much more can be said about INSIDE and its use of contextual and mechanical elements, but I will, for now, move on to the next game I will then compare INSIDE to: Spelunky.

15.2   Spelunky

Spelunky is a 2D platformer, created by Mossmouth in 2013. It is also commonly placed in the "rogue-like" genre, which is a loosely defined genre based on the original game *"Rogue"* (Toy et al., 1980) and games with its likeness—of which there is some debate. In general, what classifies this as a rogue-like is the fact that its levels are randomly generated (within parameters), and it involves "perma-death", the notion that when the player dies, they have to restart the entire game over again. This is juxtaposed with the fact that the game—when played well—only takes around 30 minutes to complete, so it is a genre designed for many, many replays and retry's once you die and die again (and you will die a lot, as this game is notoriously difficult, as a consequence of its perma-death rules). In Spelunky, you play as a "spelunker", an Indiana Jones-like treasure hunter who ventures deep below ground to find treasure. Over the course of the game, the player will move through (at least) four regions, starting in some abandoned cave-mines, then entering an underground jungle, then large ice caves, and finally a temple. At the end, they will fight a boss and find some treasure.

The mechanics are, initially, quite simple. Borrowing from its platformer heritage, the player can run (and walk), jump and crouch. Furthermore, they are given a whip to

FIGURE 15.4: An example of a section of the mines in Spelunky. (Mossmouth, 2008)

fend off enemies, but it is relatively weak, only working at short range and is difficult to use against fast enemies. Beside that the player is given some additional tools throughout their adventure, starting with some bombs and some ropes, but they can find much more through the dungeons or by purchasing it from the shopkeepers that (rather strangely, actually) happen to be throughout. This equipment can often completely overhaul the nature and possibilities of a "run" (what each attempt at venturing through Spelunky's dungeons is called, a term borrowed from the rogue-like genre), for example, if the player is lucky enough to find a jetpack, they can suddenly fly through most of the level they previously had to jump hazardously across. The mechanics all feel fast and light, and the jump and run has a lot of control in how the player wants to use them.

The context is a stark contrast to INSIDE's as well. Spelunky features a bright, cartoony look, and a jaunty, easy-going soundtrack, as well as a fairly light tone of humor. It isn't grim about dying the way INSIDE is, despite the fact that you probably will die more in an hour with Spelunky than one spent with INSIDE. This is partly to encourage retries and to enforce the idea that dying is not the end—as is the nature of rogue-likes, but also helps uplift the tone of the game into something happy and light, constrasted to what the player is doing, perhaps.

Spelunky's use of space, too, differs a lot from INSIDE. Where INSIDE's possibility space was narrow and linear, and its world space large, in Spelunky it is almost the exact opposite. The game, as mentioned, features randomly generated levels, which means that in each playthrough of the game, the dungeons will have a different design (still within the framework of mines–jungle–caves–temple). In each level, the goal is to reach the door placed in the bottom level, somewhere, which sounds quite linear, yet, first, the

FIGURE 15.5: An example of a "snake-pit" in Spelunky. This one was, unfortunately, pretty treasure-less. (Mossmouth, 2008)

player has to find it, and secure the route, and can access the door through a number of various ways. Where the door is, and what obstacles lie in wait, is random each time, and every time the player will have to "think on their feet" and proceed through the dungeon with new tactics in order to solve the new challenges. It is not purely random, however, and the randomness is heavily designed in order to facilitate interesting play. The dungeon always has an open path from the entrance to the exit door. It is also impossible for enemies only present in the temple, for example, to show up in the mines. The levels aren't completely linear, nor are they necessarily open for exploration (it is sometimes impossible to visit every part of a level without sufficient tools, for example), which gives them a dense quality. While there is a somewhat linear path to the exit, the linearity is broken up by the constant readjustment the player has to do to what is now present in the level. That way you wanted to go could lead right through the wasps' nest? Maybe you should look for another route, maybe bomb your way through the cliff here, and crawl down through the jungle-village instead. It is in fact possible, long term players will attest (myself included), that you can begin to predict certain aspects of the level, and understand how the random-generation works, purely through play and repeatedly seeing the same patterns. For example, when a "snake-pit" (see figure 15.5) appears in the mines, there is a good chance that most of the treasure in the level (including the chest and key, if they are present) will be there.

Since the space has this random and non-linear quality, and the fact that there is not one set way to solve them, Spelunky's possibility space becomes quite large, even with a relatively simple set of tools. The amount of ways to deal with a simple arrow-trap for example (that shoots arrows when it detects movement in front of it), is enormous.

You could throw a rock or a pot in front of it, you could cast a rope or a bomb down, you could lure another enemy to trigger it instead of you, fall past it with enough speed, or even, if you are daring, whip the arrow away from you mid-flight. Depending on the situation, the tools at hand, etc. what a player can and will do changes, leading to quite an interesting set of decisions to be made for every scenario and even object in the game. Begin to combine these and throw them in practically infinite (but not infinite) different combinations through the randomness, and the player will be faced with a unique challenge every game. The world space, however, is quite small. The plot of Spelunky can be said to be shallow at best: A spelunker wants to find treasure in a dungeon, and either succeeds or fails. Success brings with it a small animation showing you riding through a desert with your treasure in tow, but nothing is present about what you will do with the treasure, nor whose treasure it was in the first place, nor why you went down to take it. All that is left to the player's imagination. Nothing happens narratively outside what the player instigates, and there is little contextual to explain why there is an ice-cave filled with yeti's below an underground jungle, nor anything to explain how the shopkeepers got down there. There is little in the environment that can be construed or joined together to form anything cohesive. It is primarily there to serve the player. And there's nothing wrong with that! I'm not saying that Spelunky should have any of these things, merely explaining the differences between this and INSIDE.

Where INSIDE was a game about discovering its mysteries and learning how the world worked through its themes of control. Spelunky is a game about learning how its space works systemically, and through play you learn the rules and slowly begin to wrestle the randomness and unpredictability into something you can control. It's about the author presenting an insurmountable problem and letting the player wrestle back enough control in order to master it. Contrary to INSIDE, Spelunky is not really about completing it. Outside the fact that completing it at all is indeed quite a feat, most long-term players play, either competing for score, or time, or to get the even more difficult secret ending. Spelunky primarily rewards getting treasure, and getting through the dungeons fast. These are the rewarded mechanics: Getting treasure and moving through the dungeon is the primary actions it rewards. A player gets nothing (other than a dead enemy) from killing an enemy, and in many cases they can safely avoid even engaging with them. Spelunky doesn't care if you finish it, really. The game's primary way of rewarding the player is not through finishing the whole game, as you can always try again and get a different dungeon, or try to uncover some of the games' many, many secrets and hidden levels.

Spelunky's rhetoric, thus becomes something more akin to an explorer's guidebook. Through play, the player learns more and more about how its systems works so they are better equipped the next time through the dungeon. Through its aesthetically light

and adaptable mechanics and its myriad of challenges, the game becomes almost more of a combinatorial puzzle game than a platformer: After a while, the execution becomes second to how one should best solve a situation, leading to a great variance in systemic emergence. The afterstories, likewise, are varied and fascinating, often, with examples like the infamous *"Solo Eggplant Run"* (Wilson, 2013). All in all, this adds together to form a narrative of a player's struggle with unpredictable challenges, but through trial and error and slow, meticulous overcoming of always-new combinations of challenges. Spelunky is a game about success through failure, and about how the goal is rarely the actual reward.

Chapter 16

Chess

I have already written bits of analyses of Chess throughout the thesis (sections 13, 4.1, and 14.7), so here I will keep a shorter analysis and sum up what chess does narratively. Chess is a complicated game to talk about, since there are hundreds of versions of Chess, and any analysis will fail to encompass all of them. Here, I will look at the modern, more abstracted version of Chess (by abstracted I mean that the pieces are not as figurative as seen in some historical versions of Chess). There are no doubt interesting reads to be had from, e.g. the Lewis Chessmen or the ones used in Harry Potter, but for now it makes the most sense to keep it to the version we know best today. And while the pieces tend to look slightly differently, there is typically a consensus on what a chess piece looks like. For reference, I will use the pieces shown in figure 16.1. Similarly, the rules I analyse here will also be the modern version, used for tournament play.

Chess is a two-player spatial control game, typically played as a physical board game and spans back over a thousand years. The earliest versions of a Chess-like game has been found in India in the 6th century (Murray, 1913), and it since moved to Europe, where it changed and morphed into the game we know today. Thus, there is no one defined author for Chess, but rather it stands as a an example of the historical imprint of games upon culture. Chess is a basic simulation of (feudal, medieval) warfare, where the objective is to take out the other player's king while protecting your own. To do so, each player has a set of pieces to move, each with their own rules for how to do so. The three most impactful ones for analysis are the King, the Queen, and the Pawns. The Rook, Bishop, and Knight are all examples of different "special forces" units, that serve unique purposes the other pieces cannot, but are ultimately just different special units. The King is pretty weak in Chess. He can, as the only piece, only ever move one tile at a time (so can the pawns, but they have the unique double-move in the opening). However, the goal rules of the game set up the King as the most important piece still:

FIGURE 16.1: A standard set of Chess. This is what this analysis is based on.

Lose the king and you lose the game: Take the other king and you win. The Queen, however, is the most powerful piece in the game. She can move in any direction, any length she wants. This gives her an unmatched ability to control and be a presence on the board, because as long as she has a direct line, she can instantly appear somewhere and affect the game state. Contrary to the king, she is the piece that often gets the most done, but the King is the piece that gets the most done around *him*—the entire game revolves around the two Kings.

Context-wise, there is not a lot to go on in Chess, as it remains minimal and abstract. But, without a lot of contextual information, what little there is because much more relevant. The primary contextual element I have already mentioned: The pieces' names. Their names is what we associate their power with, and becomes their link to the real-world. Whatever we choose to attribute as the powerful piece becomes a statement about who the most powerful is in what we represent with the game. Thus, the Queen, through defining that as her name, can be said to be a statement about how she is the most powerful piece in a war. The truth of that is beyond my realm to debate, but I think it is not remiss to at least discuss the notion of this seeming provocation of feudal, patriarchal society. The king was seen as the lynch-pin, the monarch everything sprang from, and who had the final say in any matter—a say granted to him by God. However, in Chess, we get a read that says that, yes, without him, the kingdom would crumble, yet, he did not cause victory by himself. Rather, his forces, and especially his Queen, were the ones who did all the heavy lifting in order to ensure dominance over the opposing enemies. From this, it becomes trivial to imagine Chess born as a subtle

criticism of the King's assumed power and dominance. However, I have no grounds to base that upon, so I will leave that as a hypothetical.[1]

Space, it is no secret, is a hugely important component to Chess. As I opened, it is primarily a game about controlling space. As I touched upon in a previous analysis (section 14.7), Chess' possibility space is juxtaposed by the fact that more pieces provide more possibilities, yet the fewer pieces there are on the board, the more space opens up for potential places to move to. Over the course of the game, the players will lose pieces and lose their potential options, yet have options opened up by the fact that more parts of the board become free to access. Said in another way, the space is not governed by the space itself, but rather the pieces that occupy it. The potential rewarded or legal moves for a player changes depending on where their pieces and where the opponent's pieces are at this moment in time. However, it isn't actually where the pieces are, but rather, where they *can* be. Because of the turn-based nature of the game, and the fact that a piece (outside the king, pawns, and knight) can move infinitely far in one move, a piece becomes present not in where it is—as that is actually where it is vulnerable—but where it can move to. If you manage to move to where a piece is, you take it, and you gain an advantage over your opponent. But if you move to where a piece can move to, you will probably lose your piece, and thus your opponent gains an advantage. Through this, it can be seen how Chess constantly transforms its space into a varying series of desired spots where opponent's pieces are, a set of punished space where you will lose your piece, and a set of legal spaces where you can safely place yours. In here lies the ingenuity of how Chess uses space. Being somewhere is not an actual winning state, but rather, it is the potential for movement that matters. As already mentioned, this is why the Queen is more powerful than the King: Her possible space is much wider than his.

