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Games as representational artifacts

A media-centered analytical approach to representation in games

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RESUMÉ

Computerspil og brætspil er kulturelle genstande, der afspejler deres skabers ideer og opfattelser, såvel som det samfund i hvilket de er forankret. Ligesom litteratur og film, kan de fremstille omgivelser, begivenheder og individer, der er mere eller mindre velkendte. Men der er også store forskelle mellem disse medier; forskelle som grundlæggende berører den måde, vi kan forstå dem som betydnings-fremstillende genstande. Derudover er det også langt fra givet, at alle spil nødvendigvis fremstiller noget, hvilket et eksempel som *Tetris* bevidner. Dette rejser spørgsmålet om, hvad det er der gør, at vi opfatter nogle spil som betydnings-fremstillende, og dernæst hvilke betydnings-fremstillende eller mere præcist, betydnings-frembringende, egenskaber og praksisser vi så kan forbinde med dem.

I denne afhandling vil jeg gennemgå en række teorier omkring betydnings-fremstilling, samt diskutere hvordan de er blevet anvendt i spilforskning. På den baggrund vil jeg fremlægge en materialistisk analyseramme, med hvilke vi kan begrebsliggøre og analysere spil som simulationer. Ifølge denne analyseramme er spil individuelle genstande, bestående af en multimodal ydre form, som er reguleret af en indre struktur, og altid realiseret i et materielt medium. Analyserammen beskriver fire grundlæggende bestanddele af spil, som jeg kalder den materialistiske, strukturelle, kommunikative og handlingsmæssige modalitet. Jeg diskuterer relationen mellem simulationer og deres referencepunkt, en relation som jeg argumenterer for, ikke er iboende i simulationen selv, men altid er relativ til en fortolkning.

Afledt af dette bør studiet af betydnings-frembringelse i spil ikke kun undersøge spillet som genstand, men også den sammenhæng i hvilken den er fremstillet, og taget i anvendelse. Derfor bevæger jeg mig fra en relativ formel analyse af spil som simulationer, til også at betragte dem som kulturelle genstande, og som et diskursivt frembragt medium. Dette kvalificerede medium, som jeg kalder det, har udviklet sig sideløbende andre medier, og har defineret sig op imod dem. Derudover er mediet reguleret af en række normative antagelser om hvad spil er, hvordan de skal se ud, hvordan de bør spiles og af hvem.

Endeligt vil denne afhandling demonstrere den fremlagte analyseramme i praksis, med en analyse af hvordan køn frembringes i computerspillet *The Witcher 3: Wild Hunt*. Jeg vil først analysere spillets formelle bestanddele, dvs. dets materielle, strukturelle, visuelle, tekstuelle elementer, og hvordan de er håndteret og udøvet af en spiller. Dernæst vil jeg placere spillet og dets frembringelse af køn, i en bredere kulturel sammenhæng, i hvilket spil krydser spor med andre medier, og er produceret og taget i anvendelse i henhold til visse kulturelle konventioner og normer

ABSTRACT

Computer games and board games alike are cultural artifacts that reflect the ideas of their creators and the society in which they are embedded and played. Like cinema and literature, they may represent more or less familiar environments, events and beings. That said, there are great differences between these media, which also affects how they can be understood as representational artifacts. In addition to this, when considering a game such as Tetris, it is not even given that games represent in the first place. This raises the question of what it is that makes us consider games as representational artifacts and subsequently, which representational capacities, or better, meaning-producing capacities and practices we may associate with them? Furthermore, to what extend are games a medium and how do they relate to other media?

This dissertation reviews theories of representation and their application to game analysis. Based on these theories, I propose a media-centered, and materialist framework for conceptualizing and analyzing games as simulations. With this, I will address games as objects, consisting of a multimodal surface expression that is governed by an underlying mechanical structure and realized in a material medium. The framework describes the basic qualities of a given game through what I call the material, structural, communicational and agential modalities. I will discuss the ways in which simulations refer to a target, a relationship which I argue is not intrinsic to the simulation itself, but remains relative to interpretation.

Consequently, the study of representation should not only consider the game artifact in itself, but also the context in which it is produced and consumed. Therefore, the analysis will progress from the relatively formal analysis of games as simulations to a discussion of games as cultural artifacts that are discursively constructed as what I call qualified media. These qualified media have evolved side by side with other media, and are governed by a set of normative assumptions about what games are, what they should look like, how they should be played and by whom.

Finally, the dissertation will offer a demonstration of the proposed framework in an analysis of the ways in which gender is represented in the computer game *The Witcher 3: Wild Hunt*. This analysis will first consider the formal elements of the game, that is the material, structural, visual and textual aspects and how they are put into operation by a player. Next, the case study situates the game and its construction of gender in a broader cultural context in which games intersect with other media and are produced and consumed according to certain cultural conventions and norms.

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CHAPTER 1

Introduction

This dissertation aims to explore how games can be conceptualized as representational artifacts, and what it means to say that a game represents something. There is nothing novel about treating games as representational artifacts, in fact we do this all the time in academic as well as popular discourse on games. We might, for example, say that *SimCity* (Wright 1989) is a game about urban development, that *Assassin's Creed IV: Black Flag* (Ubisoft Montreal 2013) is a game about pirates, that *Pandemic* (Matt Leacock 2008) is a game about epidemic diseases and finding cures for them, and that *Candy Crush* (King 2012), as the name suggests, is a game about candy. Or we might make more elaborate descriptions and say that *The Last of Us* (Naughty Dog 2013) is a game about the troublesome journey of two people across an apocalyptic USA.

But what, then, does a game like *Tetris* (Pajitnov 1984) represent? One could, of course, say that *Tetris* is a game about manipulating and arranging tetrominos, which would refer only to how

the game is played. But there are also alternatives. In her now famous interpretation, American game scholar Janet Murray (1997, 144) reads Tetris as "the perfect enactment of the overtasked lives of Americans in the 1990s." Murray does not claim that this is inherently what Tetris is about, but rather that it is possible to conceptualize the act of *playing* the game as arousing a sense of stress and tension that she associates with the lives of Americans.

Some of these claims may comply with commonly held beliefs about games. To say that *SimCity* represents urban development is hardly a controversial claim, as long as we do not also imply that it is a particular good and accurate representation. Murray's extrapolatory reading of Tetris, on the other hand, is *more* situated in a particular context of experience and is not conventionalized to the same extent as the *Sim City* example.

But what is it that makes a game represent something? First, we may ask by virtue of what a given game can be said to be a representation of something? What achieves this? To answer this question, we must understand what games are and what relations pertain between them and the objects they represent. Aarseth (2011) suggests that games are both objects and processes, and moreover that as objects, we may distinguish between their mechanical layer and their surface expression. Aarseth and Calleja (2015) propose a model of what they call cybermedia objects consisting of three aspects, namely the game's mechanics, signs and materiality, which are also experienced from a player's perspective. As this suggests, games differ from other media objects as they do not simply transmit a message through a channel, but rather present the player with a machine that, when operated, is able to produce multiple different messages (Aarseth 1997).

But this observation does not answer the above question. In itself, machines are not necessarily a medium. Therefore, we also must also answer why we tend to treat these gamic machines as such? One provisional, and obvious, answer could be that many games employ conventional signs, such as language and imagery, that then draw them into the sphere of media and

condition us to treat them as representational artifacts. This however, does not explain how and to what extent the other three aspects of cybermedia objects (mechanics, materiality and the player) are involved in the process of representation. Aarseth (1997) stresses that the relationship between the underlying structure and the surface expression is arbitrary, and that we cannot conceptualize it in terms of the semiotic duo of signifier and signified. Still, this is not to say that the underlying system plays no role in the player's interpretation of the surface signs. In a hypothetical example, we may imagine a game in which the player's avatar is armed with a futuristically looking high-tech defense system in combat against an enemy equipped only with a single blunt and rusty old sword. If this enemy, despite the looks of her weapon, nevertheless takes down the avatar in a single strike of her sword, then the player of this hypothetical game will probably either interpret the rusty old sword as an extremely powerful weapon, or her own defense system as completely useless in spite of its fancy appearance.

A common way to understand the relationship between game structure and surface expression in terms of the representational qualities of games, is to conceptualize games as simulations. According to Frasca, this is what distinguishes them from other media. Frasca understands simulations as systems capable of representing another system. Bogost proposes a similar idea, noting that games differ from other media because they are capable of representing processes via processes. While both Frasca's and Bogost's approaches should be acknowledged for trying to theorize in more detail the relationship between game structure and surface expression, they leave many questions unanswered. For example, what makes one system a model of another system? What is a system in the first place, and in what way are *games* systems? Likewise, what is a process and how exactly does it in itself convey meaning? Moreover, the theories tend to reduce the representational capacity of games to merely process and behavior, whereas games are, as Aaseth and Calleja (2015) suggest,

conglomerate objects consisting of a variety of different sign types that convey meaning in a variety of different modes.

However, there is another problem so far left completely untouched, namely the context in which games are situated, and how this context affects what games come to mean at a particular point in time. As Huizinga (1949) argued games (and/or play), are older than culture itself, but that does not mean that their appearances, cultural functions, and meanings are chiseled in stone. This dissertation is particularly interested in games as they have become affiliated in different ways with the concept of media, and in particular with commercial media and leisure. This context, I argue, is as important to consider as the formal aspects, if we want to understand how games represent.

Representation is always political. At least this is the case if we subscribe to a constructivist epistemology. We do not simply represent things as they are, but highlight and render apparent particular qualities and aspects of the represen*ted* object. This has implications because it naturalizes (or denaturalizes) our conceptions of the world and the objects and beings within it. Hence, representations do not just mirror the world but also to some extent make up the epistemic horizon with which we experience and makes sense of it. In other words, representations affect what we know about the world but also how we process novel experiences of it. On the other hand, representations are also often highly conventional. Often, we do not approach the task of representing an object with a completely blank slate. Rather, we draw on our pre-existing knowledge of an object, that is, on existing representations of it. This may very well be particularly true of industries in which large sums of money and effort go into the production and consumption of representations. This is the case with many computer games, and in particular so-called AA or AAA games, which not only have relatively high production budgets, but also high 'consumption budgets'. This is because players also invest large sums of money in hardware and software, as well as time spent in front of the computer, playing, watching, discussing and converting games into new materials.

The conventional nature of game production may, in part, be the result of using generic game engines that govern the simulated laws of physics that apply to the games as well as the ways in which the game world itself is rendered. But it also results from the ways in which new elements, such as characters and mechanics, are introduced to games through a careful analysis of market preferences. Similarly, many players also approach games with a set of expectations of what they should look like and how they should work and be played. In this context, not all games and play practices count. This is not only the case in computer game play, but also in relation to boardgames. Here, we may observe the use of derogatory labels such as "Ameritrash", which is often used about themed boardgames containing figurines, chance and direct player confrontation. Such a label may be used to suggest that these games are somehow less serious and refined than so-called Eurogames, which denotes a tradition of abstract and strategic boardgames that involve more skill than luck.

Finally, the context in which games are situated involves more than game designers and players. It also involves broader society, which in different ways, affects the meanings that games and play may have within a culture. Here, we may consider classification schemes such as PEGI that rates games according to their content and its supposed suitability for different age groups. We may also consider how schools and youth clubs facilitate the playing of games for didactic purposes or simply for leisure. Furthermore, we may consider the portrayal of play and games in other media, such as news media. Discourses of these broader contexts also play a role in the representational practices of games, as they take part in defining what games are supposed to be (e.g. inferior entertainment, serious art, children's toys). It is in such contexts, ripe with aesthetic and functional conventions, heavy investment of time and money, calculated risks, hard and soft modes of regulating play practices etc., that games become meaningful.

This dissertation therefore presents a framework for understanding and analyzing games as representational artifacts that take into account the formal as well as contextual aspects of games. I

employ a top-down approach building on the long tradition of theories concerned with the representation in the arts and in philosophy. There are two reasons for this. First, I am interested in the theory and concept of representation and how it applies to games – how games represent. In other words, the aim of this dissertation is first and foremost theoretical rather than analytical. Therefore, this dissertation will not be packed with game analyses. In fact, with respect to systematic in-depth analyses, I will only offer a single one that will demonstrate in practice, the models I will propose in this dissertation. Instead, I will offer in-depth analyses of existing theories of representation. Therefore, one of the aims of this dissertation is to produce a strong meta-review of theories of representation in the arts, and in games specifically. Regarding the latter, I also hope, that this will enable the reader to identify similarities and differences between (the sometimes isolated) framings of representation in games. Second, I am interested in producing an approach to representation in games that overcomes media-essentialism. That is, instead of generating with a bottom-up approach a theory of supposedly unique qualities of games and how they represent, my aim is to harness existing theories of representation to games. As I see it, this is a productive approach that enables more studies across scholarly fields (approaching the study of games from film- and media studies, literature, visual culture to name a few) as well as studies concerned with how content travels between media (without this having to involve a large set of media-specific tools and theories).

The hallmark of this framework is that it centers on games as media. However, the notion of media is not easily applied to games, which, as mentioned earlier, function more like machines generating expressions than channels transmitting them. It is important to maintain this challenge when considering games as representational artifacts. As researchers of games, we must remember that one instance of game play may be very different to another in terms of the expressions that are generated through play, but also in terms of what they come to mean to players and non-players alike.

On the other hand, it would be premature to simply discard the concept of media altogether. Such a move would make it very difficult to address the ideas that nevertheless go into constructing the machines with which we play. After all, most contemporary games are more than simply processes and a formal system of rules, but also involve the communication of these rules and processes in sign systems. Therefore, while an individual game may not be a medium, we may nevertheless say that games do share elements and aspects with media. However, the concept of media may also contribute to the understanding of representation in games in another way. Media studies concern not only the formal aspects of information transmission, of course. Instead, a long tradition of media studies examines the relationship between media and society, and consider media as artifacts with which we may communicate, confirm, negotiate or subvert values and ideas of a given culture.