---

[1]Furthermore, it is potentially possible to provide a feminist reading of Chess through its powerful Queen. However, it is a difficult argument, as, for example, the other pieces tend to default to male in most versions.

Chapter 17

A Comparison of Medieval Murder Games

The following two analyses were born from the desire to do the opposite of the INSID-E/Spelunky comparison. There, I compared two games with very similar mechanics and different contexts to show how that could still produce very different narratives, and be compared in terms of how the mechanics were defined. This time, I will compare two games that have quite similar contexts (at least, as much as is possible), but with very different mechanical approaches. The first will be *Game of Thrones: A Telltale Games Series* (Telltale Games, 2014), a linear, dialogue heavy adventure game, and *Crusader Kings 2* (Paradox Interactive, 2012), a systems-heavy grand strategy game. These both share contexts of medieval life, warfare, politics, and character focused intrigue, etc. and, with the "A Game of Thrones"-mod for Crusader Kings 2[1], they can even exist in completely the same intertextual universe, namely the one based on George R. R. Martin's books series "A Song of Ice and Fire" (Martin, 1996–Now).

17.1 Telltale's Game of Thrones

Game of Thrones: A Telltale Games Series (from here: Telltale's Game of Thrones or TGoT) is a cinematic adventure game made by Telltale. It is made in their modern adventure game style, debuted in *The Walking Dead Season 1* (Telltale Games, 2012), and now with many other ones, such as *A Wolf Among Us* or *Tales from the Borderlands*, etc., all following the same basic structure and style of gameplay, typically with a heavy focus on fiction, dialogue and branching paths, with very little focus on mechanical systems. This game is based on the TV series (Benioff and Weiss, 2011–Now) and book

---

[1] I will describe this further in the Crusader Kings 2 analysis.

series (Martin, 1996–Now), and takes place within the "Game of Thrones"-universe, following a side-story compared to that of the TV-series.[2]

Similarly to the show, the game follows multiple characters across the realm of "Westeros" (and Essos), as they manipulate, scheme, and survive throughout the so-called "Game of Thrones"[3] of control of the land. The game focuses on the House Forrester, which so far has been a minor mention in the show at best, and takes a look at how the war impacted them and their feud with the "Whitehall" house.

The mechanics of TGoT are surprisingly simple. The main interaction of the game happens through selective dialogue options and basic point-and-click interactions. There are two main "modes" in the game. The primary one is a "cutscene"-mode where the game is progressing through "cutscenes"[4], where the primary interaction come through the following options:

- Dialogue choices: Choosing between up to four different dialogue responses for the current character you are controlling. Every choice is limited by a timer, by which the player must respond, or the game will assume they said nothing and progress regardless.

- Point-and-click interaction on certain objects when needed. Purely contextual interaction, where the player must click on an object to progress.

- "QTE"'s (quick-time-events) where the player must do the correct input within a short amount of time, to react to something. Typically used in action scenes.

These interactions are often contextual and designed to fit loosely with the current events. For example, a character has to dodge to the left, the player will click the left key, or to hold open a wound, they will hold a button down for the period needed. In the second mode, which happens less frequently, the player is given direct control of their character to move around a (usually small) space and interact with objects or characters, with a very limited degree of freedom. Here, they either move around until they interact with the correct objects in sequence, or until they trigger a certain event (talking to a specific character, etc. (see figure 17.2)). The possibility space is therefore incredibly narrow in this game, and it is primarily an engine to move the plot and narrative along a pre-scripted path. However, within that narrative are branching paths, chosen through the dialogue options (see figure 17.1), where the player can choose between at least two

---

[2]This analysis is primarily based on the first episode, as this was unfortunately all I had time to finish at this time. I believe, from an online investigation, that the game's mechanics or structure does not change overly much in the later episodes.

[3]A use of "game" in the more metaphorical sense, which is an interesting discussion by itself—as this game could potentially be analysed as a game too (and Crusader Kings 2 will get closer to that).

[4]Movie-like sequences where the control is largely left out of the player's control.

FIGURE 17.1: A dialogue option in TGoT. (Telltale Games, 2014)

options that will have consequences later. All of these choices are authored and defined beforehand, and there is little to no space for systemic emergence.

The "system" in these Telltale games, and in this game, is very much at the back-seat, and is largely invisible to the player. There are numbers and values determining character opinion and certain other aspects, which will branch the game in one direction or the other, but all those values are hidden to the player, and are primarily there to support the contextual narrative content, not to provide anything systemic by itself. A key way to see this is through the fact that there are not any rewarded or punished actions—every presented option is legal, but the caveat is that this makes a lot of options illegal—there are many conceptual choices the player cannot make. However, this opens a space for the context, in which those choices suddenly matters. Since each option for the system is equally legal, how the choices matters is in terms of their contextual importance. To side with one character over another does not have much weight in the system, but it will have an influence over that character's opinion, which will change the plot and the resulting narrative.

The context is thus the large focus of this game. Graphically, it supports a relatively simple, "low-fidelity"-artstyle and basic, rudimentary animations, especially when compared to some of the state of the art within computer-graphics (see e.g. *Uncharted 4* (Naughty Dog, 2016)), but it creates a stylized, pseudo-painterly look where the character's facial expressions are quite visible—if not a tad overplayed. This, on the mix of simple 3D and painted 2D backgrounds, sets the focus on what the story focuses on as well: The characters. The soundscape is equally left to give space to the dialogue and character interaction, with simple, diegetic sound effects, and fitting music. The characters, of which there are many, are the driving point of the plot and script, and the

FIGURE 17.2: An example an interaction in TGoT. Here the player can choose to
interact with another character. (Telltale Games, 2014)

core of the game is to follow along with their struggles throughout the defined story.

Throughout the game, the UI is mostly invisible, outside of contextual moments, like the dialogue options and to show interactable objects. However, there is one point where it is important. Occasionally, after a decision or dialogue choice has been made, a little notice saying something along the lines of *"He will remember that. . . "* or similar, will appear in the corner of the screen. This is to show the player that their choice was "recorded" or for the underlying system of opinions and values. This is the most "visible" the system ever gets, through this contextual snippet, and it serves the purpose of telling the player they have agency over the story and that it will adapt to their choices. This makes each choice feel more important, since the player is always reminded that the other characters pay attention.

The play of TGoT happens in an incredibly narrow space and there are not a lot of mechanics that interact with the context, however what little there is, is heavily authored to be contextually relevant.

Scripted dialogue options will always run into the problem that the player might not want to say any one of them. The game's extreme reliance on context and plot means that there is very few dynamics created by the mechanics, and it is merely reacting upon what has been defined by the author.

It would be possible to read this as a rhetorical argument from the game about how this traversing down a path feels like life was destined for them (similar to INSIDE), as this does fit the character's states, of feeling locked into tiny, difficult to traverse, paths. And that is certainly how the game feels aesthetically; by focusing so much on the characters contextually and not systemically, the player begins to feel for the

characters through their contextual elements, similarly to how you feel for characters in any traditional story. The resulting moments where your choices will determine—within script—the fates of those characters (in a series famous for willing to kill off well-liked characters), can lead to very tense situations, where you can feel the shifting alliances and opinions of the other characters. An early scene springs to mind where the Lord of the Whitehalls comes to you, the young, new Lord of the Forresters, after the previous one was slain in a war down south, and he comes with many accusations and insults about something that happened previously in the game, and the player is constantly shifting between being kind enough to not piss him off (as he is backed by the now stronger power in the region), and being true to your own people (who are standing right behind you). This is all done through those same dialogue options, but the gravitas and tension of each choice is, through its timer and their difficulty in navigating this tough social situation, ratcheted up significantly, purely through the contextual confines. However, to read this as its rhetoric might be giving the game a little too much credit, or it might just be a coincidence, as all of Telltale's games (and many others like them, such as *Life is Strange* (Dontnod Entertainment, 2015)) work within the same narrow, branching space, and not all of them can arguably be said to have this rhetoric (as it is primarily a way to deal with the impossible combinatorial nature of branching storylines). More, it is a consequence of the format that this limitation is in place. However, it does have a significant impact on the aesthetic of the game.

The afterstories of this game fall within the branching space, and are typically somewhat identical, with key points differing as a result of each branching choice. This is where the interesting comparison lies between different afterstories, as it is interesting to see the consequences of picking that over this, etc. However, the afterstories are still, even within that branching, not particularly different, as a result of the very limited systemic emergence.

The narrative of Telltale's Game of Thrones is one of managing character relations and opinions, while making sure you get the best outcome you can with a bad set of cards. Many of the choices you have will be between two bad or losing outcomes, but by making them you pick a side or enforce something to progress. It is one where the character's story is in focus, and the player plays to discover how the other characters will react to their choices.

17.2   Crusader Kings 2

Crusader Kings 2 is a "Grand Strategy" game from Paradox Interactive, released in 2012. The "Grand Strategy" moniker is a hallmark of Paradox games, that typically

focus on strategy games with the focus on empires, kingdoms, resources, and diplomacy, rather than on combat, warfare, and unit management, as is typical of many strategy games (see *StarCraft* (Blizzard Entertainment Ltd., 2010)). Crusader Kings 2 is their take on medieval, feudal kingdoms, which, instead of putting the players in control of an entire empire or kingdom, such as seen in their *Europa Universalis* series, Crusader Kings places the player in the control of a dynasty, or more precisely, as one character within a dynasty. So, even if you are the king of, say Denmark, each of your vassals (dukes, counts, coutiers, etc), and allies, family members etc. are all out of your direct control, except when you order them within your legal rights as king. Furthermore, it is also possible to play as a duke or count, where you serve a king instead.