These questions are obviously relevant in connection to games which, for example, are often critiqued for representing marginalized identities in a highly caricatured and stereotyped way. In order to understand and discuss these issues, it is not enough to think of games simply as machines that, through their operation, contribute relatively private play experiences. Considering games as a medium then allows us to address the sometimes highly conventional representational practices in games, and the contexts in which they operate. Such a conception of games must necessarily be materially oriented. Therefore, the framework presented in this dissertation addresses representation in games through the lens of the material context in which games are situated and which takes part in shaping what we expect games to be. But it also addresses the material and technological apparatuses with which games are realized.

Finally, I would like to describe the more personal reason that underlies the formulation of this project and why I think we need a media-centered analytical framework for games. Games can be, and are, studied in a number of disciplinary institutions, ranging from design schools, departments of anthropology, literature, sociology or computer science, and informatics or ‘digital humanities’, to

name a few. Quite often, humanities-oriented approaches to games are carried out by scholars who are part of media studies departments. For them, the question of media might not be as puzzling as it is for me. I approached the current project with what is often described as an interdisciplinary background, having spent my graduate and undergraduate studies at educational programs as diverse as Russian (language) Studies, Comparative Literature and Modern Culture, and finally Digital Design and Communication. The links connecting these different affiliations are, of course, culture, representation, language and communication. As such, my background might not seem so directionless as one might first assume. Another aspect that brings them together is that none of them can be said to reflect a very media-aware treatment of representation. During my undergraduate years of Russian Studies, our primary concern was language. Still, language was treated as an abstract matter that one could learn to master by carefully studying its vocabulary, grammar and pronunciation. Similarly, while studying comparative literature and modern culture, the main interest was in the contents of literary works, and how they reflected culture, while the physical medium of the book seemed a trivial issue. While I was studying digital design and communication, however, the 'medium' began to emerge as an issue one could consider seriously. After all, this program revolved around a relatively limited set of material technologies or 'technical media' as I will later call them. Nevertheless, I never gave the issue of mediation the attention it deserved but kept treating it merely as a trivial 'digital' communication channel. One could say that 'media' as a concept was present throughout my undergraduate and graduate studies but was never fully realized.

The research on games that I have carried out during my PhD studies has also not been situated in a media department. At the Center of Computer Games Research at the IT University, our primary objects of study are games and play, not media. This can be a very liberating approach, as we are not bound by disciplinary paradigms that have been formulated around other subject areas and only subsequently been imposed on games. Still, might it not also run the risk of being a somewhat naïve

approach that takes games for granted and disconnects them from culture more generally? This could easily be the case with a third-generation game scholar[1] like myself who has not experienced the 'formative years' of our research field from a first-hand perspective. Some might think so, but I definitely do not and feel lucky to have been part of a research center where the primary interest was in games themselves, even if this means that we might be accused of romanticizing them. I found Aarseth's (2017) suggestion of studying "just games" both inspiring and stimulating. But for me, it also came with the wish to then afterwards reinstall games in their material and mediated context. In other words, I explain the obsession with the media question that is reflected in this dissertation exactly as a consequence of my institutional affiliation, in which the notion of media tends to be problematized (c.f. Aarseth 2004a). I want to stress that I highly appreciate the act of disengaging games from other media. However, having done that, I also think it is necessary to then revisit the media question with the aim of discussing how we can, once and for all, while fully acknowledging the problems that this entails, carefully situate games side by side with other media – even if only for the purpose of particular research projects. Therefore, I hope this dissertation will be received as an attempt to theorize games as media, from a position in which it is far from given that they should be considered as such at all. A scholar extensively trained in media studies might have approached this question completely differently, but I hope that this study will prove to be more than a completely idiosyncratic project, but something that will resonate with my peers in game studies who might, like me, have been puzzled by the idea of games as media. I also hope it will resonate with scholars from other fields, such as literature, media studies, visual culture studies etc., to whom it might prove useful as an opening to the field of game studies.

[1] For the purpose of this discussion, I consider the first generation, the scholars who emerged around the turn of the millennium and up until ca. 2010, rather than the second generation of scholars, who entered the scene in the following ten years).

RESEARCH QUESTION AND AIM

The starting point of this dissertation will be the overall question of how games represent. This is a big question which is probably best answered by breaking it down into the following more concrete research questions?

a. What makes games representational artifacts?
b. How do games relate to media?
c. What are the representational capacities and practices of games?
d. How can representation in games be analyzed?

As these questions suggest, the aim of this dissertation is two-fold. On the one hand, the dissertation offers a theory of representation in games that builds on the premise that games can be considered simulations. Such a conceptualization of games poses certain problems regarding the notion of media, which will be addressed through an intermedia theory and an accompanying communication model for games. On the other hand, the dissertation also aims to sketch out a more practical approach to analyzing games as representational artifacts. Therefore, the dissertation will offer a relatively formal framework that not only describes games but also offers a way of structuring an actual analysis of particular games.

CLARIFICATION OF CONCEPTS

As the discussions touched upon in this introduction reveal, many different terms can be used when talking about games and representation. Before I proceed, I will therefore briefly clarify the meaning I ascribe to concepts used in this dissertation:

Game: In the context of this dissertation, the term 'game' will be used mainly to designate actual game artifacts, such as a game of chess or *StarCraft II* (Blizzard 2010). This conception of games includes both the game structure and the surface expression (c.f. Aarseth 2011), as well as

the physical object(s), such as tokens, rulebooks and screens, which actualize this structure and expression. As such, 'game' designates a particular conception of a network of related parts, or as Arseth and Calleja (2015) call it, a conglomerate object. I consider 'games' first and foremost as a discursive category. Furthermore, the term 'game' or 'games' will be used in two different ways. It may be used about a set of game artifacts, without further specification of the constituents of this set. Or it may be used about a particular game, such as *Zelda: Breath of the Wild* (Nintendo EPD 2017) *or Descent: Journeys in the Dark* (Sadler, Konieczka, and Clark 2012). The context should clarify which of these two meanings I employ at a given point in my dissertation. Finally, I will use the term computer game (rather than video game or digital game) to denote games that are played on all kinds of computational platforms.

Play and player: In the tradition of game studies, the notions of 'play', 'game play' and 'player' are terms charged with underlying assumptions. Following Caillois (2001 [1961]), play is typically understood through the distinction between paidea (free play) and ludus (rule-bound or restricted play). As a consequence, play is often used about engagement with toys, whereas game play is used about engagement with game artifacts. While these terms shed important light on the complex nature of play, they risk overly simplifying the ways in which we may engage with games. Aarseth (2017) notes a 'game' may be thought of as a perspective on objects and activities, and then anything can be turned into a game. As such, play and player connote a particular way of engaging with an object that is free and voluntary. However, in this dissertation, I will not conceptualize play as an interpretative practice or use strategy. Instead 'play' simply designates the engagement we have with objects that we call games, and 'player' is used about whoever takes part in this activity. At certain points in this dissertation, I prefer to use the notion of 'operation' and 'operator' to emphasize that I am only addressing this engagement as mere configuration, rather than interpretation. This is not to say that I consider 'play' and 'operation' to be two distinct

activities, but rather that the former aspect of the engagement with games is temporarily ignored in a given discussion.

Media: Media is another key term in this dissertation. Like games, it will primarily be used in a nominal sense, as those things that we label media. Chapter 5 offers a more thorough discussion of this concept, and from this chapter onwards, I will distinguish between basic, technical and qualified media and use the term 'media artifact' when discussing a particular member, (such as Charles Dicken's David Copperfield) of a qualified media category (such as literary fiction).

Proprietary games: In this dissertation, the notion of proprietary games will be used for games that are sold and marketed as the interlectual property of a specific (named) designer. For these games I will offer annotations of the name of the game developer and publishing year. This will not be offered for traditional board games such as *chess* and *checkers*. The names of both proprietary and traditional games will be written in italics.

Finally, in terms of annotation, I will offer publishing date and game designer (rather than publisher) for all proprietary games, that is games that are sold and marketed as the interlectual property of a specific (named) designer.

STRUCTURE OF THE DISSERTATION

This dissertation will be structured as follows. *Chapter 2* examines how the concept of representation has been theorized in a number of different research fields. First, I discuss representation in the theories of pictorial representation, exemplified by Husserl's phenomenology of images, Gombrich's notion of illusion, Wollheim's idea of 'seeing-as', and Goodman's distinction between denotation and exemplification. Second, I consider how representation is conceptualized in the field of semiotics, and most notably in the theories of Peirce, de Saussure and Hjelmslev, as well as Barthes' more textual approach. Third, a cultural studies approach to representation is reviewed through the works of Stuart Hall. And finally, I consider Baudrillard's postmodernist theory of simulation rather than

representation. These discussions take Mitchell's (1990) model of representation as their starting point. This model involves four parts, namely (1) a sender, (2) a receiver, (3) a represen*ting* object, and (4) a represen*ted* object, all structured around two axes, namely an axis of communication and an axis of representation. I compare and contrast how the different philosophical fields mentioned above conceptualize the four elements and two axes. This highlights the theoretical differences found in these articulations of the concept of representation, as well as introducing the key terms pertaining to the study of representation in general.

Building on this, *chapter 3* examines different ways in which representation is dealt with in the field of games studies. This chapter does not claim to be a comprehensive review of the vast number of studies that explicitly or implicitly address representation in games, the surface layer of games or more broadly, interpretation of games. Rather, the texts are chosen to illustrate the breadth of the theoretical and methodological approaches and span from considering games as texts, simulations, worlds and cultural artifacts, to studying them through the lens of rhetoric and hermeneutics. These overall approaches are mapped onto Mitchell's model of representation in order to visualize what aspects of representation are theorized by these approaches, and which are excluded.

Chapter 4 proceeds with a theoretical approach to how we can understand games as simulations. This is based on the fact that even though the concept of simulation is frequently invoked in game studies, it remains under-theorized. Therefore, building on Goodman's representational theory and Frigg's theory of scientific representation, this chapter proposes a model of games as simulations. The basic principles behind this model of simulations are conventionalism and constructivism. I argue that games are not simulations because they are structurally similar to what they represent. Instead, simulations represent only a target, relative to a description. In other words, it is not an inherent property of games to be simulations of something. Instead, they may become simulations through various discursive practices. This view solves many problems associated with

representation in games. Most notably, it steers free of the idea that we can locate and fix the meaning of games in objects themselves or in particular parts of the objects (their processes or behavior). Furthermore, the theory is also flexible enough to accommodate computer games, board games and table-top roleplaying games, for example.

However, the theory of simulation proposed here still addresses representation in a relatively abstract way, in terms of the semantics of a model, rather than its materiality. *Chapter 5* therefore proceeds to consider the more material aspects of games. This issue is addressed through the concept of media. The chapter begins with a very brief review of two different trajectories of media studies, one concerned primarily with communication as a process between two participants, whereas the other concerns more the particular material media and their relationships to society. In addition to this, I will discuss how the computer, but also games, challenge the concept of media. I then offer a discussion of the academic field of intermediality, that I argue can solve at least some of the problems that arise if we consider games a medium. In particular, I focus on Elleström's analytical framework, with which we are able to unpack individual media concepts. The framework distinguishes between basic, qualified, and technical medial aspects. Where basic aspects can be described as the ontological constituents of a given media object, the qualified aspect, describes how media concepts are socially constructed, whereas the technical aspect describes the techno-material medium that actualizes a given media object. This framework then allows us to address the basic commonalities between games and the objects we usually classify as media, without disregarding the very fundamental ways that games challenge the media concept. It also allows us to address the ways in which modern, proprietary games, since their emergence, have intersected with media such as the print press and cinema, and in many ways have defined themselves alongside but also often against these media. Finally, the notion of technical media enables us to address the ways in which technological artifacts, often used to display other media objects, are also involved in the actualization of games. In other

words, the intermedial framework allows us to address how games, as conglomerate objects, involve a variety of different media practices. Chapter 5 closes with a communication model of games that takes the intermedial framework as its starting point. This model is an elaboration of the simulation model presented in chapter 4, which situates simulations in a context of production and consumption.

Chapter 6 offers a discussion of how games have been qualified as a medium with a relatively limited set of representational conventions. These conventions include the use of spectacular, often realistic graphics, narrative modes of communication, a non-trivial and often specialized mode of consumption that is often framed as participation in a 'word' of the game. There is nothing given about these conventions, and we could easily imagine them otherwise. However, in order to understand how these conventions came to be, I look into the context in which they emerged and became popularized and how they how intersected with other media over time.

Finally, in *chapter 7* I present a case study that applies the models of representation introduced in this dissertation. This case study analyzes *The Witcher 3: Wild Hunt* (CD Projekt Red 2019) in terms of how it represents gender. While representation is always political, gender provides an excellent case because it clearly exemplifies the politics of representation. This is not only because gender has historically been a highly politized matter, but also because the game industry has recently been critiqued for its caricatured and stereotyped ways of constructing womanhood and other marginalized identities. Game industries often respond to this critique by adding a roster of playable characters in which a few characters are people of color, female and LGBTQ characters. Another strategy is to enable the player to simply create her own playable character from a set of pre-defined characteristics, such as gender, hair color, skin tone, jaw width, weight etc. While these approaches are, of course, welcomed, they run the risk of reducing the ways in which games construct gender to simply a matter of consumable surface appearances that the player can freely pick and choose. However, the analysis presented in this chapter goes beyond mere surface expression of characters,

but looks at how gender is constructed by the simulation, through the relations between characters, objects and the world, as well as the player's perspective on this. Furthermore, this is connected to the material context in which the game is situated as a commercial, cultural object.