This focus is seeped through the whole game, which focuses far more on inter-character relations, diplomacy, and interaction, rather than of empire-wide strategy. You never once interact with the entire kingdom, but rather with the relevant character of state that you need to, in order to get what you want. For example, if you want to declare war on France, you tell that directly to the King of France, and he then must summon his vassals in order to fight for him (as must you). And as a vassal, you can find your troops summoned by your liege for their own purposes, leaving you unable to use them for your own.

Crusader Kings 2 has colloquially been called a "Game of Thrones simulator", and it is easy to see why, as it relates to the exact same themes as Game of Thrones: Feudal diplomacy, nobility intrigue, succession wars and dastardly plots. However, the way it does this, is wildly different that Telltale's Game of Thrones. As noted, it is possible to download a "mod"[5] that replaces the standard map of the game of Euroasia, into the fantasy world of Westeros and Essos from Game of Thrones, called "A Game of Thrones Mod" (knuckey333 et al., 2012). Here is it possible to play as all the characters from the books and game, but in the Crusader Kings 2 format. I, for this analysis, tried this mod, but the analysis will be based on both the standard game and the modification, as the differences are primarily in the "shallow" context of the world and names of the characters (although there are new systems as well, to represent the fantastical elements of the world).

The mechanics in Crusader Kings 2 are very complicated, and there are too many small mechanical systems for me to go into depth with each of them. However, in a large scale, each system is driven with the philosophy of being able to govern the realm you control through what your character is capable of, their alliances and friends, and the opinions of the other characters. The player will manage relations and diplomacy with other kingdoms, handle intrigue both within and outside their demesne, all governed by systems and laws they decree or are decreed under, cultural norms and societal

---

[5] Modification. An alteration of an existing game, made by fans.

FIGURE 17.3: A typical view of Crusader Kings 2, here showing a character to the left and an event in the middle. (Paradox Interactive, 2012)

expectations etc.

In short, the elements of note are:

- The Character. Every character in the game (including the one you play) is defined by a set of traits, stats, focuses, wants, relations, etc, that systemically define them and how other people view them.

- Dynasty. A character's Dynasty is important, crafted through their familial bonds, children, marriages, etc. When you lose the last member of your dynasty, the game is over.

- War. War is an option in Crusader Kings 2, albeit a difficult option to manage. There is no direct control of battles, only large-scale strategy.

- Intrigue and Diplomacy. Beside direct conflict, there are many other ways of getting what you want, from assassinations to diplomatic alliances to plotting to change the laws of the kingdom to your favour.

- Inheritance. Through a set of laws, the inheritance of your realm is defined and can become very important as it will define what the next person you play as will own—as well as the advantages you are given through clever marriages etc.

- Religion. Religion was an important factor in the medieval times, and so in Crusader Kings 2. Religion is a major way to gain influence and power, or as an excuse to wage war.

This is by no means a comprehensive list of all the systems in Crusader Kings 2, or how they work together, but I hope it shows just how many aspects are simulated and thus represented in this game. The amount of possible actions a player has at any given time is enormous, and often it is completely invisible to see how everything will interact. A player can choose to interact with any other character in the entire world of the game, and each of those characters will simulate their behaviour individually and constantly, always progressing according to their AI, governed by their traits, stats[6], possibilities etc. This gives the game and absolutely astronomically wide possibility space, wherein the player can choose to do many, many different things at any given time. However, there are some aspects locked to them, until after they achieve certain conditions. For example, it is not possible to declare war on any kingdom for no reason, but you have to have a "casus belli" (a case for war), that states why you have the legal right to pursue this violent action.[7]. However, most of these conditions are based on the system, and not on temporal progression, so generally, it is possible to do almost anything, as long as you set up the correct conditions beforehand.

The whole game is presented in a relatively crude contextual way. The entire game is menu-based, and each character is only ever shown through a "Portrait" screen (see figure 17.3), where their look and values are shown. The rest of the game is displayed on a map of Europe (or Westeros etc.) where the player can see which regions they and others own, how armies are moving, etc. Every action in the game is done through interacting with menus, clicking on options in dropdown menus, interacting with other characters through their portraits, etc.

Even though the game's interactions are also between characters as in Telltale's Game of Thrones, by making every interaction mechanical instead of contextual, it creates a very different sense of play. Instead of interacting with a defined set of people through a defined set of dialogues, and seeing those dialogues directly, and maneuvering in those small conversations, Crusader Kings 2 is only concerned with the high-level decisions and abstracts everything else. When you ask for a marriage, the other person will say yes or no, but nothing in between and there is no custom script for each marriage and person. Instead, the narrative is shaped by how these different events relate with each other, and with how those characters' relations have evolved in the past. And here is where the genius of Crusader Kings 2 exists, as it tends to clearly define the relations between the characters as much as it defines the characters themselves. For example, hovering over a character, it will prominently display "Your Brother" if that is the case, and thus you know that you are interacting with your brother. Him suddenly declaring

---

[6]Statistics, the numbers and values that decide a character's traits and opinions, etc. are frequently called "stats" in game terms.

[7]This could be that you have a right to the land (fabricated or truthfully), that you wish to rebel and declare independence, or simply that you wish to kill some infidels (of other religion)

FIGURE 17.4: A screenshot of the "A Game of Thrones"-mod for Crusader Kings 2.
(knuckey333 et al., 2012; Paradox Interactive, 2012)

war on you has much greater impact because you realize it is your brother doing the declaring.

The play of the game is done through a mix of plotting out a move, trying to execute, gathering allies and then waiting to see everything unfold, and then often tragically fall to pieces. Everything in the game is delivered through the same cold, uncaring interface, but all the impact of the decisions comes in seeing how your plans work out and how the other characters act—and your own reading of how those reactions make sense. The potential for systemic emergence is huge, and likewise the potential for emergent narratives that spring forth because one character did a thing and then did another thing, which the player then relates together. Naturally, this means that the game produces really varying, crazy afterstories from these emergent narratives. One I remember fondly was how I, after I joined a rebellion against my king to ensure elective succession laws, and managed to capture my king on the battlefield and, while he was in my jail, asked him if he wanted to betrothe my daughter to his son, just before I executed him because we was my legal prisoner. Thus, his son became king, and my daughter, the queen.

The game has produced countless of these types of stories, and they are often quite entertaining, even without having played the game. Most of those stories happened through purely systemic emergence, and very little is told or described through anything else than the systemic relations in the game. That said, there are occasional events or "storylines" that can happen over the course of a game that are predefined with maybe a little branching, but these feed back into and are informed by the larger system, rather than being the beginning and result of the player's actions.

Crusader Kings 2 becomes a game about managing relations and values of all the characters that are relevant to you (which can often shift and change throughout). The game rewards connections and alliances strongly, through the fact that it is frequently impossible to do anything alone, and if you face a stronger opponent than you without resorting to help from elsewhere, you will likely lose. If you plot to kill anyone, unless you are very skilled, you will need help from close friends. The game shows how the player must value their friends and dance between diplomatic relations in order to achieve the outcome they want. Through the distanced interface you start seeing them as numbers and stats, but through the interaction, the defined relations, and their (sometimes seemingly random) actions, the characters become quite human. A brother that always thwarts your plans and is a thorn in your side at every turn, wil become something more than a series of numbers, despite the fact that that is all the game uses to represent him.

The rhetoric of the game shows how the feudal system made people act. Instead of Telltale's Game of Thrones' way of placing you within tense situations created by a system outside of your control, Crusader Kings 2 places you at the whims of that system directly, and by forcing you to navigate through that system's rules and laws, you are forced to accept them and, if you wish to succeed, have to abide and work with those rules. You can choose to act nobly and peacefully, and be settled with what you have as a Duke, or you can join a rebellion, and maybe insert your daughter as the queen. Intrigue and scheming is generally rewarded, as it is often the quickest way to achieve grand plans, whereas sitting and doing nothing is not rewarded (and often slowly punished by other characters acting against you). While it is possible to grow through honest means, it is difficult and takes more time, as a consequence of the rigidity of how the game's rules. You simply cannot just go to war or just become King, because you have to act as your role, otherwise the rest of the country might turn against you.

The aesthetics of Crusader Kings 2 is largely influenced by its menu-based play, and it revolves around a lot of low-sensation reading and planning and strategising, while trying to make sense of the complicated relations at play in any given scenario (*"So, my brother wants to kill my niece, in order to get his daughter to be her firstborn heir, but she is plotting against me, with my other brother, to gain independence from my kingdom?"*). The game *feels* complicated to play, which matches the complicated structures it represents. It is not an easy thing to just gain control of a country through intrigue and political maneuvering, but it is possible, if you play your cards right. Thus, when a plan does succeed, or when a new opening presents itself, the player feels ecstatic at the mere possibility that just formed in their head, and subsequently elated if they see their plans working to fruition. The long stretches of waiting and plotting are juxtaposed by high points of incredible sensation that the seemingly impossible just happened so you got that duchy that was out of reach for so long.

Characters in Crusader Kings 2 make stupid, egotistical choices. They murder and sin and go to war out of greed. And they also are pious and kind and form alliances out of care. It is a game where the faults of men and women shine through in their actions and their legacies. It is a game where randomness happens frequently. Your character can suddenly die. Your plans will fail in ways you could not predict, and your spouse will want to kill you. It is a very ruthless game in that it doesn't care about telling a story about how the better people win or lose. It merely presents facts, drawn from a complex web of relations and rules, one after another, and leaves the player to navigate within it—yet while presenting the system through the most transparent format possible. It is perhaps the game where the "Game" of Thrones becomes the most literal game.

17.3   Comparison

It can be said that Telltale's Game of Thrones and Crusader Kings 2 are both games about managing character relations and opinions, and thus, their two narratives are not so different. However, there are differences, and especially the form by which they achieve those narratives could not be more disparate.

TGoT shows intrigue and character relations through tense, meaningful dialogue, facial animations, painted landscapes, and branching paths. CK2 shows the same through revealing the system and let the numbers underneath decide the fate of characters, both good and bad. CK2 does not do things for a narrative purpose, but rather because one character wants to, and another reacts. In TGoT, there is almost no systemic emergence, but in CK2, the emergent narrative comes almost purely through its systemic emergence, aided by events and context. The space in the two games is almost the complete inverse of each other, with TGoT having a narrow possibility space and CK2 having a really wide one at all times—yet still one defined by the current political "landscape" and relations. The play, likewise, is fundamentally different, and the resulting aesthetics, afterstory and rhetoric all feel widely unique to each game. While both result in a narrative about the dangers and power of playing the "Game of Thrones", the scenes are imagined in CK2, but presented viscerally in TGoT. Where the system is imagined in TGoT it is wholly present in CK2. Where TGoT shows the consequences of characters bound by a complicated system of rules and relations, CK2 let's the player fiddle with the literal relations and rules that create that the system, while omitting the emotional consequences.

Chapter 18

Discussion

The previous five analyses showed different ways to use the framework, by analysing different games that all have different intentions, design, and narratives. This chapter will discuss the framework in a larger sense, and through looking at these analyses, as well as a general evaluation, will discuss its applicability and usefulness.

I will start discussing what I consider to be the advantages of the framework, then the disadvantages, then features that have both advantages and disadvantages, before making some more general concluding remarks. I will also compare the framework with Almeida and Silva (2013)'s requirement for game design frameworks, before I discuss what could be done in the future.

18.1 Advantages

18.1.1 Relations

One of the core strengths of the framework, kept as its core feature since the beginning, was its focus on relations between elements. By placing elements in a framework we inherently set up a relation between them, but I wanted my relations to go a little further and show not only that there was a relation, but how that relation worked. This is done through the overall "Design-Play-Experience" frame, but also within that, showing how context, mechanics, and space relate to play and to each other within play, and thus how that creates a meaning, rhetoric, aesthetic, and afterstory, which can be cohered into a narrative. Furthermore, it shows the relation of the game to the player and author, and how they relate to the specific elements in the game, either through creation of the design or through the experience of play.

18.1.2   A clear understanding of the nature of mechanics

Through the definitions of mechanics and rules, and how they are used in the framework with Goal Rules, Manipulation Rules, and Simulation Rules with further division under manipulation and system rules, we get a decent picture of different types of mechanics, and the fact that how mechanics are judged within the system matters to its resulting narrative. By seeing that mechanics are defined by rules, and their definition matters to the game, not just what the mechanic is in a simple verb-form, we can see how a game utilizes its mechanics to inform its play, rhetoric, aesthetic, and emergence.

18.1.3   A deeper focus on Space

Compared to my previous framework (Larsen and Schoenau-Fog, 2016), and many other frameworks ((Aarseth and Calleja, 2015; Hunicke et al., 2004) etc.), this framework's heightened focus on space and its utility for both mechanics and context proved to be extremely useful. Acting as the binding link between the two, both literally and in the framework, it becomes a way to talk about both through the definition of a single element, and is thus vital to the play and narrative of any game. This heightened focus on space helps showcase that.

18.1.4   A four-part understanding of experience and narrative.

While I had already split narrative up in aesthetic, afterstory, and narrative in the previous model, I had not specifically highlighted this split enough to where its relation was clear. Now, with the introduction of rhetoric as coming out of the play and meaning of the game, we can see that the narrative is shaped out of the play into those three elements: Rhetoric, aesthetic, and afterstory, which in turn forms a complete experience I call a "narrative". This culmination of the whole experience, and its constituent parts, proved an effective way of reconciling those disparate elements of procedural rhetoric, emergence, and aesthetics.

18.1.5   A better way to visualise meta rules

By placing the player and the author in the framework in each their own corner, it gave an unforeseen advantage in that we can now see meta-rules and "author-deviant play" (when the player does something other than what the author intended), through the framework's structure, rather than by delegating it into a "meta-rules" category. Through the amount of elements the player is in charge of compared to the author, we

can grasp the amount of control the author is willing to give, and in turn how much the player is willing to take.

18.1.6   A tool for evaluation

This framework proved to be a useful tool for evaluating games, their mechanical and contextual relations and how the play to form narratives. I focus on this element of evaluation, as it is primarily a tool for evaluating the game as a playable product, with the natural acceptance that any evaluation will be heavily influenced by the evaluator's reading of the game. There is no actual game *as it is*, yet this framework describes, through its formal breakdown of mechanics and context, at least the part what is there in all readings of the game, but accepts that the further right we get in the framework, approaching play and experience, the more subjective the reading becomes.

18.2   Disadvantages

18.2.1   A tool for evaluation

While a tool for evaluation is useful, it also has some disadvantages. The framework is not specifically a tool for design, as much as I had initially hoped for when I started out creating the very first iteration. It doesn't describe the game design process, or give guidelines for how to design. Neither does it describe the process of play or interpretation, the way the *"Interpretative Cycle "* does (Whitson, 2012). That said, a tool for evaluation can potentially still be *used* for design, albeit, for evaluating a current design during the design process. Yet, it does not describe or detail how to use it for that purpose—that is up to the designers.

18.2.2   More complicated than the currently used frameworks

This framework is, no doubt, more complicated than the MDA framework (Hunicke et al., 2004) and the Cybermedia model (Aarseth and Calleja, 2015), which lies as its most direct comparisons. This could potentially hurt it as it could see less use if it is too complicated for people to practically use, or if there is too high a barrier for comprehending it. However, in a very tentative investigation, where I have described this model to two people (as well as presentations of the previous version which is only slightly less complicated), I found that most people grasped the general concepts fairly quickly, within 5 minutes or so.

18.2.3   Not in-depth enough for a formal, complete analysis.

While it is a framework that shows the structure of games, and thus the structure of a game, it doesn't specify what to do with that analysis. It doesn't lend itself to rigid or formal analyses outside fairly shallow ones. It is not in-depth enough to show each element of a game, or how it works, and there are many elements it omits or casts into broad categories. This is done on purpose to keep it structurally coherent, yet it does have the disadvantage that no one element can be said to be useful for a formal or taxonomical analysis by itself.

18.3   Features

18.3.1   It is open for interpretation

The framework does not provide a complete guide to how to use it and read all games, but rather requires the interpreter to use it in a way they find appropriate. Drawing relations within the game between the disparate elements does require some work for an analyst, and while the framework specifies how the relations work what they mean, and what aesthetics, afterstories, and narratives they lead to. There is no taxonomy present in the model to deal with each type of relation between mechanics and contexts, and thus that is open to the interpreter to form for themselves.[1]. This is both an advantage and a disadvantage as it leaves the framework more open to other kinds of games and relations not covered by such a potential taxonomy, as well as giving it more freedom to be used in different ways, which I am open to. However, it does run the risk that it will be used in sloppy or ungiving ways, or produce lackluster results when not used with intent.

18.3.2   A focus on the game

The framework focuses on the *game*. Not on the culture around it. Not on the literacy (although that is a major factor in using it productively). Not on the design process nor the play process. It focuses in large part on the product, and how that product creates meaningful relations through play, but not how those change over time. Time in general is a "hidden" aspect of the framework, as I have only mentioned it here as the Temporal Dimension (section 14.7, yet it is not technically present in the framework itself. If it would be, it could be considered a third dimension on top, which would prove too

---

[1]For initial work on defining these relations, see Weimin (2015)'s thesis or Pérez Latorre (2015)'s work.

difficult to visualise. However, that does run the risk that it is omitted in analyses using this framework, despite the fact that the temporal dimension is vital to many games and their narratives. This omission, or at least, obfuscation, of the game as process can be seen as a detriment, and I will agree that it leaves something to be desired from a total understanding of what a game is, yet, by applying this more rigid focus, I believe we better can understand a game's mechanics, context, space, play, rhetoric, aesthetics, afterstory, and narrative.

18.4 Comparison with Requirements from Almeida and Silva (2013)

As mentioned in section 12.2, Almeida and Silva (2013) made a list of requirements for any game design framework. I will here compare this framework with those requirements. However, it should be said that they were specifically requesting a *design* framework, and as already established, this framework is not a design framework. Therefore, it naturally doesn't live up to many of the requirements specific to that philosophy. However, the rest of the points are still relevant to consider. In table 18.1, each requirement is shown, with a comment on whether I find this framework fulfills it.

As can be seen, most of the requirements this framework fails are the ones specifically pointed at the design process, relating to the game industry or culture, and the idea of a database—none of which was the ultimate intention with this framework.

There are three points I want to bring up here, though. The first is about the idea of requiring a software tool, which this is not. And I consider this largely irrelevant as that requirememt seems focused on design tools, rather than evaluation tools—I can think of no examples of evaluation tools created in software. The second is the requirement that the framework must provide guidance on how to use it (they say collection, specifically, but we can extrapolate). Outside this thesis, potentially being seen as guidance, I do not want to provide too detailed information, as the looseness and applicability in many scenarios, I see as one of the features of the framework. This could be squandered by supplying descriptive guidance on its use. Lastly, connected to that is the idea that there is currently no way to evolve the framework in its definition, which, again, is something I leave up to the individual analyst. This does mean that I do consider it "evolvable", but just that the framework itself does not specifically show how that evolution should take place.

TABLE 18.1: This table shows the requirements listed by Almeida and Silva (2013), and responses on the right to whether this framework lives up to them.

It must provide software tools to aid game design, not only at a conceptual level.	No. There is no software component to this framework.
It must provide integration with the tools currently used in game industry, mostly the design document and the prototyping approach.	Partly. This could be used as part of the evaluation process in prototyping.
It must define a formal structure for the concepts documentation, with well defined fields and relations.	Yes. There is a formal structure, and defined relations between them.
It must provide guidance on how to build and use the collection.	No. It is mostly up to the analyst, currently.
It must relate concepts, games and genres.	Partly. It relates concepts, not games or genres.
It must allow designers to use and extend the concepts in order to compose the design of new games.	Yes.
It must considerboth the designer's perspective (game rules) and the player's perspective (aesthetics) when describing each concept.	Yes. The player and author has been clearly defined, including their relation to the game.
It must provide analysis of concepts, games and genres related to market, critics and player data.	No. There is no consideration of the market, or industry of games or players.
It must provide a formal visual language to model games through assembling of smaller concepts and to allow visualization of relations between them.	Yes. The entire framework is visual and shows the relation between concepts.
The visual modeling must address different aspects of the design, both high (design overview) and low level of abstractions (concepts, details).	Partly. It doesn't describe low-level detail, but it does technically allow for it.
The visual language should be based on a proven existing language from other area, but must be specifically tailored to game design.	Yes. Language is based on narratology, ludology, game design, etc.
It must provide a database tool in order to manage the concept's collections, its maintenance and usage.	No. This framework provides no database of concepts outside those provided inside it.
It must allow a collaborative environment in order to allow designers to work and evolve the collection.	No. Currently, if people want to evolve it, there is no integrated way of them doing so (although they are welcome.)
It must have a moderation mechanism to ensure that erroneous concepts are not added to the database.	Not applicable. There is no database for this tool.

None of these, I consider to be large detriments to the framework, as they are in large parts by design, and so I believe that with these caveats, the framework can be said to fulfill the general requirements given by Almeida and Silva (2013), where applicable.

18.5   Future Applications

Finally, before we conclude on the thesis in general, I wish to provide a few points about how this framework could progress in the future.

With all the talk of the framework not being a design tool, etc, I will admit that this was part of my original wish. And so, not having lived up to that completely, I would love to see some future work being taken in that direction of using this framework, or the thoughts gathered within it, to contribute a design framework specifically created for the game design process. I do not know yet specifically how such a tool would be shaped, but here are a few points I consider useful:

- Keeping in mind how this is currently an evaluation tool, something that will support that by providing some guidelines on how to design each aspect of the framework, such as a mechanic, or a contextual element to support the story one wants to tell, seems a useful approach.

- Furthermore, something that supports the creation and supervision of the relations between those elements would be very useful. The relations can also be created by "themselves" as a consequence of the definition of the individual elements, so something that can be used to describe and define unseen relations would be beneficial, too.