Chapter 8 summarizes the arguments and findings of this dissertation, and suggests further research. While the concept of representation is, in itself, highly abstract, it also yields a multitude of different, possible questions, depending on what is represented. When analyzing how a game such as the computer game *Call of Duty: Modern warfare* (Infinity Ward 2019) represents civil war, for instance, we cannot ask the same questions as we would in an analysis of how the boardgame *Photosynthesis* (Hach 2017) represents the growth of trees. The approach introduced in this dissertation does not aim to provide a precise set of questions with which to approach an analysis of how a given game represents. Instead it focuses on presenting a framework that connects the meanings encoded in the material artefact of the simulation, with its operation and play, as well as with the broader cultural meanings of the context in which it is embedded.

CHAPTER 2

The concept of representation

INTRODUCTION

What is representation? Mitchell (2010) describes representation as a relationship that involves four elements, namely, the maker of some representation, the object used to act or stand for something, the object that the former object stands for, and the one for whom this representation is intended. These four elements can be called by many names, depending on the theoretical frames from which we see them. We can call them sender, sign vehicle, referent, and interpreter; artist, picture, motif and beholder; author, discourse, story and reader; sender, transmitter, signal, message, and receiver and so on. These are, of course, not completely synonymous terms, but come with different sets of meanings with which we can understand these four elements and how significant or trivial they may be to us. In a given context, the notion of a sender or maker may be regarded as completely redundant, as the focus is on the relationship between represen*ting* and represen*ted* object, whereas another use

may adress how information is transmitted between two parties, and the issue of what is transmitted – the message – becomes completely trivial.

Mitchell depicts his definition of representation as a quadrilateral with two axes that he labels the axis of communication and the axis of representation, respectively (see ***FIGURE 1***).

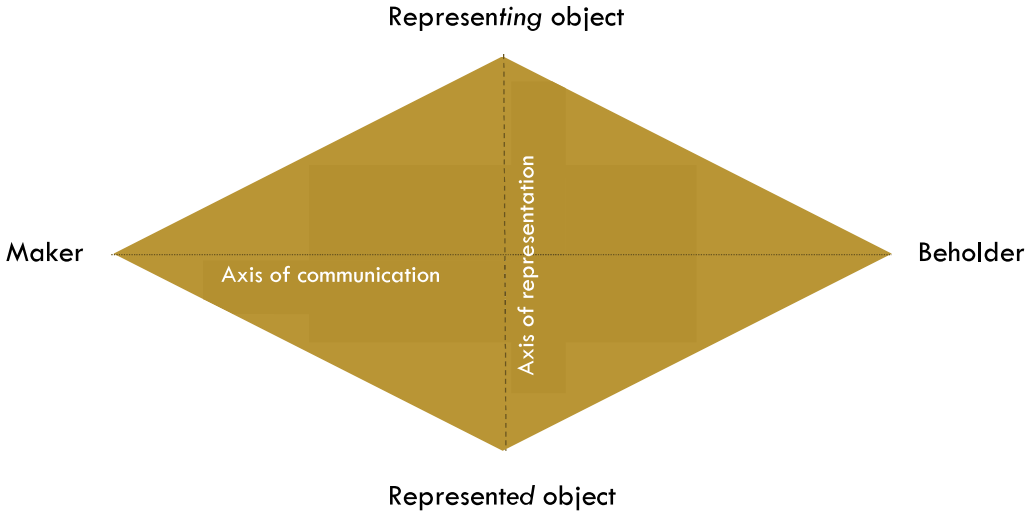

FIGURE 1: Mitchell's quadrilateral of representation
My reproduction based on Mitchell (2010)

Mitchell's model allows to identify a number of separate, but related issues that theories of representation can (but do not have to) be concerned with. First of all, representational theories may explicitly or implicitly be concerned with the notion of maker, author or sender. This can be expressed in discussions of the intentions, world view, socio-economic conditions, identity and biographical background of the sender along with accounts of her practices, productive materials and working conditions and the macro- or micro-cultures in which she is situated. Second, theoretical issues pertaining to the represen*ting* object may be about style and poetics, mode of representation, language and code as well as the material and technological mediators and materials applied in the representation. Third, issues concerned with the represen*ted* object may be about truthfulness and

accuracy, framing and epistemic access, story and fiction. Finally, representational theories may also discuss aspects relating to the beholder, for example, in terms of consumption, interpretation and misinterpretation. This may be addressed in reader-response theories as well as through notions of different decoding positions or even active audience theories.

While these issues are treated here as four relatively autonomous elements, in actual representational theories they are often highly interconnected and co-dependent. This will be evident in the following review and discussion of a limited number of theories of representation grounded in the fields of art history, philosophy of aesthetics, semiotic theory and cultural studies. This review should not be read as an exhaustive account of theories addressing the concept of representation. Such an account lies completely outside the scope of this dissertation. Instead the review aims to outline a number of basic ideas or tendencies concerning representation. For this reason, as a general rule, I am also including in this review mostly high-level theories, such as de Saussure's semiotics, Gombrich's account of pictorial perception and Hall's encoding and decoding model of communication, rather than the many studies and applications deriving hereof. Finally, what will be offered here is a comparative approach focused on identifying similarities and differences between these theories, rather than providing the reader with in-depth accounts of each of them.

The chapter will be structured as follows. First, I inquire into the idea of representation as depiction. I begin this review with a brief discussion of British philosopher Richard Wollheim's and Austrian art historian Ernst Gombrich's theories of representation, which are both in many ways indebted to the German phenomenologist Edmund Husserl's account of image consciousness. I then consider American philosopher Nelson Goodman's radical conventionalist theory of representation, which is dealt with in some detail, as it lays an important foundation for the work on simulations carried out later in this dissertation. After that, I review a number of semiotic theories in the form of those by American philosopher Charles Sanders Peirce's semiology, Swiss linguist Ferdinand de

Saussure's structural semiotic theory, along with Danish linguist Louis Hjelmslev's and French semiotician Roland Barthe's concept of connotation and denotation. With the latter issue, this review moves towards a more culturally oriented theory of representation. First, I briefly discuss the concept of text and how it contributes to the study of representation before moving on to discuss the connections between representation, culture and ideology. This entails a review of Jamaican cultural theorist Stuart Hall's theory of representation and his idea of ideologically encoded representations. I also present Mitchell's discussions about connections between the concept of ideology and the concept of representations, as well as the different ideologies that might underlie theories of representations. I conclude this review by returning to the model of representation with which I opened this chapter. The various approaches discussed in this chapter are then related to each other and to the model, the results of which are presented in a comparative table.

REPRESENTATION AS PICTORIAL DEPICTION

What is pictorial representation? Underlying this seemingly simple question, we may find many interesting issues: How do pictures achieve representation and what are the relationships between pictures and what they represent? What about the relationships between pictures and spectators? Depiction is an interesting starting point because a range of images, and in particular photographs or those artistic pictures that we in colloquial language call realistic, often immediately strike us a transparent medium that offers its motif to us in a straightforward manner that does not require special interpretive skills. When standing in front of da Vinci's Mona Lisa, for example, it is immediately apparent to most spectators that this is a picture of a woman. Likewise, the famous photograph Lunch atop a Skyscraper (attributed to Charles Ebbet and dated 1932) seems to give itself away as a picture of 11 men eating on a steel beam high above a city.

However, while we may accept a naturalistic painting or a photograph as a faithful representation of what was in front of the artist or the photographer at the time of painting the picture

or taking the photo, Gombrich reminds us that things are hardly this simple. The artist, he argues, cannot simply transcribe what he sees to the canvas, but must translate it into the terms of his medium. And while the spectator may think that the motif is immediately given, the interpretation of pictorial representation requires a great deal of cognitive work. Pictorial representation is therefore not a mirror image of the world, but rather the application of a specific set of representational conventions. Gombrich (1960, 49) argues: "What a painter inquires into is not the nature of the physical world but the nature of our reactions to it. He is not concerned with causes but with the mechanisms of certain effects. His is a psychological problem – that of conjuring up a convincing image despite the fact that not one individual shade corresponds to what we call 'reality'."

This way, Gombrich proposes a theory of representation that builds on the premise of illusion. Mimetic depiction does not promise an accurate representation of the world but rather the achievement of the illusion of reality. This illusion is achieved through a particular mode of seeing mimetic art that Gombrich exemplify with the so-called 'duck-rabbit' picture, which can be interpreted both as a drawing of a duck and as a drawing of a rabbit. Gombrich (1960, 5) writes: "The shape on the paper resembles neither animal very closely. And yet there is no doubt that the shape transforms itself in some subtle way when the duck's beak become the rabbit's ears and brings an otherwise neglected spot into prominence as the rabbits mouth.". From this, Gombrich notes that it is not possible to separate the shapes apparent on the surface of the canvas from our interpretation of them as a representation of something. With the use of the 'duck-rabbit' example, Gombrich invokes Wittgenstein's (2009 [1953]) discussion of the same illustration. Wittgenstein describes what happens when we suddenly see the drawing as represen*ting* something different than our previous interpretation as the 'dawning of an aspect'. This suggests an important ambiguity between the level of the shapes and lines on a piece of paper and the motif that they represent. Wittgenstein calls this *seeing-as* and distinguishes it from *continuous seeing*, which describes situations in which our

previous interpretations of an image are stable and not challenged by novel insights. Building on this, Gombrich notes that if mimetic art is about illusion, then this also implies that we cannot both experience the illusion of seeing the represen*ted* object in front of us and see ourselves having this illusion. We can only experience one reading at the same time – either our attention is focused on the duck or it is focused on the rabbit, and similarly our attention is either focused on the motif or on the physical canvas.

The ways in which illusion are achieved in part depend on the materials in use. An artist equipped with a pencil will seek out quite different aspects of his motif than if she was equipped with a brush. But it also depends on the conceptual schemata available to the painter. As such, a painter does not begin his work with a visual impression but rather with a mental idea of the motif to which the form will be approximated (Gombrich 1960, 74).

However, to Gombrich, illusion is not only achieved by the artist but also the spectator. Just as the painter bases his work on schemata, the spectator projects mental ideas onto the picture, and thus may even believe she sees in the picture details that the painter has only vaguely suggested. This is what Gombrich calls the "etc. principle" (p. 220). The readiness to project ideas into a picture therefore makes pictorial representation a matter of imagination. While no picture would be able to represent an object in motion, with only a few brushstrokes, the painter can nevertheless achieve this effect exactly because the spectator's interpretation is not limited to what appears on the two-dimensional surface of the canvas, but rather takes the signs of the canvas as a starting point for a game of make-believe, as Kendall Walton (1993) later described it. Gombrich (1971, 9) writes "Once this idea of the picture suggesting something beyond what is really there is accepted in all its implications (…) we are indeed forced to let our imagination play around it. We endow it with 'space' around its forms which is only another way of saying that we understand the reality which it evokes as three-dimensional (…)".

What Gombrich describes is a curious paradox of pictorial representation: that although we know that it is nothing more than an image on a canvas, we are to some extent willing to treat it not as a representation but as the thing the image represents. Moreover, we are willing to impute to this, aspects that are not actually part of the representation itself. Thus this way of conceptualizing images must be accompanied by a concept of fiction. If pictorial representation, as Gombrich suggests, relates to our mental concepts rather than any external 'reality', this opens up the possibility of images of non-existing phenomena that the spectator to some extent is ready to treat *as if* they were real.

Wollheim's notion of seeing-as

Wollheim (2015 [1968]) offers an interesting critique of the notion of depiction outlined above. Wollheim enquires into the question of what makes a work of art, and therefore, his interest is not solely on the issue of depiction. Rather, he considers a range of quite different types of artworks, such as operas, poetry, pictorial works and more. Wollheim discusses three different views one may have about works of art, namely that they are objects, that they are ideal or mental objects, or that they are purely phenomenal or presentational objects. All three views are wrong, he claims. According to the first, it would be possible to identify a work of art as a particular and singular physical object. This view, argues Wollheim, is wrong because certain works, such as *Der Rosenkavalier* (the opera) or *Ulysses (*the novel) are still considered works, even though there is no singular physical object. In the case of *Ulysses,* we may say that there is an original manuscript accompanied by a number of copies, and in the case of *Der Rosenkavalier*, we may point out a script and a number of performances. But if works of art are not physical objects, what are they? According to the second view, they are ideal objects that reside "in the mind or some other spiritual field, at any rate in a region uninhabited by physical bodies" (Wollheim 2015, 24 [1968]). This view is also wrong because it ignores the medium that is necessarily involved in the work of art. The third view differs in that it considers a work of art as a completely phenomenal or presentational object that consists only of sensible properties and has

"no properties (for instance dispositional or historical) that are not open to direct and immediate observation" (Wollheim 2015, 24 [1968]). According to Wollheim, this view is also wrong in that it cannot account for important aspects of our interpretation of artworks, such as style, and genre. The problem with these views is that there is more to a work of art than each of them can explain. This also has implications for how we understand representation[2]. What an artwork represents cannot be accounted for by considering only the properties strictly belonging to the physical object itself. On the other hand, this question should also not be completely divorced from it. Wollheim claims that seeing a representation involves seeing both the medium (the represen*ting* object) and the motif that this supposedly represents. He calls this seeing-in, and describes it as seeing Y (the motif or what is represented) in X (the medium). This way, Wollheim's account differs from Gombrich because seeing-in does not necessitate a shift in attention between the represen*ting* object and the represen*ted* motif. Wollheim (2015, 142 [1968]) argues "(…) if I look at a representation as a representation, then it is not just permitted to, but required of, me that I attend simultaneously to object and medium." This term seeing-*in* implies that the motif is in a way not external to the representational object or medium, but rather something to be identified within it. In order to understand this in more detail, the next section considers Husserl's account of image consciousness.

Phenomenology and representation

Wollheim's notion of representation is indebted to a particular philosophical movement, namely phenomenology. Therefore, it is worth briefly introducing the German philosopher and phenomenologist Edmund Husserl's account of the ways in which we experience images. Husserl's phenomenology is not concerned primarily with works of art or, more broadly, objects that take part

[2] Wollheim's argument is not only concerned with the issue of representation, but more broadly the ontological status of artworks. Although his theory can potentially shed interesting light on current ontological discussions around games, this is beyond the scope of this dissertation. For a similar discussion on types and tokens, see Debus 2019.

in a communicative act, but rather with the ways in which the world becomes available to our consciousness. Still, he addresses issues concerning the experience of works of art in a range of texts, which was posthumously published as a collection entitled *Phantasy, Image Consciousness and Memory* (Husserl 2005 [1904]). The current discussion concerns only the aspects of Husserl's phenomenology that are about artistic or communicative representation.

According to Husserl, our consciousness of the world is guided by intentionality, meaning that it is about something in the world. Following this, the concept of apprehension describes how our consciousness is intentionally related to an object in the world. In other words, it is an interpretive act with which we make sense of what we perceive as particular instances of conceptual types, such as trees, the smell of flowers etc. (Shim 2011). However, unlike the ways in which we experience other things in the world, making sense of a picture is a three-fold experience involving two apprehensions. First we perceive the physical canvas of the picture (the physical object or image thing) through which we see a depicting object (the image object), and second we see in this depict*ing* object a depict*ed* object (the image subject) (Stjernfelt 2007; Kurg 2014; Eldridge 2018).

If I look at the picture *Green line* by Henri Matisse from 1905 for instance, I see this as a physical canvas covered in paint, but also as the head and shoulders of a woman. I may even see a particular woman, namely Amélie Matisse, the wife of the painter. But seeing this involves me seeing the particular configuration that directly appears to me on the canvas. This depict*ing* object is a woman who appears with blue hair and a green line across her face and around her eyes and I can see this appearance of a woman without necessarily thinking that this is supposed to suggest that the depict*ed* woman has blue hair and a green line on her face, though this line is a very significant aspect of the image. We can therefore see how, according to Husserl, experiencing depictions differs from our experience of other things in the world. Of course, the only thing we perceive in a strict sense is

the physical object of the picture. This physical object, however, functions as a trigger or instigator of a more specific form of apprehension through which the image object appears (Kurg 2014).

According to Husserl, the image affords a particular experience, since what we see is there, internally, in the physical object itself. This also distinguishes images from symbols more generally. In what Husserl calls image consciousness, we see the subject matter *in* the image object, whereas in symbol consciousness, the symbol refers to the subject externally and the subject is therefore not seen as if present in the image. Kurg (2014, 53) describes this distinction in the following way: "the symbol points beyond to an object foreign to what appears internally but the image points to a similarly formed object, to an analogous object presenting itself in the image (…). More importantly, the image (and not the symbol) points to another object through itself". There are two important features of this idea of *seeing-in*, namely that the image object must in some respect resemble the image subject, but also that they cannot be identical. The reason for this is that image consciousness involves a conflict between perceptions and intentions. This conflict appears between the physical object and the image object in the sense that we cannot experience both the appearance of the image and the physical object at the same time, since these two experiences have the same content. But conflict also appears between the image object and image subject exactly because we experience it as a representation of something and not the thing in itself (regardless of whether this is a particular, generic [or/of] even fictional thing, and regardless of whether there is a perfect resemblance between the image object and image subject) (Kurg 2014).

Therefore, with pictures, a physical object appears to our normal perception, whereas we perceive the image object 'as if' it actually appears to us directly. Finally, the image subject is always absent – it is what the image object is about, but is not itself present in the image. This is a special kind of absence that is unlike the one of symbol consciousness in which the subject is simply absent

in the sense of being external to the symbol. With images, the absence of the image subject can instead be understood as a non-presence or non-appearance (Eldridge 2018).

Finally, according to Husserl, the experience we have when we perceive images is also unlike pure imagination (or phantasy). When we imagine something, we perceive it 'as if' it were really there and present for our perceptions. We see it from a particular modal way and point of view. Imaginations are thus not mediated by anything. Rather, intention is related directly to the thing in itself, only with imagination, this thing is not actual. While Husserl initially held that imaginations involved mental images, he later rejected this idea (Stjernfelt 2007; Kurg 2014; Eldridge 2018).

To sum up, images are experienced in a way that not only differs from normal perception but also from the experience of symbols as well as fantasy. Husserl (2005, 37 [1904]) describes the aesthetic contemplation of images in the following way: "Universally, the play of phantasy is set in motion in such a way so that we become immersed in the world of the subject, as when, upon seeing the pictures of Paolo Veronese, we feel ourselves transplanted into the magnificent, opulent life and activity of the grand Venetians of the sixteenth century;" still, these fantasies are somehow bound to the image object and "interest always returns to the image object and attaches to it internally, finding satisfaction in the manner of its depicting". We can see in this description a tension between the experience of a *world* (i.e. Venice in the 16th century) to which the spectator can imagine herself transplanted to, and the experience of the medium (as in the represen*ting* object*)* itself that governs the ways in which this world appears to us and what we can see in this world.

This ambiguity present in the experience of seeing images is also present in Brough's (2010) discussion of phenomenology and film. Brough argues that phenomenology not only offers us a way of understanding how we experience (moving) images, film itself can be understood as a phenomenological lens. He builds this argument on Husserl's notion of epoché or suspension of our 'natural attitude' towards objects in the world. This natural attitude is characterized by a naïve taking

for granted of the ways in which the world is given to us, but can be suspended if we bracket out these judgements (Moran and Cohen 2012). According to Brough (2010, 194), film can present the world to us in a similar way: "We take a seat in a darkened theater – already a kind of bracketing – and focus our attention on what unfolds on the screen. What we see there is an image, not reality (…). Because it is not something real, the film image effectively forces a suspension of the natural attitude; it represents the real to us in a way that does not call for action and participation. To see a film, then, is to enter a cinematic epoché". Brough furthermore describes the film spectator as a disinterested spectator. This disinterest should not be understood as a lack of emotions towards the characters and events that unfold on the screen, but rather as a "quasi-feelings", or "as-if emotions" that we can experience while we are still in a way that "takes us out of the natural attitude, turns us into spectators, and lets us contemplate the world as phenomenon" (2010, 196). Images then function as a way of estranging or distancing the spectator from the world of the image. While we perceive the world of the image *as if* it were there, our consciousness of the image object still makes this world in a way not-present, thus reducing us to a spectator.

However, it is not easy to apply this thinking to the realm of games. While games can definitely suspend our natural attitude in the sense that they can present us with worlds and objects within this world that are not given in their usual way, the notion of a disinterested spectator is seemingly more problematic. After all, games do exactly represent worlds in ways that call for action and participation, and these actions are given meaning within the game world. As a player, I am not a disinterested spectator of the events unfolding on the screen, but, at least to some extent, am implicated in them. This will be discussed in further detail in the following chapter.

Goodman's nominalist account of representation

In the following, I review a theory of representation that differs quite substantially from those discussed above. Goodman (1976) explores various forms of artistic representation with the aim of

proposing a general theory of symbols. While his theory shares some assumptions with other philosophical and theoretical perspectives (such as phenomenology and semiotics and philosophy of art), Goodman does not situate his theory of representational in a broader theoretical landscape. He acknowledges existing theories on the matter such as those of Peirce (which I will discuss shortly), Cassirer, Morris and Langer, but refuses to discuss them in more details "(…) since any attempt to trace the complex matter of my agreements and disagreements with each or even any of these writers would give a purely historical matter disproportionate and distracting prominence" (Goodman 1976, xiii).

Goodman's own theory rests solely on the idea of convention and therefore he aims a harsh critique at the concepts of resemblance and mimesis. Resemblance, he argues is neither a sufficient or a necessary condition for representation. First of all, resemblance is reflexive, meaning that if A resembles B, then B also resembles A. However, while we might agree that a certain picture represents a particular person, we would seldom say that this person then also represents the picture. Similarly, if we have two identical items, say cars on an assembly line, we also do not consider them representations of one another. Moreover, Goodman argues, the notion of resemblance in itself does not really explain anything at all, as everything can be said to be similar in some respect. But Goodman's critique is even more radical: The whole idea of representing the world 'as it is' presupposes that it would be possible to isolate some objective essence of an object. In Goodman's view, the eye is not an innocent receptor of the world but "a dutiful member of a complex and capricious organism". Therefore "Not only how but what it sees is regulated by *need and prejudice*. It selects, rejects, organizes, discriminates, associates, classifies, analyzes, constructs. It does not so much mirror as take and make; and what it takes it sees not bare, as items without attributes, but as things, as food, as people, as enemies, as stars, as weapons. Nothing is ever seen nakedly or naked." (Goodman 1976, 7 my emphasis). In other words, we can't escape being biased in our perception of

the world. We don't just see things. We see them *as* things. Furthermore, this seeing-as is governed by our needs and prejudices in a particular context. This view may be considered as in line with Husserl's (2005 [1904]) phenomenology if we translate Goodman's idea of 'seeing-as' into the notion of intentionality. However, Goodman is more radical than Husserl in the sense that his constructive nominalism does not accommodate the phenomenological idea of bracketing and perceiving the thing in itself.

Goodman's idea of needs and prejudices may be particularly applicable to the context of game representations, where it is difficult if not absolutely impossible to consider representations as distinct from the properties that they are given by the particular game context. We see the demons of *Doom* (id Software 1993) are enemies because they are encoded as antagonist entities which constitute a threat that we need to defeat if we want to continue playing. One the other hand, the meaning prescribed by the game itself does not sufficiently explain the ways in which we can make sense of them. In other words, they are more than simply a mechanical threat in the game, as they also evoke familiar tropes from horror movies.

Having rejected simulations and resemblance, Goodman then argues that denotation is the primary principle that governs the relationship between represen*ting*- (symbol) and represen*ted* object. Although Goodman applies the terminology of a semiotician (which will be discussed in more detail shortly), his theory of representation is in many ways quite distinct from the semiotic theories such as those proposed by de Saussure, Peirce, Barthes and Eco. Goodman does not offer an exhaustive definition of denotation, but describes it simply as the relationship between a predicate, such as 'Winston Churchill', or 'Prime minister of the United Kingdom' or even 'man', and its bearer. Denotation is therefore in a way free, since I can – in principle at least – ad hoc stipulate that any predicate denotes any object at will. Of course, this does not guarantee a successful act of communication. In other words, while the relationship between a label and its bearer is arbitrary in

the sense that it does not stem from any intrinsic properties, the choice of predicates we use often rests on conventional symbol systems. Finally, it is important to note that denotation applies to linguistic predicates but, in principle, also to any other kind of medium. A piece of music, say Shostakovich's so-called *Leningradskaja symfonia (Symphony no. 7)*, may denote the German siege of St. Petersburg (former Leningrad) during World War II. A picture of a crooked-nosed man wearing a top hat may denote the author Hans Christian Andersen and so forth. In other words, any kind of object – a picture, a word and a brick for example – can qualify as a symbols in a given system.

However, Goodman also proposes a second form of reference – what he calls exemplification. Exemplification is subordinate to denotation and describes the ways in which an object that is denoted by a predicate may refer back to this predicate. For example, I may attach the predicate 'book' to an object, and this object then in turn exemplifies the predicate 'book'. If anyone were to ask me for what the predicate 'book' is used, then I may point to this particular object as an example. Similarly, the predicate 'red' may denote a range of things in the world, for example a particular rose, blood, a classic British telephone booth and so on, and if anybody asks what does the word 'red' mean, we may point to all these things as examples of the predicate red. Exemplification, then, is a mode of reference that is concerned with the predicates we assign to various objects in a given context, and how these objects, in turn, function as examples of the properties associated with a particular predicate. Denotation and exemplification then differ in direction, and exemplification is always subordinate to denotation (see ***FIGURE 2***). Therefore, Goodman describes exemplification as "possession plus reference" (1976, 53). In principle, an object may possess many different properties in the sense that we would theoretically be able to ascribe an infinite number of possible predicates to it, but it only exemplifies particular predicates in particular situations. A fabric swatch may be used as a sample of a roll of fabric and as such be said to exemplify certain properties of the roll, such as

its color and weave. Other properties of the swatch, for example its size or its name are not said to exemplify anything regarding the roll in this particular context.

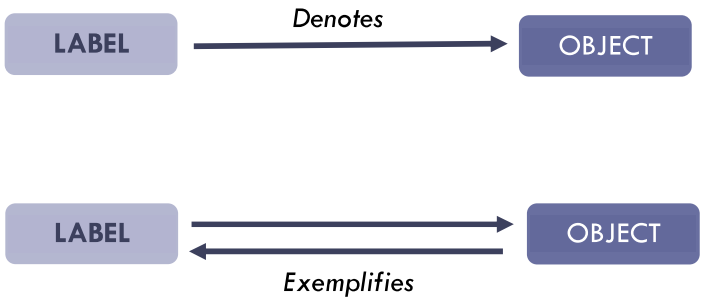

FIGURE 2: Goodman's (1976) notion of denotation and exemplification.
Note the change in direction. If a label denotes and object then this object exemplifies the things that is denoted by the label.