Another approach for future development would be to create a taxonomy of relations or other parts of the framework, which could help formalise those parts. As mentioned, Weimin (2015) and Pérez Latorre (2015) has begun some of this work, but I do not think their lists are complete, and it does revolve around a slightly different sense of relations than I think would be the most useful for this framework. Furthermore, other aspects that could be better taxonomised would be the mechanics and context, and space, and potentially, aesthetics, afterstory, and rhetoric (although that will be harder and potentially less fruitful).

Otherwise, keeping the framework for evaluation can prove equally useful to expanding it out to other areas. However, for that to work it is necessary that the framework is used outside my personal sphere. Therefore, it is necessary to get it out publically, hear what people think, both in and outside academia, with the intent to spread it

and eventually see if they are interested in using it. Partially to receive feedback and to improve the framework, but also to see how other people interact and engage with it.[2] As it is an open framework, seeing how others approach and use it could prove useful, to find applications of the framework I had not previously considered.

Naturally, continuing use and iteration of the framework would be useful, through continuing analysis of more games and more types of games, as well as games created with other purposes than entertainment, which has been my primary focus here. Other genres or games of interest could be MMORPG's[3], pen-and-paper RPG's, multiplayer competitive games, VR/AR games, mobile games, physical sports, other physical games, pervasive games, ARG's[4], Escape Rooms, and probably a few I am forgetting here. Furthermore, seeing how this could be applied in other research fields, such as Interactive Storytelling, could prove beneficial too.

---

[2]During the writing of this thesis, I was contacted by students interested in using the previous framework for their studies, so already, there is some noted interest, albeit scarcely.

[3]Massive Multiplayer Online Role-playing Games, see World of Warcraft (Blizzard Entertainment Ltd., 2004) for example.

[4]Alternate Reality Games, not to be confused with Augmented Reality Games.

Chapter 19

Conclusion

This thesis has presented a new framework for analysing, discussing and describing how games and narratives work together. It has been based on the premise that games do tell stories through their discourse of mechanics and rules and the context created around those, which forms a narrative along with the player through play.

It was based on a previous framework (Larsen and Schoenau-Fog, 2016), but vastly reworked to account for many new inclusions and changes, including but not limited to a discussion and reconciliation of procedural rhetoric and narrative, a greater focus on space and its ability to function as both ludic and non-ludic property, and the relation of the author and player in relation to the game. Throughout the thesis, several investigations have been made into required and relevant topics, and it expanded into a general thesis on games and play that can also be taken outside the realm of a purely narrative sphere.

A game has been defined as the amalgamation of mechanics, rules, and all context that surrounds them, as created by an author, and subsequently played by a player.

A story for a game has been defined as that the author wished to achieve with their game, the idea or theme they wished to express, or the plot or events they wanted to convey.

A discourse of a game has been defined as its mechanical, contextual, and spatial elements, defined and crafted by an author wanting to convey their story.

A narrative for a game has been defined as the story told by the game, as created by an author and played by a player, and describable through the three aspects Rhetoric (meaning, expression), Aesthetics (emotion), and Afterstory (emergence).

A new framework for looking at the "Narrative Quality of Games", was created in order to define these elements and their relation to each other and the player and the

author. This is seen as a framework to analyse and discuss games, but it can potentially be used for design, although that aspect is currently untested. With the framework, five different games have been analysed, each with their own unique aspect to highlight how the framework can describe games with similar mechanics but different contexts, games with similar contexts but different mechanics, and abstract board games. This is by no means seen as the total extent of this framework, and it is created to be expandable and useful in other situations than those shown here. However, naturally, that is uncertain territory at the moment.

The framework is still in an early stage (although I cannot claim it is in its infancy anymore), and it can be taken in many directions, but in general, it seems from these preliminary analyses that this framework has potential to be used for a qualitative, powerful description of how a game creates a narrative, in a way that reconciles and combines elements from various disciplines, philophies, and ideas.

I wonder still about narratives in games, and I am certain I have not yet reached an end point in any form, but this is the closest I've felt to an understanding. I have tried to be encompassing, and I have no doubt missed a cranny or two. Yet, I believe that this, on the topic of how games tell stories, is a good starting point, and a solid reconciliation of a medium still learning how to speak.

Bibliography

Espen Aarseth. A narrative theory of games. In *Proceedings of the International Conference on the Foundations of Digital Games*, FDG '12, pages 129–133, New York, NY, USA, 2012. ACM. ISBN 978-1-4503-1333-9. doi: 10.1145/2282338.2282365. URL http://doi.acm.org/10.1145/2282338.2282365.

Espen Aarseth and Gordon Calleja. The word game: The ontology of an undefinable object. In *FDG*, 2015.

Espen J Aarseth. *Cybertext: Perspectives on ergodic literature*. JHU Press, 1997.

H. Porter Abbott. Story, plot, and narration. In David Herman, editor, *The Cambridge Companion to Narrative*, Cambridge Companions to Literature, page 39–51. Cambridge University Press, 2007. doi: 10.1017/CCOL0521856965.003.

Ernest Adams and Joris Dormans. *Game mechanics: advanced game design*. New Riders, 2012.

Tarn Adams and Zach Adams. Dwarf fortress, 2006.

Leigh Alexander. Designing the bleak genius of papers, please. http://www.gamasutra.com/view/news/199383/Designing_the_bleak_genius_of_Papers_Please.php, September 2013.

Marcos SO Almeida and Flávio SC da Silva. Requirements for game design tools. a systematic survey. *Anais do XII Simpósio Brasileiro de Jogos e Entretenimento Digital*, 2013.

Artistotle. *Poetics*. Web Atomics, Cleveland, OH, USA, 350 B.C. URL http://classics.mit.edu/Aristotle/poetics.html.

E Avedon. The structural elements of games. *The psychology of social situations. Selected readings*, pages 11–17, 1981.

Ruth Aylett. Narrative in virtual environments-towards emergent narrative. In *Proceedings of the AAAI fall symposium on narrative intelligence*, pages 83–86, 1999.

Mikhail M Bakhtin. Forms of time and of the chronotope in the novel: Notes toward a historical poetics. *Narrative dynamics: Essays on time, plot, closure, and frames*, pages 15–24, 2002.

Roland Barthes. Introduction to the structural analysis of narratives. In *Image, Music, Text*. Fontana Press, 1977.

Roland Barthes. The death of the author. In Oliver Boyd-Barrett David Graddol, editor, *Media Texts, Authors and Readers: A Reader*, page 166. Multilingual Matters, 1994.

Gregory Bateson. A theory of play and fantasy. *The Game Design Reader. A rules of play anthology*, pages 314–328, 2006.

David Benioff and D. B. Weiss. Game of thrones, 2011–Now.

Staffan Björk and Jussi Holopainen. Games and design patterns. *The game design reader*, pages 410–437, 2006.

Blizzard Entertainment Ltd. World of warcraft, 2004.

Blizzard Entertainment Ltd. Starcraft 2, 2010.

Ian Bogost. *Persuasive games: The expressive power of videogames*. Mit Press, 2007.

Ian Bogost. Persuasive games: Puzzling the sublime. `http://www.gamasutra.com/view/feature/4225/persuasive_games_puzzling_the_`, 2009.

Ian Bogost. *How to Talk About Video Games*. University Of Minnesota Press, 2015.

Ian Bogost. Video games are better without stories. `https://www.theatlantic.com/technology/archive/2017/04/video-games-stories/524148/`, April 2017.

Luis Emilio Bruni and Sarune Baceviciute. Narrative intelligibility and closure in interactive systems. In Hartmut Koenitz, Tonguc Ibrahim Sezen, Gabriele Ferri, Mads Haahr, Digdem Sezen, and Güven Çatak, editors, *Interactive Storytelling*, volume 8230 of *Lecture Notes in Computer Science*, pages 13–24. Springer International Publishing, 2013. ISBN 978-3-319-02755-5. doi: 10.1007/978-3-319-02756-2_2. URL `http://dx.doi.org/10.1007/978-3-319-02756-2_2`.

Bungie. Halo: Combat evolved, 2001.

Ben S. Bunting. Game-to-film adaptation and how prince of persia: The sands of time negotiates the difference between player and audience. In Joseph Michael Gretchen Papazian, editor, *Game On, Hollywood!: Essays on the Intersection of Video Games and Cinema*, chapter 4, pages 58–70. McFarland, 2013.

P Burkart. Discovering a lexicon for video games: New research on structured vocabu-laries. *International Digital Media and Arts Association Journal*, 2(1):18–24, 2005.

Kenneth Burke. *A rhetoric of motives*, volume 111. University of California Press, 1969.

Roger Caillois. *Les jeux et les hommes. Le masque et le vertige*. Editions Gallimard, 2015.

Gordon Calleja. *In-game: From immersion to incorporation*. MIT Press, 2011.

Joseph Campbell. *The hero with a thousand faces*. New World Library, 2008.

Pedro Jorge Couto Cardoso. *Playing in 7D: An Action-Oriented Framework for Video Games*. PhD thesis, Faculdade de Belas Artes, Universidade do Porto, 2016.

Maira Carvalho. The game ontology project. https://www.mindmeister.com/324669511/game-ontology-project, 2016. An online map of the project. See Zagal et al. (2007) for article.

CD Projekt RED. The Witcher 3, 2015.

Doug Church. Formal abstract design tools. http://www.gamasutra.com/view/feature/131764/formal_abstract_design_tools.php, 1999.

Tyler Clementi. *About Authoring: Brothers: A Tale of Two Sons as a Semiotic, Narrative, and Rhetorical Text*. PhD thesis, The Ohio State University, 2015.

Chris Crawford. The art of computer game design. published by Washingtong State University at http://www-rohan.sdsu.edu/~stewart/cs583/ACGD_ArtComputerGameDesign_ChrisCrawford_1982.pdf, 1982.

Chris Crawford. *The Art of Computer Game Design*. McGraw-Hill/Osborne Media, 1984.

Roberto Dillon. Towards the definition of a framework and grammar for game analysis and design. *International Journal of Computer and Information Technology*, 3: 188–193, 2014.

Damien Djaouti, Julian Alvarez, Jean-Pierre Jessel, Gilles Methel, and Pierre Molinier. A gameplay definition through videogame classification. *International Journal of Computer Games Technology*, 2008:4, 2008.

Dontnod Entertainment. Life is strange, 2015.

Joris Dormans et al. *Engineering emergence: applied theory for game design.* Creative Commons, 2012.

Teun Dubbelman. Narrative game mechanics. In *Interactive Storytelling: 9th International Conference on Interactive Digital Storytelling, ICIDS 2016, Los Angeles, CA, USA, November 15–18, 2016, Proceedings 9*, pages 39–50. Springer, 2016.

EA DICE. Mirror's edge, 2007.

Astrid Ensslin. Video games as unnatural narratives. *DIVERSITY OF PLAY*, page 41, 2015.