Therefore, objects may exemplify certain predicates that we may attach to them. To the nominalist Goodman, the main issue is not whether the object actually possesses a property, and in what sense it possesses this property, but rather the fact that we do use predicates about objects: "(…) while a picture denotes what it represents, and a predicate denotes what it describes, what properties the picture or the predicate possesses depends rather on what predicates denote it." (1976, 51). In other words, a picture only possesses the property 'redness' in the sense that it is denoted by the predicate 'is red'. This however, also makes it possible to talk about what is commonly referred to as 'figurative' properties, such as 'sadness', 'happiness' etc. While it does not make any sense to say that a picture is literally sad, we may still say that it expresses sadness in the sense that it is an example of things that can be described by the predicate 'is sad'. In short, the picture therefore comes to exemplify sadness in the same way that it may exemplify the predicate 'is a picture of a dreary landscape', for example.

Predicates can refer to particulars such as Winston Churchill, but they can also refer to more general classes such as 'humans', 'trees' etc. But it is also perfectly possible for a predicate to refer to qualities that have no physical extension, such as redness and sadness, but also to phenomena that we usually describe as fictive, for example Santa Claus (particular) or fairies and unicorns (classes). The latter is what Goodman calls a predicate with a null extension. Goodman thus bypasses what he calls "a notorious philosophical morass" (1976, 24) concerned with the nature of fictive phenomena. Rather, Goodman is concerned with the predicates we use for these fictive phenomena, and these, he argues, pose no problems as we can learn to use them without really understanding the things they denote, but simply by looking at examples of the predicates. To Goodman, it is not the representational objects in themselves that may be characterized as fictive, but the things that are represented. And regardless of whether there actually is such a thing as what a picture may represent, the picture should, in itself, be treated as a category of objects that refer.

Based on these discussions of samples and predicates, Goodman then formulates what he calls 'representation-as', which is a mode of representation that involves both denotation and exemplification. Representation-as is a two-step process that involves first the act of bringing forth an object that is said to exemplify a given set of properties (or rather labels describing these properties), and the act of making this object denotes something else. To represent a money lender as a 'loan shark' for example, means invoking a phenomenon (the shark) that may exemplify properties such as aggressiveness, ruthlessness, predator behavior, danger etc., and then stipulating that this phenomenon denotes a money lender. Goodman then unsurprisingly notes that representation-as is commonly found in metaphor and caricature. Furthermore, chapter 4 will demonstrate that it is also frequently used in simulations. However, as noted earlier, Goodman actually describes representation more generally as a fundamentally constructive act of imposing attributes on the things that we wish to describe, and as such, we may say that representation-as is actually not only something found in

specific domains such as caricature, metaphor and simulations, but in all representation. The notion of representation-as then brings forth two different questions we may ask about representation. First, we may ask 'what does this represent?'. The answer to such a question concerns what a given predicate (or representational object or sign) in a given context may be said to denote. But we may also ask a second question, which is focused more on the target of a predicate: 'how is this represented?'. The answer to this question presumes that we have already established what a predicate refers to and that we can therefore ask what this predicate 'says' about its target. In other words, this answer will be about which properties of the predicate itself (beside the fact that the predicate stands for the target) are imposed on the target.

To sum up, Goodman proposes a general theory of representation that although it depends on convention, moves outside the realm of strictly linguistic representation. In fact, in comparison to the field of semiotics, all in all, Goodman does not seem very interested in language, but exerts most of his energy on arguing how conventionalism is applicable to pictorial arts, dance, sculpture and so forth. But Goodman goes even further than that and argues that we need to think about representation not only in terms of convention but also as an act of construction.

Critiques of conventionalism

Goodman's account of representation has been influential but has also been met with criticism. Walton (1974) challenges Goodman's basic idea that pictures, like linguistic predicates, are fundamentally referential. Walton argues that although some depictions might function as predicates, others do not. Instead, they function as props in what he describes as a game of make-believe. The basic claim of this view is that objects in the world can prompt certain imaginings in our minds. These prompters can be 'natural' objects (such as rock formations or clouds) or artificial (dolls and pictures, for example). Although Walton does not explicitly engage with Husserl's views on images and fantasy, his notion of image consciousness can be seen as an anticipation of Walton's idea of

prompters of imaginings (Cobos 2013). Moreover, both views rest on the idea of resemblance or likeness, which, according to Walton (Walton 1993, 23), can cause spontaneous imaginations that do "not involve agreements, stipulation, collective deliberation". In a critique of Goodman's work, Walton (1974, 253) therefore holds that "the fundamental function of representation then is not to *express* propositions, but rather to make them make-believedly *[sic]* true. This is a function which predicates do not have (although novels and poems containing them do). And the occasional use of representations as predicates is quite incidental to it". This critique contains two different conceptualizations of the represen*ting* object, but subsequently also two very different notions of fictions. While Goodman claims pictures are fundamentally denoting predicates that refer by means of pointing to something external to themselves (except in the rare cases where a picture is said to exemplify its own label), fiction is ultimately an issue that concerns the object that is denoted and not the predicate in itself. Walton on the other hand, holds the view that pictures (as well as other mimetic representations) are likenesses in the sense that their content is in themselves rather than distinct from them. As such, representations may prompt imaginations that are not about some external phenomenon, but about the represen*ting* object itself: "When Kate and Steve finish their snow fort, they do not merely imagine a (real) fort with turrets, a tower, and a moat; they imagine of the actual sculpted heap of snow, that *it itself* is such a fort" (Walton 1993, 25 emphasis in original). Since Goodman rejects such a view, the relationship between representations and imaginations that is so central to Walton's theory can be easily dismissed. After all, according to Goodman's nominalist view, it is perfectly possible for us to learn how to use predicates without knowing if there is such a thing in the world as this predicate refers to. A further discussion of fiction and the extent to which it is relevant to the project carried out in this dissertation can be found in chapter 4.

However, we may also observe another line of criticism that is directed towards depictive conventionalism more generally, and not only Goodman's theory of representation. One such critique

is offered by Abell (2005). According to Abell, depictive conventionalism holds that pictures are conventional in the same way that language is, namely arbitrary. Therefore, in order to assess the explanatory power of depictive conventionalism, we may compare the interpretation of pictures and linguistic sentences. In the case of pictures, a general pictorial competence – that is the ability to interpret novel pictures without prior instruction – as well as the ability to visually recognize objects are sufficient and necessary conditions for the interpretation of the object of a picture. This does not imply that the ability to recognize objects of one pictorial system means that one can interpret objects in all pictorial systems, nor does it imply that the viewer is necessarily able to recognize a particular object in a picture. General pictorial competence, she stresses, may indeed be relativized to particular pictorial systems and, likewise, the inability to recognize particular objects does not entail that the viewer is not able to recognize a type of object.

Similarly, in the case of language, a general linguistic competence – that is knowledge of the syntactic rules of a language – as well as knowledge of the semantic rules governing the words of a language are sufficient and necessary conditions for the ability to interpret a sentence. But here, Abell argues, the similarities between the interpretation of languages and pictures come to an end. Whereas visual recognition plays a pivotal role in depictive generativity, it plays no role in linguistic generativity. Understanding what a given combination of letters represents does not help us understand what other combinations represent. Furthermore, pictorial competence requires relatively little exposure compared to what is needed to acquire linguistic competences. Based on this, Abell argues that the view that pictures represent in virtue of some arbitrary extrinsic rules must be false. She then evaluates another possible version of conventionalism that holds that pictures represent in virtue of a set of conventions governing not the representation of objects but rather of basic properties such as color, shape, size etc. This view she calls property conventionalism. According to this view then, the ability to interpret an object in one picture also makes it possible to interpret a different

object with some of the same properties, as long as these properties are depicted according to the same conventions. This means that the viewer only needs to learn a limited set of basic conventions before being able to interpret a wide range of depicted objects. Abell labels this view 'property conventionalism'. However, according to Abell, property conventionalism soon also runs into some basic problems. First of all, properties can never be represented in themselves, but only as instantiated in an object. Therefore, depictive conventions can only be ascribed to the level of pictures that are not in themselves interpreted as depicting things. Abell calls this level the sub-pictorial parts and provides as an example the individual dot in a rudimentary depiction of a face, which when considered as part of a whole, may represent an eye, whereas considered in isolation does not yield any particular interpretation. However, here we run into a second problem because on this level, the idea of conventions governing the ways in which these parts represent does not really make sense, exactly because these parts are not, in themselves, representational. This makes the whole idea of property conventionalism fall apart (Abell 2005).

However, while Abell points out some very significant weaknesses in representational theories resting on the premise of convention, her own theory of depiction explains representation on the basis of resemblance. However, this theory is only concerned with kinds of representations that we may label 'figurative', that is pictures that represent the properties of objects that are available to our visual sensory apparatus. However, not all images represent these kinds of targets. A map of the world may represent countries in terms of their political systems, and a diagram may represent the process of photosynthesis. Both the map and the diagram represent by means of information perceived visually, but neither can be said to depict in Abell's sense. This is, of course, not a problem with Abell's theory, because she does not intend it to cover such phenomena, but is interested in a completely different set of images. But it poses a problem for the work carried out in the present dissertation, which is concerned not with artistic pictures, but with representation in games. A similar

critique has been aimed at Walton's views, discussed earlier. Lopes (1996) notes that Walton's theory primarily takes into account pictures in the sense of (mimetic) pictorial works of art, while disregarding the vast amounts of pictures that are used to convey information and, as such, have a use that is very different from Walton's game of make-believe (Lopes 1996).

While some games may present figurative images comparable to the kinds of images that Abell and Walton are concerned with, their visual representations cannot be reduced to this. A possible solution would be to distinguish between at least two different classes of visual representations that work and represent in two different ways. One type consists of images that may represent information about objects and their properties, but where the perceptual process by which the images are consumed is not identical to the perceptual processes by which we would see these properties in the objects themselves. In the other class we may count images that represent primarily visual information about objects and their properties (in other words, their outer appearance), and where the process by which the image is consumed coincide with the process by which these objects and properties themselves would be consumed. The question is if we can also say that these two classes are interpreted in fundamentally different ways, the former based on convention and the latter based on resemblance? This line of thinking would be difficult to pursue, because this would entail being able to distinguish one from the other. But based on what criteria? A possible solution could be to consider interface elements such as buttons and icons as belonging to the kind of visual representation that are primarily informational, whereas the represented game world would belong to the mimetic type of visual representations that prompt imaginations. However, as Jørgensen (2013) notes, this distinction is not easily made, and even the game world may in some respect be considered an informational interface element. This is not to say that the views discussed above cannot be applied to games in fruitful ways, but simply that it is not a beneficial direction to take in the current project.

Pictorial realism

Before moving away from the topic of depiction, I will briefly consider the implications of Goodman's radical conventionalism for the notion of realism. In pictorial representation, realism is often associated with the notion of correctness or accuracy. As such, a picture may be said to be realistic if it represents it subject matter in an accurate way. But what does accuracy mean in this context and how do we determine when accuracy is satisfied? A stick figure of a man may be accurate in the sense that it depicts an upright figure standing on two legs who has two hands and a head, but most of us would probably not think of the stick figure as a realistic depiction. What about da Vinci's Vitruvian man? This drawing may be said to be even more accurate than the stick figure, because it also represents a human as having eyes, fingers, toes, genital organs, ears, a nose and a mouth as well as hair. It even uses simple drawing techniques to represent the human body as a three-dimensional curved surface. On the other hand, if the viewer does not understand that this picture depicts a human body simultaneously assuming two different positions, then this picture may be understood as inaccurate in the sense that humans generally are not four legged and four armed. These two examples show that objects may have many properties, ranging from their visual appearance and inner structure to their placement and configuration at a given time. The question therefore remains which kind of properties need to be accounted for in order to achieve a realistic representation, and which properties would negatively affect our willingness to assess a representation as realistic. Finally, as described earlier, the properties that we perceive objects as having also depend on our own position vis a vis this object, as well as the context in which the object appears.

Following Goodman (1976), we may instead argue that realism is a matter of habit. Realism then becomes not something that we can ascribe to the relation between the representational object and the thing represented, but rather to how readily we interpret the representation. According to Goodman, certain systems for representation become standards at a given time and place, and the

coding scheme we employ for their interpretation is soon habituated to the extent that it becomes transparent to us and we read the image without much effort, and we therefore come to consider it a realistic representation. However, the notion of standard representational systems still does not explain how, among the various systems of representations that we may be equally familiar with, certain systems seem more realistic than others.

Instead, Kulvicki (2006) suggests a theory of pictorial realism that draws on the notion of *verity*. Like Goodman, Kulvicki's view of realism is not so much about the relation between representations and objects in our material reality, but rather between representations and our perceptual conceptions of things in the world. Kulvicki does not offer a strict definition of what counts as a perceptual conception but describes it as "those properties in one's conception of an object that one can perceive it as having" (2006, 346). While not all properties of an object may be strictly perceptual properties, these conceptions may still be triggered by perceptual properties. Kulvicki's notion of realism thus acknowledges that different representational modes depict things in different ways, highlighting certain properties while ignoring others, but maintaining that we may nevertheless be able to make judgements between these systems about the extent to which the properties of depicted objects correspond to the properties of our perceptual conceptions of things.