Markku Eskelinen. The gaming situation. *Game studies*, 1(1):68, 2001.

N Falstein and H Barwood. More of the 400: Discovering design rules., 2002. Presentation at GDC (2002).

Firaxis Games. Xcom: Enemy unknown, 2012.

Firaxis Games. Civilization v, 2014.

Jacques Fontanille. *Sémiotique du discours.* Presses Univ. Limoges, 1998.

Michel Foucault and Jay Miskowiec. Of other spaces. *diacritics*, 16(1):22–27, 1986.

Gonzalo Frasca. Ludologists love stories, too: notes from a debate that never took place. In *DIGRA Conf.*, 2003a.

Gonzalo Frasca. Simulation versus narrative. *The video game theory reader*, pages 221–235, 2003b.

Gonzalo Frasca. September 12. <http://www.gamesforchange.org/play/september-12th-a-toy-world/>, 2003c.

Gonzalo Frasca. Play the message: Play, game and videogame rhetoric. *Unpublished PhD dissertation. IT University of Copenhagen, Denmark*, 2007.

From Software. Dark Souls, 2011.

Fullbright. Gone Home, 2013.

Tracy Fullerton, Chris Swain, and Steven Hoffman. *Game design workshop: Designing, prototyping, & playtesting games.* CRC Press, 2004.

Hans Georg Gadamer. *Truth and Method.* Continuum Publishing Group, 2004.

Gérard Genette. *Narrative discourse: An essay in method.* Cornell University Press, 1983.

Algirdas Julien Greimas. *Sémantique structurale: recherche de méthode.* Presses universitaires de France, 2015.

Thomas Grønvoll. Red barrels: Narrative, rules and mechanics in video games. Master's thesis, Universitetet i Oslo, 2015.

Emil Lundedal Hammar. Counter-hegemonic commemorative play: marginalized pasts and the politics of memory in the digital game assassin's creed: Freedom cry. *Rethinking History*, pages 1–24, 2016.

David Herman. *Story logic: Problems and possibilities of narrative.* University of Nebraska Press, 2004.

Richard Hofmeier. Cart life, 2011.

Johan Huizinga. *Homo Ludens Ils 86.* Routledge, 2014.

Robin Hunicke, Marc LeBlanc, and Robert Zubek. Mda: A formal approach to game design and game research. In *Proceedings of the AAAI Workshop on Challenges in Game AI*, volume 4, 2004.

id Software. Doom, 1993.

id Software. Quake, 1996.

IO Interactive. Hitman, 2016.

Irrational Games. Bioshock, 2007.

Rami Ismail. Response to recent luftrausers concerns. http://www.vlambeer.com/2014/04/06/response-to-recent-luftrausers-concerns/ (Link is unfortunately dead, read on https://web.archive.org/web/20160313071833/http://www.vlambeer.com/2014/04/06/response-to-recent-luftrausers-concerns/), 2014.

Aki Järvinen. *Games without frontiers: Theories and methods for game studies and design.* Tampere University Press, 2008.

Henry Jenkins. Game design as narrative architecture. In *The Game Design Reader: A Rules of Play Anthology*, chapter 4, pages 118–130. MIT Press, Cambridge, Massachusetts, 2004.

Scott Juster. Experiencing the banality of evil in 'papers, please'. http://www.popmatters.com/post/171036-papers-please/, May 2013.

Jesper Juul. Games telling stories. *Game studies*, 1(1):45, 2001.

Jesper Juul. The open and the closed: Games of emergence and games of progression. In *CGDC Conf.*, 2002.

Bulut Karakaya, Camilo Garcia, Daniel Rodriguez, Manoj Nityanandam, Nadia Labeikovsky, and Theyab Al Tamimi. Sketch-it-up! demo. In *International Conference on Entertainment Computing*, pages 313–314. Springer, 2009.

Anna Kipnis. Considerations for expressive simulation. https://vimeo.com/149287018, 2015. I saw another version of this talk at Nordic Game Jam in 2017 (unrecorded), but all points I reference are also mentioned in this one.

Patrick Klepek. Video games have no choice but to tell stories. https://waypoint.vice.com/en_us/article/video-games-dont-have-a-choice-but-to-tell-stories, 2017.

knuckey333, agot_sunspear, noXcor, tompalmer Cabezaestufa, Edric_Storm, Sunspear, and DToccs. Crusader kings 2: A game of thrones (ck2:agot). http://www.moddb.com/mods/crusader-kings-2-a-game-of-thrones-ck2agot, 2012.

Hartmut Koenitz. *Interactive Digital Narrative: History, Theory and Practice*. Routledge, 2015.

Hartmut Koenitz, Teun Dubbelman, Noam Knoller, and Christian Roth. An integrated and iterative research direction for interactive digital narrative. In *Interactive Storytelling: 9th International Conference on Interactive Digital Storytelling, ICIDS 2016, Los Angeles, CA, USA, November 15–18, 2016, Proceedings 9*, pages 51–60. Springer, 2016.

Raph Koster. *Theory of fun for game design.* " O'Reilly Media, Inc.", 2013.

Jussi Kuittinen. Computer-aided game design, 2008.

Bjarke Alexander Larsen and Henrik Schoenau-Fog. The narrative quality of game mechanics. In *Interactive Storytelling: 9th International Conference on Interactive*

Digital Storytelling, ICIDS 2016, Los Angeles, CA, USA, November 15–18, 2016, Proceedings 9, pages 61–72. Springer, 2016.

Eric Lockaby. How you got videogames wrong: It's all interactive. `http://nightmaremode.thegamerstrust.com/2011/11/03/gaming-in-the-dark/`, 2011.

Yuri M Lotman. Universe of the mind. *A semiotic theory of culture. London: IB Taurus*, 1990.

Lucasfilm Games. The secret of monkey island, 1990.

Sus Lundgren and Staffan Bjork. Game mechanics: Describing computer-augmented games in terms of interaction. In *Proceedings of TIDSE*, volume 3, 2003.

Alexandra Mack, Brendon Clark, Jacob Buur, and Henry Larsen. Principles in the social shaping of innovation. In *Proceedings of Participatory Innovation Conference*. Lappeenranta University of Technology, 2013.

Jordan Magnuson. Loneliness. `http://www.necessarygames.com/my-games/loneliness/flash`, 2010.

George R. R. Martin. A song of ice and fire, 1996–Now.

Maxis. Simcity, 1989.

Maxis. The sims, 2000.

Sylke Rene Meyer. Right, left, high, low narrative strategies for non–linear storytelling. In *Interactive Storytelling: 9th International Conference on Interactive Digital Storytelling, ICIDS 2016, Los Angeles, CA, USA, November 15–18, 2016, Proceedings 9*, pages 325–335. Springer, 2016.

Konstantin Mitgutsch and Narda Alvarado. Purposeful by design?: a serious game design assessment framework. In *Proceedings of the International Conference on the foundations of digital games*, pages 121–128. ACM, 2012.

Mojang. Minecraft, 2011.

Mossmouth. Spelunky, 2008.

Harold James Ruthven Murray. *A history of chess*. Clarendon Press, 1913.

Janet Horowitz Murray. *Hamlet on the holodeck: The future of narrative in cyberspace*. Simon and Schuster, 1997.

Frank Nack and Andrew S Gordon, editors. *Interactive storytelling: 9th International Conference on Interactive Digital Storytelling, ICIDS 2016, Los Angeles, CA, USA, November 15–18, 2016, Proceedings*, volume 9, 2016. Cham, Switzerland: Springer.

Naughty Dog. Uncharted 4: A thief's end, 2016.

Nintendo. Super mario bros., 1985.

Alexey Pajitnov and Vladimir Pokhilko. Tetris, 1984.

Alan Palmer. *Fictional minds*. University of Nebraska Press, 2004.

Paradox Interactive. Crusader kings 2, 2012.

Celia Pearce. Towards a game theory of game. *First person: New media as story, performance, and game*, 1:143–153, 2004.

Paolo "La Molleindustria" Pedercini. Oiligarchy postmortem. http://www.molleindustria.org/oiligarchy-postmortem/, 2016. Visited May 2017.

Óliver Pérez Latorre. The social discourse of video games analysis model and case study: Gta iv. *Games and Culture*, 10(5):415–437, 2015.

Playdead. Inside, 2016.

Lucas Pope. Papers, Please, 2013.

Jack Post. Bridging the narratology - ludology divide. the tetris case. In Dario Compagno and Patrick Coppock, editors, *Computer Games between Text and Practice*, chapter 2. E—C Rivista online di Studi Semiotici, 2009. Accessed online at http://www.ec-aiss.it/monografici/5_computer_games/3_post.pdf. In August 2016.

Vladimir Propp. *Morphology of the Folktale*, volume 9. University of Texas Press, 2010.

Quantic Dream. Heavy rain, 2010.

Rare. Banjo kazooie, 1998.

J.K. Rowling. Harry potter and the deathly hallows, 2007.

Marie-Laure Ryan. *Narrative as Virtual Reality*. The John Hopkins University Press, 2715 North Charles Street, Baltimore, Maryland, February 2001.

Marie-Laure Ryan. *Avatars of Story*. University of Minnesota Press, 111 Third Avenue South, Suite 290, Minneapolis, August 2006.

Katie Salen and Eric Zimmerman. *Rules of play: Game design fundamentals*. MIT press, 2004.

SCE Japan Studio (Team ICO). Shadow of the colossus, 2005.

Jesse Schell. *The Art of Game Design: A book of lenses*. CRC Press, 2014.

Miguel Sicart. Defining game mechanics. *Game Studies*, 8(2):1–14, 2008.

Miguel Sicart. Against procedurality. *Game studies*, 11(3):209, 2011.

Michael Silberstein and John McGeever. The search for ontological emergence. *The Philosophical Quarterly*, 49(195):201–214, 1999.

Slightly Mad Studios. Project cars, 2015.

Ralph D Stacey. *Complex responsive processes in organizations: Learning and knowledge creation*. Psychology Press, 2001.

Andrew Stern and Michael Mateas. Build it to understand it: Ludology meets narratology in game design space. *DiGRA 2005: Changing Views: Worlds in Play, 2005 International Conference*, 2005.

Steve Swink. *Game Feel*. CRC Press, 2008.

Telltale Games. The walking dead: Season 1, 2012.

Telltale Games. Game of thrones: A telltale games series, 2014.

thatgamecompany. Journey, 2012.

Weimin Toh. A multimodal discourse analysis of video games: A ludonarrative model. In *Proceedings of DiGRA 2015: Diversity of Play: Games – Cultures – Identities*, 2015.

Michael Toy, Glenn Wichman, Ken Arnold, and Jon Lane. Rogue, 1980.

Ubisoft. Assassin's creed, 2007.

Daniel Vella. It's a-me/mario: Playing as a ludic character. In *FDG*, pages 31–38, 2013.

Vlambeer. Luftrausers, 2014.

Richard Walsh. Emergent narrative in interactive media. *Narrative*, 19(1):72–85, 2011.

Andrew Webster. Inside is an incredible, unsettling adventure from the creators of limbo. https://www.theverge.com/2016/6/28/12050342/inside-review-xbox-one-steam, 2016.

Toh Weimin. A multimodal discourse analysis of video games: A ludonarrative model. Read unpublished, from correspondance with author., 2015.

Robert Henry Whitson. *The interpretive spiral: an analytical rubric for videogame interpretation.* PhD thesis, Georgia Institute of Technology, 2012.

Douglas Wilson. A breakdown of 2013's most fascinating video game moment. https://www.polygon.com/2013/12/23/5227726/anatomy-of-a-spelunky-miracle-or-how-the-internet-finally-beat, 2013.

Yager Development. Spec ops: The line, 2012.

José P Zagal, Michael Mateas, Clara Fernández-Vara, Brian Hochhalter, and Nolan Lichti. Towards an ontological language for game analysis. *Worlds in Play: International Perspectives on Digital Games Research*, 21:21, 2007.

Appendix A

The following images are companion images to each of the analyses, where the each game is shown in the framework.
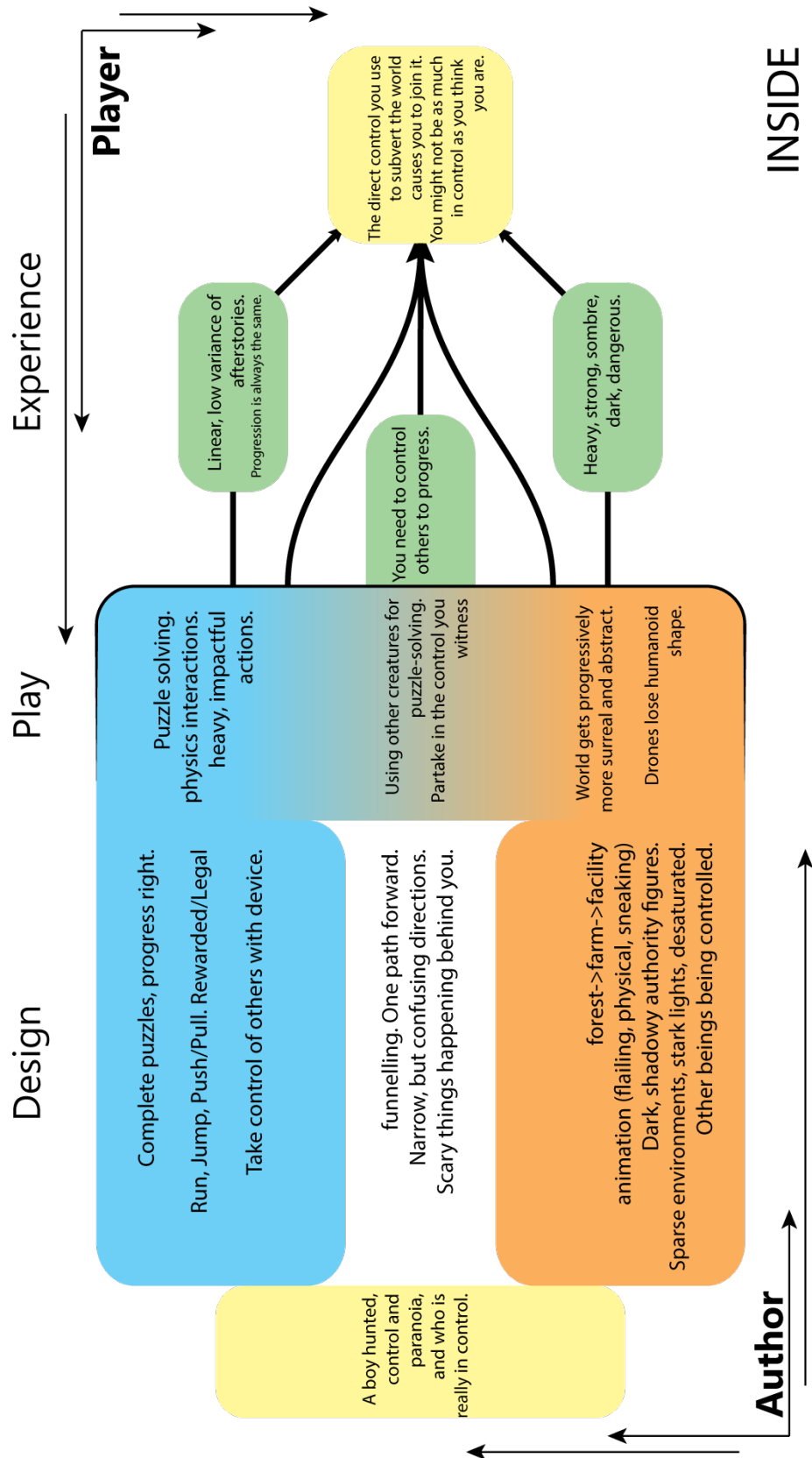
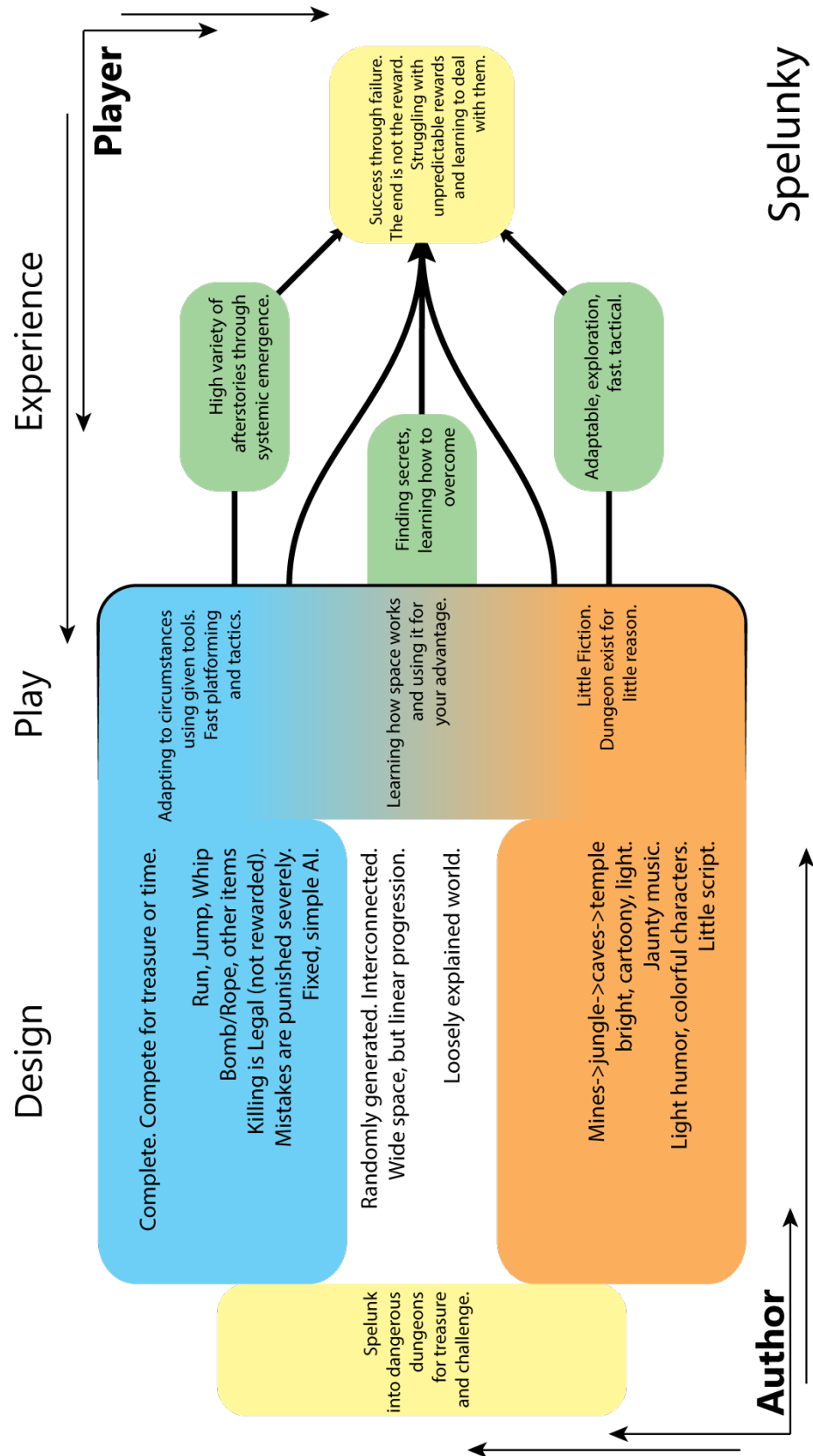FIGURE 1: INSIDE shown in the framework.
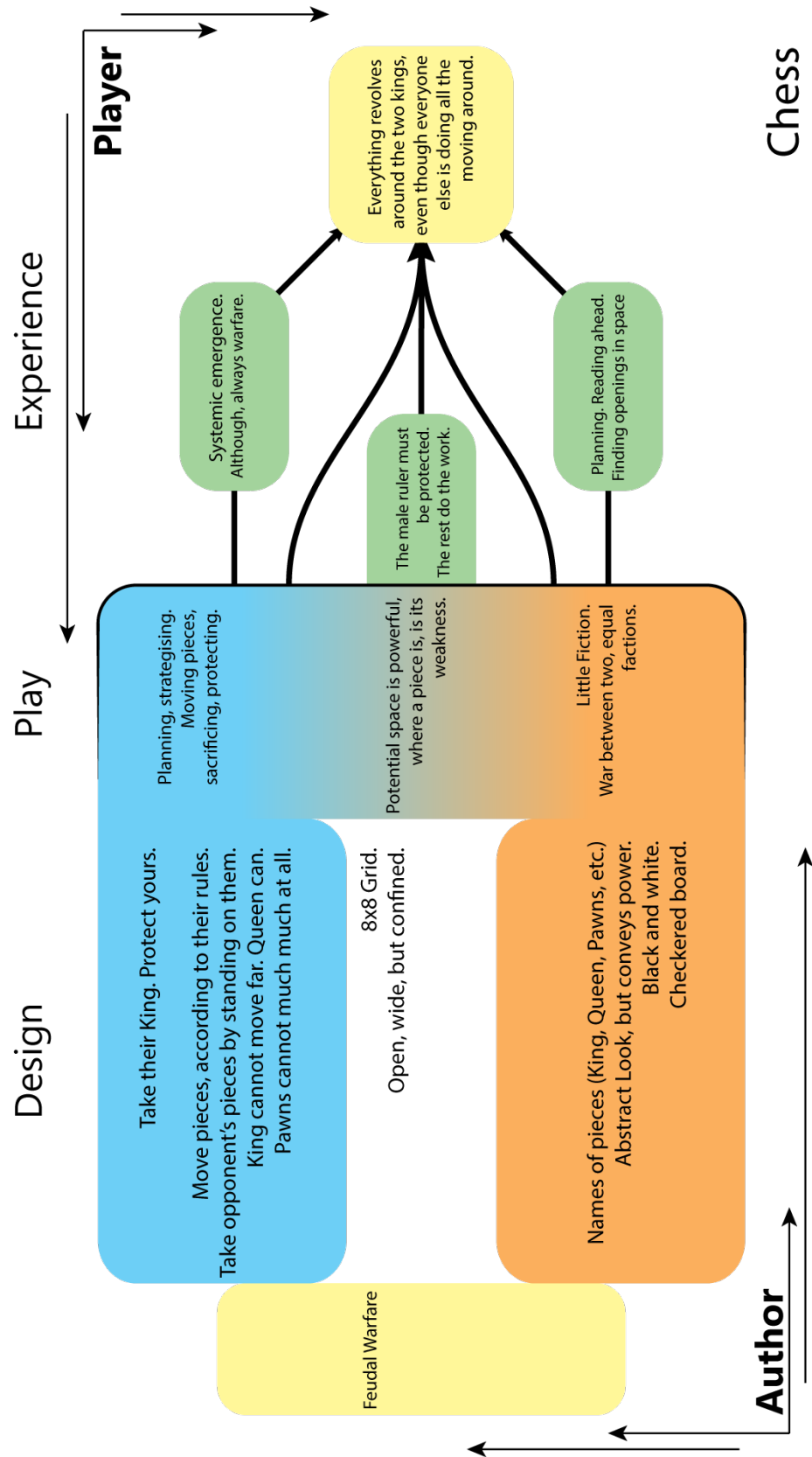
FIGURE 2: Spelunky shown in the framework.