One of the benefits of Kulvicki' theory is that when realism is not assessed as an absolute in terms of our relation to our material reality, this allows for representations of 'fantastic' phenomena such as dragons and flying cities to be deemed realistic. While we may never have seen a dragon, we have some sort of an idea of their appearance. This idea may change over time and vary from culture to culture, but it nevertheless provides us with some kind of basis on which we can judge the realism of a dragon-representation. Another benefit is that it enables us to account for the ways in which different representational modes are affected by new representational techniques. Since their emergence, photography and videography, for example, have often been treated as superior

representational modes when it comes to pictorial realism. However, there are distinct differences between typical human perception and the ways in which the camera can capture objects in terms of color, sense of depth, limited field of view etc.). For a discussion of the differences between human binocular vision and photography, see Nichols (1981, 20). Drawing on Kulvicki we may consider whether the ways in which an object represented in photography comes to be seen as more 'scientific' or 'objective', than how it appears in other modes of representation or to the human eye, for example. At least, we can trace the impact that photography and videography have had on other modes of representation. The point of photorealistic painting is precisely to paint objects as captured by the camera rather than the eye. Similarly, in many games, we may find a 'virtual camera' through which the game world is mediated to the player. Even though this is strictly speaking not a camera, it still often employs a number of representational conventions, which we may be familiar with from photography or cinema. In *The Witcher 3* (CD Projekt Red 2015), the virtual camera represents the game from a high-angle point behind the playable figure Geralt, as if it were a physical camera hovering behind him mounted on a gib or crane. Similarly, even though the camera is virtual and not material, the game world is represented through a smudged camera lens, which is even, at some points, used to make it difficult for the player to orient herself in the game world, as antagonistic non-player characters may throw mud at the lens. These effects draw computer games into a representational realm with which the player is already familiar, invoking cinematic standards of realism, but it also suggests a certain worldliness concerning the pixels on the screen. Yet, at the same time, it can also be interpreted as a humorous, self-reflexive comment on the artificial, computer-modelled quality of this game world.

Another way to approach the inadequateness of Goodman's account of representation is proposed by Mitchell (1995). Where Goodman describes realism as a representational system that is considered the standard at any given time, Mitchell discusses it in terms of ideology. Representational

conventions are not simply preferred methods, but also carry with them particular world views. Western traditions of realism, he asserts, typically ground their authority in nature and science (think of André Gill's famous caricature of French author Emile Zola studying a human being through a magnifying lens), but importantly always for an underlying political purpose. Similarly, he reads Alberti's treatise (2013 [1450]) of perspective painting as a description of the ideal political order in which the central centric ray assumes the role of the sovereign ruler, whereas the surrounding rays become his ministers. Mitchell reminds us that realism is not only about conventions or the human sensory apparatus, but about which aspects of the world as well as the objects, beings and events in the world we deem important to represent, and about the ways in which this should be achieved if we want these representations to be honored with the emblem of realism. The connection between ideology and representation is discussed further later in this chapter.

REPRESENTATION IN SEMIOTIC THEORIES

As a field dedicated to the study of signs, semiotic theory unquestionable provides an extensive and valuable conception of representation. The semiotic tradition has a long history and can be traced back to pre-socratic philosophy (Deely 1982, 8). However, modern semiotics are often said to evolve out of the works of two 'founding fathers', namely C.S. Peirce, whose theory of signs is closely related to his ideas on phenomenology, cognition, logic and epistemology, and de Saussure, whose 'semiologie' concerned primarily language as a structured sign system. For this reason, there are also significant differences between the two sign theories.

Peirce offers a model of a sign that consists of three 'parts', namely the *representamen* which is something that stands for something else, *the object*, which is that which the representamen refers to, and finally the *interpretant* which is the meaning produced in somebody's mind. This interpretant can also become the representamen in a subsequent semiotic process. In addition to this, Peirce also distinguished between what he called firstness, secondness and thirdness. In relation to the

representamen, firstness is associated with *qualisigns,* which describes a mere quality, for example, the quality of being soft, whereas secondness is related to sinsigns or *tokens*, which is the manifestation of that quality in an actual existing thing, and finally thirdness is associated with what Peirce calls *legisigns* and describes as general types that we have agreed have certain meanings (Nöth 1995, 44). However, the distinctions between first-, second- and thirdness also apply in the relation between the representamen and the object. As such, the notion of icon describes a representamen that signifies by its own qualities alone (firstness) and not due to its relation to anything other than itself. According to Nöth, Peirce stresses that the notion of a pure icon is only a theoretical possibility, since in reality, the icon always takes part in the whole triadic process of signification (Nöth 1995, 122). Indexicality describes a relation between representamen and object that is characterized by secondness and consists of cases where there is a real, physical connection between representamen and object autonomous of the mind of the interpreter (Nöth 1995, 144). An obvious example of indexicality is smoke, which may be seen as a sign of fire because fire may be the physical cause of smoke. Likewise, the seismogram indexically signifies the movement of the ground since the diagram shows ink traces of a pen with fluctuations caused by ground motion. Finally, the third category consists of symbols, which are representamens whose relations to their objects are arbitrarily determined. In addition, the trichotomy of first-, second-, and thirdness also applies to the notion of interpretant. Peirce proposes three main classes of interpretants. The rheme belongs to the category of firstness and can be explained as a sign that describes any kind of quality or possible object, but does not assert any truth value to it. A dicent on the other hand, represents actual rather than merely possible objects and, as such, it informs us about something. The dicent is therefore categorized under the notion of secondness. Finally, the argument is a sign that imposes some rule or law on its object. Because of this broad conceptualization of signs, it becomes possible to think of a range of different

processes as examples of semiosis. It is therefore no surprise to see Peirce's theories applied to biological processes, non-human animal communication, and computation to name a few.

From phenomenology and logic to structuralism and culture

de Saussure proposed a very different sign theory according to which a sign consists of two interdependent parts, namely the signifier and the signified. The signifier is a sound image (of a particular word for example), whereas the signified is a concept. There are important aspects to note in de Saussure's theory. First of all, de Saussure's idea of signified is not an object in the Peircean sense, as it cannot be divorced from the signified in the same way that Peirce's object can, but remains fundamentally connected to it, as two sides of a coin. In de Saussure's theory, both signified and signifier are mental entities and signifier should therefore also not be understood as the material form. Similarly, concepts are not fixed entities of meaning, but rather acquire their meaning based on the system of concepts in which they are situated. As such, de Saussure's concept of signs operates within an enclosed system that is independent of the material, empirical world. Following this, it is important to stress that de Saussure's semiotic theory, unlike Peirce's is not concerned with explaining individual cognitive processes, but rather language as a social institution (Nöth 1995, 60).

While de Saussure was primarily interested in language as a superior sign system (Yakin and Totu 2014), other scholars have harnessed his theories for wider application. Hjelmslev, for example, proposed an elaboration of de Saussure's theory, adding further layers to the dyadic model of signifier and signified. Similarly to de Saussure, Hjelmslev distinguished between what he calls the expression plane (signifier) and content plane (signified). In addition to this, he stratified each of these two planes, so that his model included the expression-form and the expression-substance on one plane, and likewise the content-form and content-substance on the other plane (Nöth 1995, 67). Furthermore, Hjelmslev proposed the notion of *purport* or matter, which he described as the "(…) thought itself" which "(…)exists provisionally as an amorphous (…) mass" (Hjelmslev 1961, 50). This purport may

be given a variety of forms that ultimately depend on the linguistic system in place. As an example of this, Hjelmslev discussed the differences between the ways in which colors are categorized and labeled in different languages. Languages, Hjelmslev argues not only differ in the terms that they use for various concepts, but also the ways in which these concepts are constructed and distinguished from one another. The notion of purport not only applies to the substance plane, but also to the expression plane, where the same expression-purport may represent widely different content-purport in different languages (Hjelmslev 1961, 56). This basic model then allowed him to propose the notions of a connotative semiotic[3] and a meta-semiotic. A connotative semiotic has an *expression plane* that itself constitutes a semiotic consisting of an expression plane and a content plane, whereas a meta-semiotic has a *content plane* that similarly constitutes a semiotic consisting of an expression- and a content plane. This is in contrast to denotative a semiotic, which has planes that do not consist of other semiotics.

Hjelmslev's rather abstract theory of connotation was applied by Barthes and popularized in his readings of a variety of cultural products such as fashion and advertising (Nöth 1995). However, Barthes not only adopted Hjelmslev's theory but also significantly reworked it, in particular by connecting the idea of connotative meaning with ideology. In an interpretation of a cover image of the magazine *Paris Match* depicting a black soldier wearing a French uniform with one hand raised to his head and his eyes fixed on a point in the air in front of him, Barthes notes that this is only the denotative meaning of the image. The image also communicates a secondary message that functions as an affirmation of the French Empire by implying that it is not, after all, an oppressive force in relation to its colonies but rather a union under which all its citizens, regardless of color, willingly and faithfully serve. However, this secondary meaning is only communicated because the signifier is in itself already formed by a semiotic system, and in the present expression one can then find a range

[3] Hjelmslev uses the terms 'semiotic' in singular to denote what roughly can be described by the more common term language (if used in a broad sense to not only refer to linguistic languages) (c.f. Nöth 1995)

of nested meanings. Saluting the flag, for instance, is a common motif that signifies patriotism. Similarly, the soldier is often constructed as the brave son of the nation. On the front of *Paris Match* these meanings are reiterated and add a secondary layer to the image of the black soldier.

It is important to note that these connotative meanings are not hidden or obscure, but are highly visible. The power of an expression like the abovementioned cover of *Paris Match* is precisely that the secondary meanings are explicit but in a "half-amputated" form "deprived of memory" (Barthes 2012, 232 [1957]). This is what Barthes calls a myth: "We reach here the very principle of myth: it transforms history into nature. We now understand why, in the eyes of the myth consumer, the intention, and adhomination of the concept can remain manifest without appearing to have an interest in the matter: what causes mythical speech to be uttered is perfectly explicit, but it is immediately frozen into something natural; it is not read as a motif but as a reason" (Barthes 2012, 240 [1957]). In other words, with this iconic image of a saluting black soldier, the cover of *Paris Match* renders the French colonization of north western Africa as a neutral fact deprived of its political history. The image therefore manages to convey a particular political message about the Empire in a way that at first sight seems like a perfectly innocent and natural image of one of the Empire's soldiers saluting the flag.

The autonomy of the text

The notion of text discussed in the following is typically associated with post-structuralist thinkers such as Bulgarian-French philosopher Julia Kristeva, and French philosopher Jacques Derrida Roland Barthes. According to Barthes (2009), the notion of text emerges from the encounter between the literary work and linguistic, anthropological, Marxist, and psychoanalytical disciplines, which bring with them a fundamental relativization of the work itself. Instead of providing a positive account of his concept of text, Barthes theorizes the concept in comparison with the concept of work. Therefore, the notion of text is difficult to pin down as anything more than what a work is not. This is, of course,

a deliberate choice on Barthes side, as his essay therefore not only describes textuality, but indeed stands as an example of this very notion of text. The comparison between work and text addresses seven aspects, namely method, genre, signs, plurality, filiation, reading and pleasure. According to Barthes, whereas a work is an object that can be found in book stores or libraries, (compared with Wollheim's account discussed earlier in this chapter), text is primarily a methodological field that is experienced only in an activity of production. Furthermore, unlike works, texts evade traditional attempts at classification. They also evade signification: while the work "closes upon a signified" (Barthes 2009, 237), the text is without closure. Texts are also plural and intertextual. They do not have only one meaning, nor several meanings. Instead they are open with networks of codes that cut across them. And where a work has an author, the author is only present in the text as a guest without any privileges. Furthermore, the work is an object of consumption in which the pre-made literary work is read as a commodity, whereas the text is an act of play. Finally, the work is associated with a sense of pleasure (plaisir) whereas he associates the text with the experience of jouissance. Moriarty (2014) describes the differences between these two senses of pleasure in the following way: "Plaisir pertains to the realm of an imaginary, unified subjectivity, a conscious identification of oneself in certain texts and values. Jouissance is the fragmentation, the loss, of this subjectivity".

While Barthes' notion of text is therefore relatively elusive, it is possible to distinguish it from the approaches to representation that are so far considered in this review. Barthes is not concerned with author intentions realized in messages that are communicated to the reader in a work of art, nor with the strictly formal elements of a work of art. Instead, he thinks of texts as a site of a plurality of potential meanings that the reader may play with or play up against. Here it is also important to note Kristeva's (1986) notion of intertexuality, which is inspired by Bakhtin's idea (1982) of dialogism. According to Kristeva, texts always exist in relation to other texts, in the sense that we make up the meanings of a text against other texts. As such, we should not read a text as an autonomous artifact,

but rather as an intersection or point in a larger system in which a variety of different texts and codes participate (Kristeva 1986). As such, in the concept of text, meanings are not finite and discrete properties of the messages communicated by the author or of the formal object of representation, but rather emerge in the intersection between the reader, the text and other available texts. As such, this idea of textuality not only describes a particular (and indeed very valuable) approach to literary analysis, but also unsurprisingly articulates a certain idealistic valuation of the relations between the reader and text. The reader is an individual free (and capable) of playing with the many meanings of the text, and the text is similarly capable of evading any attempts to be reduced to a member of a literary genre or category or even to a consumer object. Therefore, Barthes' concept of text is useful, not as a description of the status that works of art are actually given in our culture, but rather as a method for temporarily opening up the analysis of representation from the closed circuit of messages transmitted between sender and receiver, and for denaturalizing any assumptions about the work that might be implied by this. As we shall see in the next chapter, this concept of text has also gained some resonance in game studies.

IDEOLOGY AND REPRESENTATION

This review of the concept of representation has so far been devoted to theories of representation that seek to explain how representation is achieved, that is how the representational object (or the sign) relates to what it represents (its object, referent or even motif). This section studies the connections between representation and ideology. First, I will discuss the role of ideology in the encoding and decoding of media messages. After this, I will discuss the relations between the concepts of representation and ideology, and how different ideologies may inform the theories of representation discussed earlier in this chapter. Therefore, while it is beyond the scope of this paper to discuss in detail the notion of ideology, this section will focus on how the concept of ideology can, and in fact has been, applied in critical analyzes of representation.