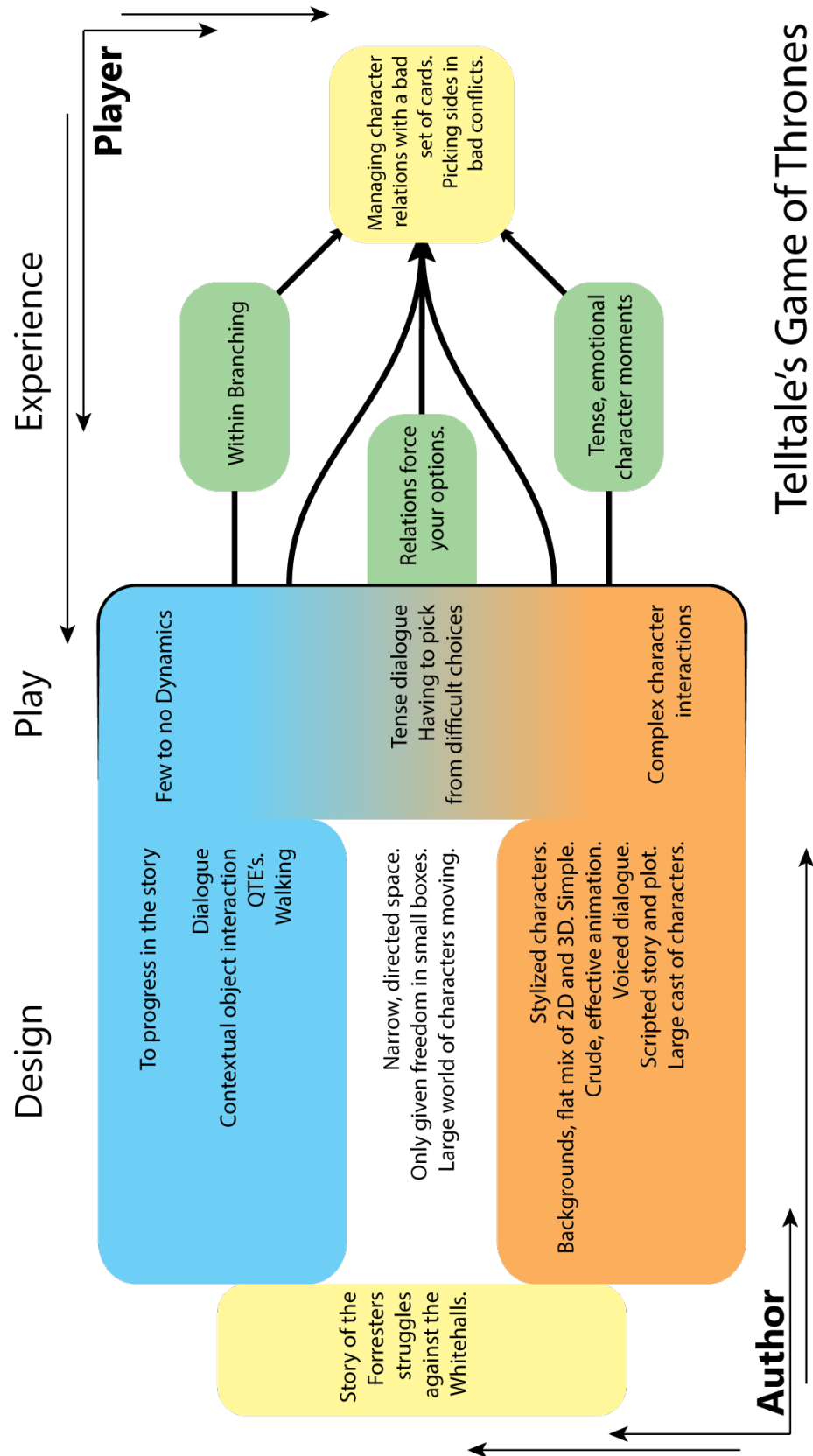FIGURE 3: Chess shown in the framework.

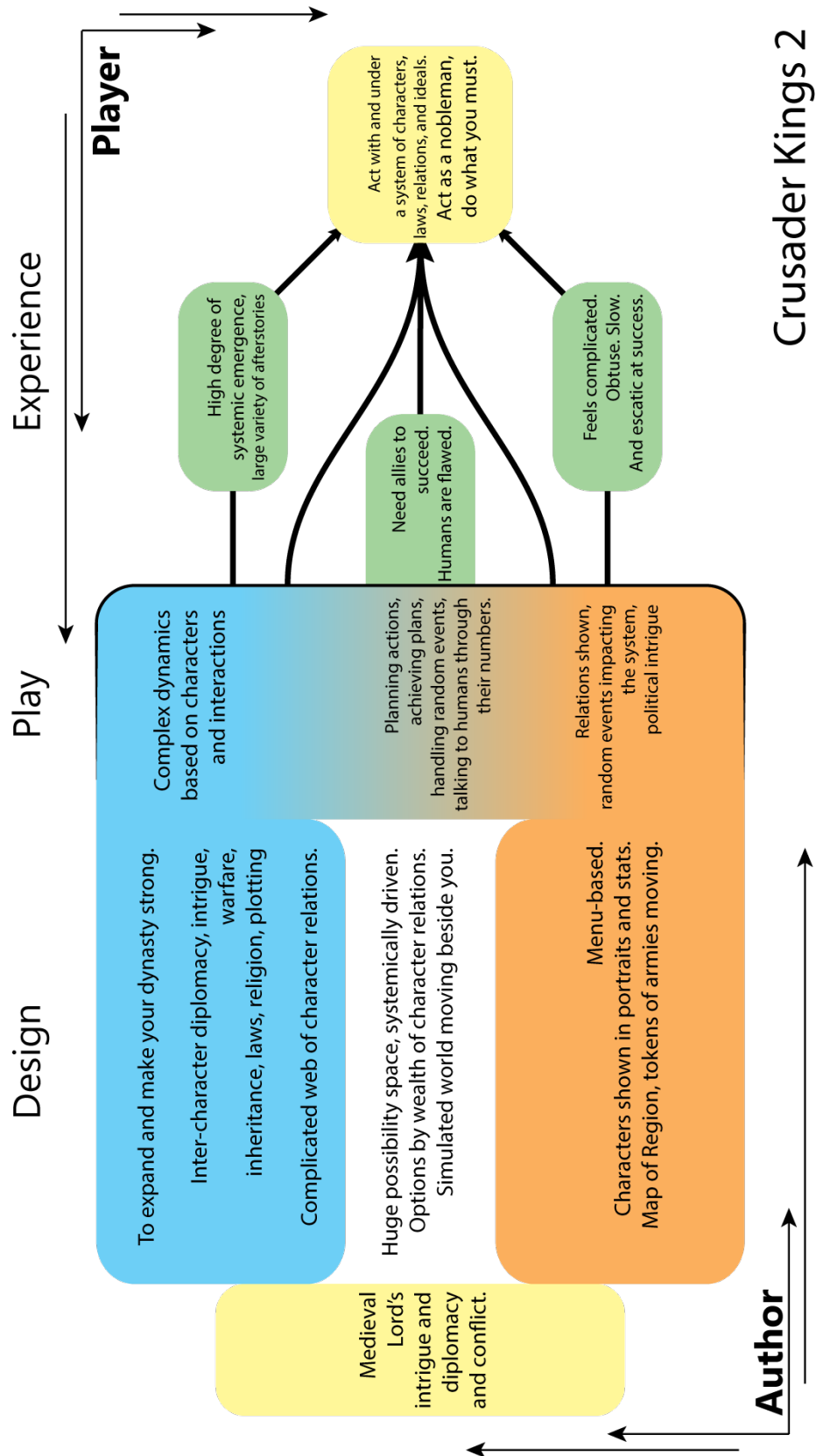FIGURE 4: Telltale's Game of Thrones shown in the framework.

FIGURE 5: Crusader Kings 2 shown in the framework.

Appendix B

Table 1: A list of Ryan (2006)'s narrative dimensions, with what types of texts they eliminate.

Spatial dimension	
Narrative must be about a world populated by individuated existents.	Eliminates representations of abstract entities and entire classes of concrete objects.
Temporal dimension	
This world must be situated in time and undergo significant transformations.	Eliminates static descriptions.
The transformations must be caused by non-habitual physical events.	Eliminates enumerations of repetitive events and changes caused by natural evolutions.
Mental dimension	
Some of the participants in the events must be intelligent agents who have a mental life and react emotionally to the states of the world.	Eliminates one of a kind scenarios involving only natural forces and non-intelligent participants. (weather reports, accounts of cosmic events)
Some of the events must be purposeful actions by these agents, motivated by identifiable goals and plans.	(together with 3) Eliminates representations consisting exclusively of mental events (interior monologue fiction)
Formal and pragmatic dimension	
The sequence of events must form a unified causal chain and lead to closure.	Eliminates lists of causally unconnected events, such as chronicles and diaries. As well as reports of problem-solving actions.
The occurrence of at least some of the events must be asserted as fact for the story world.	Eliminates instructions, advice, hypotheses.
The story must communicate something meaningful to the recipient.	Eliminates bad stories. Straddles borderline between definition and poetics.If we accept this, narrativity is not an instrinsic property of the text, but rather a dimension relative to the context and to the interests of the participants.