Stuart Hall's work on representation must be understood through the lens of culture, which in fact is Hall's main area of interest. But to Hall, communication and representation are not simply phenomena that can be observed within a culture, but rather what constitutes a culture. This warrants further justification. Drawing on semiotics, Hall (1997) describes representation as involving two systems. One is a conceptual system that relates the different concepts in our minds with each other and thus gives them meaning. The other system is language, which connects the concepts with various signs, which Hall, building on Barthes, stresses are not only words, but also come in the form of images, gestures, objects and activities. Culture, Hall argues, can therefore be understood as being a shared conceptual and linguistic universe where members know how to translate – that is encode – concepts into signs and vice versa. This not only implies that the ways in which concepts are encoded are relative to a culture, it also means that what concepts are available in the first place, and the ways in which these concepts are positioned vis a vis other concepts, differ from culture to culture.

Hall also takes into account the social and economic structures underlying cultures and communicative practices. According to Hall's (1973) seminal work on the encoding and decoding of mass media discourses, the semiotically oriented question about the formal language of a medium and the more socially oriented question of the production, communication and reception of the messages of a medium are not two distinct questions. Indeed, Hall (1973, 1) asserts that they can be brought together in order to understand what he calls the "systematic distortion of the communication process".

Hall proposes a model for studying communication that is not unlike the ways in which one may approach other products, that is by studying their production, distribution and use – or even consumption. Still, the objects of communicative processes are not just products, but messages. And as messages, they are chains of symbolic vehicles that are organized and encoded in a specific way as well as distributed through a material apparatus. Therefore, the formal aspects of communication

occupy a privileged position in Hall's framework, but only to the extent that plays a determining role in the communication process as a whole. In this rather lengthy quote, Hall formulates it as follows, "The raw historical event cannot in that form be transmitted by, say, a television newscast. It can only be signified within the aural-visual forms of the televisual language. In the moment where the historical event passes under the sign of language, it is subject to all the complex formal 'rules', by which language signifies. To put it paradoxically, the event must become a 'story' before it can become a communicative event. In that moment, the formal sub-rules of language are 'in dominance', without, of course, subordinating out of existence, the historical event so signified, or the historical consequences of the event having been signified in this way" (Hall 1973, 2).

Hall describes the communication process involved in mass media as a circuit. We may enter this circuit on the level of what is usually thought of as the producer of messages, namely the media institutions. The production of messages is therefore framed by the knowledge and meanings pertaining to these institutions: the ways they organize the production and their routines and technical skills, but also the conceptions that these institutions may have about their audience. However, in order for the messages to be transmitted to the audience, they must be encoded into a form that is in accordance with the medium in question. What materializes is then a meaningful discourse. If we consider traditional news formats, they are not simply reporting events that have taken place in the world, but only those events that are deemed newsworthy and are assumed to be relevant to the audience. Furthermore, these events are then constructed according to the conventional rules and technical and material constraints that pertain to a particular media format, into a news story. Once distributed, the news story is then decoded by the audience. Once decoded, the message is again submerged into the societal structures from which it originally emerged, and, as such, the circuit is complete. This communicative circuit is visualized in ***FIGURE 3***. Consequently, an important consequence of this model is to be found in the notions of encoding and decoding. Hall, as mentioned

earlier, defines culture as a community in which meanings are translated into the codes of a given language in the same way, yet the employment of codes is still another distinct moment in Hall's model. This opens up for the possibility of miss-communication, in which we see a discrepancy in the encoding and decoding of a message. Whether or not a message is decoded in accordance with its encoding depends on the degree of symmetry or asymmetry between the encoder and the decoder, but also on the degree of identity between the codes employed by the encoder and decoder, respectively.

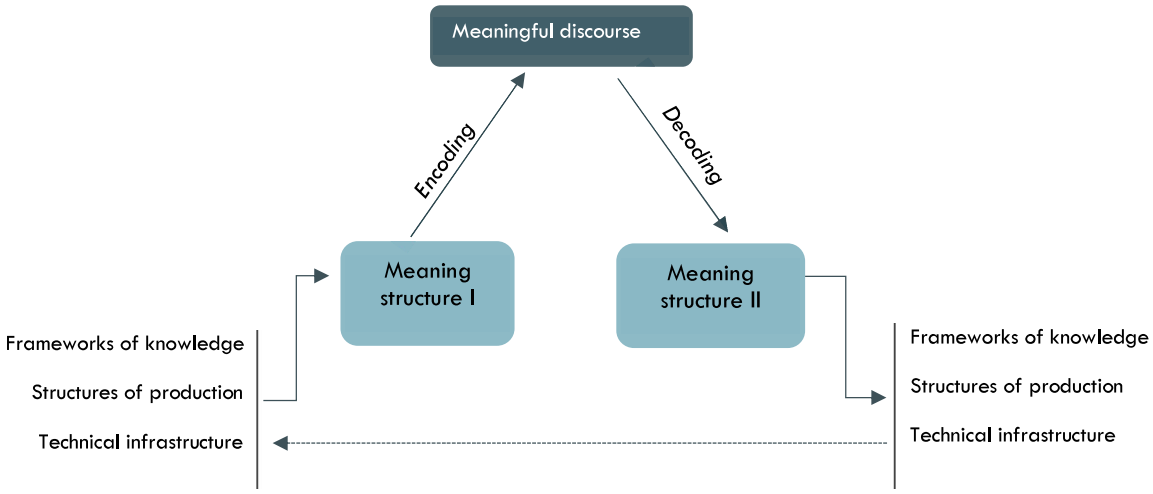

FIGURE 3: Hall's model of encoding and decoding.
My reproduction from Hall (1973)

The more diffused a set of codes is between producer and audience, the more conventional or stylized the coding scheme. Conversely, there is nothing to guarantee that messages are decoded in accordance with their encoding. Hall notes that signs are always polysemic, meaning that they can be interpreted in many different ways. This does not imply pluralism: "Any society/culture tends, with varying degrees of closure, to impose its segmentation, its classifications of the social and cultural and political world, upon its members. There remains a dominant cultural order, though it is neither univocal nor uncontested" (Hall 1973, 13). Hall draws on the notions of denotation and connotation

discussed earlier in this chapter. The ways in which a sign is combined with other signs, serve as a way to delimit its potential meanings to a preferred meaning. These preferred meanings "both have the institutional/political/ideological order imprinted in them, and have themselves been institutionalized" (p. 13). But there are other connotative meanings with encoding and decoding that reflect the wider cultural values and ideologies of the structures from which messages emerge. Hall proposes a typology for understanding what he provisionally calls misunderstandings. First, there are the misunderstandings that pertain to the level of denotation, that is problems connecting a linguistic sign to a concept. According to Hall, such situations are relatively unproblematic and represent a form of noise. A more complex form of misunderstanding can be found on the connotative level. Here Hall identifies three decoding positions. First, a reader may decode the connotative meanings of a sign fully in accordance with the coding scheme with which it has been encoded. Hall labels this position a dominant or hegemonic reading. Hall (1973, 17) writes: "The definition of a 'hegemonic' viewpoint is (a) that it defines within its terms the mental horizon, the universe of possible meanings of a whole society or culture; and (b) that it carries with it the stamp of legitimacy – it appears coterminous with what is 'natural', 'inevitable', 'taken for granted' about the social order". In the negotiated position, the reader is able to decode the connotative meanings of a sign and acknowledge these meanings as legitimate while she still operates with exceptions to these meanings. Hall observes that these readings operate through local or situated logics. In other words, they take the dominant ideology and adapt it into the local or even personal world view. Finally, a person who decodes from an opposing position, while recognizing the hegemonic decoding scheme, decodes the messages in a globally contrary way. That is unlike in the negotiated position, where meanings are adapted to local logic, the oppositional reader "detotalizes the message in the preferred code in order to retotalize the message in some alternative framework or reference" (Hall 1973, 18).

Hall's framework is valuable for the project carried out in the current dissertation as it conceptualizes the relation between the representation and what it represents as well as between the sender and the receiver, not in some idealized or formalized vacuum, but rather as situated within a socio-historical, political and economic reality. Yet it still accommodates the formal aspects of language as well as the techno-material basis and infrastructure in which messages are produced, circulated and received. That said, there are also challenges. First of all, Hall's notion of formal rules needs a bit of unpacking when it comes to games, which are not necessarily tied up on one particular medium but may intersect with a variety of media. How may we then think of this medium? In order to apply Hall's argument to games, we need to untangle the media concept a bit further, by provisionally making the distinction between the medium as a material object (or a set of objects) with accompanying material practices, and as a concept and a set of accompanying practices that are historically, socio-culturally and economically situated. I discuss this idea in further detail in chapter 5 and 6. Another challenge is that this dissertation deals not with messages in the traditional sense, but rather with games. The construction of games as representational objects capable of carrying messages therefore also involves taking into account that, as Aarseth (2011) notes, games consist of both a representational and a mechanical layer. This also means that decoding games needs to take into account the ways in which the game governs what the player can and cannot do, but also the ways in which the game makes certain actions and interpretations imperative whereas others remain idiosyncratic. This is discussed further in the next chapter.

Representational theories as ideology

In this section of the review, these norms are related to the notion of ideology. The concepts of representation and ideology are firmly linked. Before the notion of ideology came to be associated with Marxism, it was used by enlightenment philosophers in the 18th century to designate a rational method of reasoning about the world that was based on material sensation rather than metaphysics.

Mitchell (1995, 165) describes this idea in terms of an image theory of the mind according to which the material world impresses itself in the mind: "For Destutt de Tracy, the coiner of the word 'ideology', the correct reasoning process worked like an 'extensible telescope' that would be capable of looking back to the origin of any idea in a material sensation." Mitchell further describes how the notion of ideology, to counter-revolutionary thinkers such as Burke and Coleridge comes to describe exactly the opposite of de Tracy's concept of a science of ideas, namely a body of *false* images, whereas for them what characterizes worthy ideas (unlike the false images) is exactly that they can be "rendered only by the translucence of a symbolic form, never by a mere image" (Mitchell 1987, 167). Finally, as Mitchell describes it, the term ideology in Marxism is used in a similar negative sense, but this time for describing the specific ideas of the counter-revolutionary 'romanticists'. However, while de Tracy, according to Mitchell, used the telescope or mirror as a metaphor for ideology, Marx instead used the camera obscura. This is an important shift, notes Mitchell, because while at first sight this metaphor seems to reproduce the same conception of ideology as found in its original use (as a mirror image or an imprint of reality), Mitchell argues that we should actually understand Marx' use of the camera obscura metaphor not as a serious philosophical model but rather as a clever rhetorical device connoting exactly the same sense of (false) bourgeois world view that is contained within his concept of ideology: "All the claims about scientific accuracy would have left him [Marx] cold next to the plain fact that the camera was a leisure-class toy, a machine for producing new 'collector's items', portraits of well-to-do burghers, views of country houses, lady's amusements, and that it was produced for leisured gentlemen who could afford the luxury of 'floating philosophical visions'" (Mitchell 1987, 172). As such, the camera obscura metaphor not only describes but also exemplifies ideology. As we can see from Mitchells discussion, shifting notions of ideology are heavily influenced by basic theories of representation, either in the sense that representation provides a model of how the world enters our consciousness (as a mirror image), or in the sense that ideology

is described not only as false images, but also as images made into commodities for the diversion of the leisure class.

As we have seen, the notion of image may be said to function as a metaphor for ideology. Similarly, the concept of ideology also informs and underlies different theories of representation. Mitchell (1987; 1995), for example, discusses the ideological underpinnings of Gombrich's idea of mimesis as illusion. While on the face of it, Gombrich's account poses as a conventionalist theory of the image, upon closer inspection, it nevertheless rests on the idea of the image as a man-made natural sign that is capable of communicating not only to human beings but also to non-human animals (in the form of the decoy). Therefore, Mitchell scrutinizes the notion of illusion found in Gombrich's theory in terms of its connotations of mastery, power and 'othering'. If illusion is described as the successful deception, then the ability to render illusionistic images can be understood as an act of control over others. These 'others' are then those who supposedly take the representation for what it represents. They are animals such as the hen sitting "(…) on a marble egg in the Pygmalion hope, we must assume, that it will come to life" (Gombrich 1960, 101) or the children who has "(…) no clear distinction between reality and appearance" (1960, 99). This notion of image, part natural and illusory, and part man-made and illusionistic, therefore describes mimesis as a biological phenomenon as well as a particular subjection of nature to man (Mitchell 1987).

What emerges is an underlying ideology that links survival and domination with science, automation and leisure, as it becomes clear from this rather lengthy summary: "The nature implicit in Gombrich's theory of the image is, it should be clear, far from universal, but is a particular historical formation, an ideology associated with the rise of the modern science and the emergence of capitalist economies in Western Europe in the last four hundred years. It is the nature found in Hobbes and Darwin, nature as antagonist, as evolutionary competition for survival, as object for aggression and domination. It is therefore, a nature in which man is imagined chiefly in figures like

the (male) hunter, predator, or warrior (…). The predatory character of Gombrich's image reveals itself in its involvement with processes of entrapment, illusion and capture (…). Or the image is the figure of strategic, predatory, perception itself (…). It is, finally, the figure of production without labor, the unlimited consumption of reality, the fantasy of instantaneous, unmediated appropriation" Mitchell (1987, 90).

However, it is not only in Gombrich's theory of representation that Mitchell observes a certain ideological bias. Goodman's extreme conventionalism also reveals itself to him. However, in this case, it is not a Hobbesian 'state of nature' that emerges, but rather a liberal pluralism that poses as a value-free, objective and a-political science "whose notion of freedom is still quite ambiguous", as Mitchell (1995, 361) notes. This is evident not so much in Goodman's account of representation itself, but rather in what he leaves out, namely the issues of value, knowledge and history. To Goodman, value is radically relativized as a free choice between different ways of perceiving and conceiving, different systems of representation, and finally, different world versions (In *ways of world making* (Goodman 1978)), of which none are given a privileged status. The notion of knowledge or epistemic access on the other hand is brushed off as irrelevant, since according to Goodman, there are no such things as ontological objects in themselves. Finally, the notion of history is also left untouched, as Goodman strives for a universal account of representation, and not the description of particular representational practices at different historical moments. While, Mitchell admires this radical approach to representation, he observes that his irrealism is just as historically and ideologically situated as Gombrich's: "Like most iconoclasts, Goodman supposes that his critique will take us into a realm of freedom from superstition, ideology and atavistic beliefs in 'natural' or privileged modes of representation (…). Recognition of the relativity and variability of symbols will, in Goodman's view overcome the perverse 'mirror stage' of realism and liberate us into a cognitive pluralism (…). Irrealist freedom plays at least three roles [in Goodman's writing]: as critical ideal, it motivates the

iconoclastic overturning of traditional idols of realism; as a 'fact' about the 'the mind' it aligns irrealism with the authority of cognitive science; as a historical consensus, it continues the long love affair between American philosophy (especially the Harvard tradition that traces back to Peirce and William James) and the liberal individualism of American political ideology – a tradition we might call 'transcendental pragmatism'." (Mitchell 1995, 361).

While Goodman, as noted, strived for an objective, scientific discourse, the full implications of the kind of irrealism he advocated are much more explicit in the writings of French philosopher Jean Baudrillard. Like Goodman, Baudrillard provided an account of representation that relativizes the relation between representation and represented, but unlike Goodman, Baudrillard was specifically interested in the notions of value, knowledge and history that Goodman omitted. Central to Baudrillard's thinking is the notion of simulations as a main characteristic of late capitalism/ postmodern society. Baudrillard laid out what he called four successive phases of the image. In the first phase, the image is considered a reflection of a profound reality or truth, in the second phase the image is conceived as a veil that denatures profound reality, in the third phase the image becomes a mask of the absence of a profound reality, whereas in the final phase the image ceases to be a representation in order to become a simulation. These four phases thus mark the beginning and end of a fundamental separation between represen*ting* and the represen*ted* object. In the first phase, we might say that the image stands in a direct, stabile and equivalent relationship to the represen*ted* object, whereas the second phase introduces the basic distinction between image and referent, which also makes possible a destabilization of this relationship and thus misrepresentation (here we might place Gombrich's idea of mimesis as illusion). In the third and fourth phases, the relationship between image and referent is not only destabilized but eliminated altogether, although the third phase may be seen as a forerunner of the fourth phase in the sense that this elimination is not yet fully realized.

Baudrillard (2017 [1976]) situated these four phases in different historical eras, which represent what he calls the orders of simulacra. The first order is born out of the Renaissance and marks a radical shift from a premodern feudal society in which he describes signs as "certain" and "obliged" (p. 72) in that reference is assigned to the sign as an unequivocal reciprocity. During the Renaissance, the sign is emancipated from this fixed structure and becomes arbitrary. This is the era of the counterfeit, Baudrillard argues, and he associates it with the appearance of style and fashion which he describes as an "overt competition at the level of signs of distinction" (p. 71), but also with the stucco, this inexpensive (and thus available) plaster that can imitate or feign a variety of other materials. However, while the sign is still considered counterfeit, it operates on the same basic principle of a genuine truth or nature, to which the sign can refer. In other words, it is an *imitation* of that nature. In the second order of the simulacrum, *production* is the dominating principle, and it therefore follows that the industrial revolution and mechanical production mark the birth of this order. According to Baudrillard – and echoing Benjamin (1935) – industrialism brings with it a fundamental destabilization of the status of original and counterfeit where the relation between two identical objects is "no longer one of an original and its counterfeit, analogy or reflection, but is instead one of equivalence and indifference". Baudrillard used the allegory of an automaton and a robot to explain the difference between the two orders of simulacra. The automaton is an *analogon* to the human and functions as a piece to be looked at and admired for its human-like qualities. The robot on the other hand is an *equivalent* of the human. It does not serve the function of appearance and illusion but rather that of production, and it does not try to imitate life but rather, in itself, constitutes dead labor.

In the third order of the simulacrum, *simulation* rather than production becomes the dominating principle. This order is a consequence of the paradigm of the mechanization and serialization of production described above, but taken to an even more radical extreme. According to Baudrillard, in the third order of simulacra, not only does any notion of 'original' become irrelevant:

"(…) it is a matter of reversal of origin and end; since all forms change from the moment that they are no longer mechanically reproduced, but *conceived according to their very reproducibility*, their diffraction from a generative core called 'a model'" (Baudrillard 2017, 77 italics in original [1976]). To Baudrillard, the simulacrum was totalizing and all-encompassing in that it even manages to absorb all attempts at subversion or undermining. This is evident in Baudrillard's well-known critique of the *Matrix* series (Wachowski and Wachowski 1999; 2003a; 2003b), for example, which he considered as exactly the kind of film about the Matrix that the Matrix could have produced (Baudrillard 2005, 202).

The notion of simulation, not only challenges theories of pictorial representation. Indeed, Baudrillard not only described the relationship between representation and represented at the level of the image, but also at the level of the sign. Or rather, it is exactly the notion of sign in semiotic theories that makes manifest the destabilization of the relationship between representa*ting* object and represen*ted*. To show this, Baudrillard compared the realm of the symbolic with the real of the semiotic. In symbolic communication – or as Baudrillard preferred to call it, symbolic exchange – the object of exchange "is inseparable from the concrete relation in which it is exchanged, the transferential pact that it seals between two persons (…) it is on the one hand relatively arbitrary: it matters little what object is involved. Provided it is given, it can fully signify the relation. On the other hand, once it has been given, it is this object and not another" (Baudrillard 2019, 45 [1981]). Unlike the symbol, the sign is an autonomous object with a meaning that does not stem from the communicative relationship in which it takes part, but rather from its differential relation to other signs. For Baudrillard, the gift was a paradigmatic example of a symbol, whereas the commodity exemplifies the sign (Baudrillard 2019 [1981]).

Baudrillard's conceptualization of representation as simulation significantly challenges the idea that signs, and media more generally, may function as carriers or relays of ideologically encoded

messages. In fact, Baudrillard described media as fundamentally non-communicational. This idea is based on his abovementioned demarcation between symbolic exchange and sign value, according to which, only the former can be a site of communication proper, which Baudrillard essentially considered a *reciprocal* exchange between the sender and receiver[5]. Media instead belong to the realm of signs and commodities that importantly afford only a unilateral transmission of consumer objects. Media, noted Baudrillard, function on the level of information but not meaning, speech but no response. This is because the mode of the sign, as described above, is based on difference (from other signs) rather than meaning, and thus functions autonomously of a reciprocal communicative situation, as Baudrillard defines it. Therefore, according to Baudrillard, media are not instruments, which can be used to disseminate a variety of discourses, and they are also not distributors or vehicles of an ideology that is determined by the mode of production from which media themselves are distinct, as a (simplistic version of a) Marxist media theory might conceive of them. "The media are not coefficients, but effectors of ideology" argued Baudrillard, as "it is not as vehicles of content, but in their form and very operation that media induce a social relation" (2019, 169 [1981]). In other words, discourses qua their mediation become transformed[6] from meaning into pure abstraction, precisely because discourse and mediation exist at the level of signs value rather than exchanges.

As we can see, there are similarities between Baudrillard's and Goodman's thinking. What they share is a profound irrealism, but where this in Goodman is transformed into an individualistic liberalism by which there are "countless alternative systems of representation (…)" and "(t)he choice between systems is free" (Goodman 1976, 40), to Baudrillard, this liberalism becomes a bleak and

5 Merrin (2005) argues that Baudrillard's basic understanding of the symbol (on which he builds his whole notion of simulacra and his media critique) draws more on the line of thinking associated with Durkheim, Mauss, Baitaille, Caillois and the *College of Sociology* (1937-1939) and the notion of the gift, than it does on the more well-known structuralist tradition of Lévy-Strauss, Foucault, Derrida among others. See also Giddings (2007a).

6 Describing this as a transformative process is purely hypothetical because of the totalitarian character of Baudrillard's concept of simulation, which makes it de facto impossible to conceive of something outside of the simulation.

totalizing market logic in which signs are completely subjected to the code. Furthermore, while Goodman strived for a universal theory of signs, Baudrillard is interested particularly in the social, economic and cultural aspects of representation, as he attempts to situate his different phases of the image in different (broadly defined) socio-historical eras. And while the validity of Baudrillard's account of these phases remains highly questionable in terms of its historical accuracy, it is probably better understood as descriptions of the different statuses and functions that representations may be granted, or as a theoretical framework for understanding the radicality of the concept of simulation. The point of bringing Baudrillard's theory into this context is to shed light on the most radical consequence of Goodman's nominalist account of representation. While Goodman does not go that far himself, his liberalist pluralism and relativization of the relationship between represen*ting* object and represen*ted* is taken to an extreme with Baudrillard's concept of simulation, in which free-floating signifiers come to constitute a totalizing regime that forecloses all critique. If this is so, what is the constructive application of Baudrillard's theory in critical inquiries into media representation? I suggest that Baudrillard's thinking can indeed be made relevant to counter tendencies within academia, but in particular outside, to romanticize the relation between media and media user(s) in terms of the capacity of media to function as relays of personal self-expression.

CONCLUSIONS

This chapter has discussed a limited number of theories of what might be called media representations. My account of these theories has focused on the different ways in which these theories conceive of the relation[ship] between the represen*ting* object and the represen*ted* object, as well as how they account for the role of the maker or beholder respectively. This review bas based initially on theories of pictorial representation, in particular those of Gombrich, Wollheim and Husserl. These theories are interesting because they all, in different ways, operate with the material picture as a relatively transparent medium that readily offers its content to the spectator, who sees-in

the picture its motif, as if her gaze somehow cuts through the surface of the canvas to insert itself in the space of the image. Whereas Husserl's theory depends on the notion of resemblance, Gombrich initially acknowledges pictures as encoded artifacts. That said, to Gombrich, this encoding still mimics our perception of the world to the extent that he understands mimetic pictorial representation as illusion.

Against such conceptions of pictorial representation, I discussed Wollheim's notion of 'seeing-in' as well as Goodman's conventionalist theory of representation, according to which, pictures function in much the same way as linguistic labels, by means of denotation and subsequently exemplification. Moving into the realm of semiotics, I offered a brief overview of what we may call foundational semiotic theories. While Peirce's theory in many ways offers itself as a phenomenology that can explain how humans (but also potentially non-humans) make sense of the world, de Saussure's work was more concerned with 'meaning making' in intentional communication, that is language. Still, the image occupies a somewhat ambiguous and even precarious place in semiotic theory, which, Mitchell claims, strives to be an objective science offering a rigorous theory of all types of signs, yet fails to disengage the image from its status as a more natural sign than language. Compared to these semioticians, Goodman comes across as an unrelenting conventionalist who insists on the encoded character of images and languages alike. Goodman's extreme conventionalism is persuasive because it relieves us from the problems we encounter with pictorial representation. Still, as noted at the end of this chapter, Goodman's relativism fails to address important aspects about representations, such as the historical and political context in which certain representational modes emerge and become conventionalized, but also the various structures of power involved in the production and reception of signs. This became particularly evident in the review of Hall's theory of encoding and decoding, which revealed that representations need to be studied as part of communicative processes that, in turn, take place within certain societal structures. Finally, I brought

in Baudrillard's theory of media, which asserts that the sign no longer bears any relation to 'reality' whatsoever, but instead constitutes a totalizing simulacrum in which the oppositional readings that Hall describes are no longer possible.

In ***FIGURE 4***, I have plotted these theories into five main categories, each representing a different way of understanding and theorizing representation. This categorization focuses on difference rather than similarity, but this is not intended to suggest that these theories should necessarily be seen as distinct and mutually exclusive, but rather that each one puts different emphasis on certain aspects of representation. In addition to a very short description of these approaches, I included a few examples of the scholars associated with these approaches, as well as a number of keywords that describe important concepts in these approaches.

Description	Example of scholars	Important keywords
Pictorial representation as a form of "seeing-as" in which the motif is intrinsic in the work itself.	*Gombrich,* *Husserl*	• Make-believe, • Imagination, • Fiction, • Work as coherent world, • Othering perspective, • Perception and gestalt psychology, • Phenomenology, • Interpretation.
Semiotic representation resting on difference. Meaning does not lie intrinsically in the sign itself but is constituted by the sign system in which it is placed (difference). Difference between work and text.	*de Saussure,* *Hjelmslev* *Barthes*	• Structuralism, • Difference, • Denotation and connotation, • Text.

Representation as denotation and exemplification. Meaning is extrinsic to the sign itself that only becomes meaningful in the habituated practices of stipulation. User-dependent.	*Goodman*	• Irrealism as pluralization, • Denotation and stipulation, • Null denotation, • Practice, • Habit, • Exemplification.
Representation as shared meanings. It is in the context of culture that signs become meaningful. As cultural representations they come to stand for more than their immediate reference, they are meaningful as signifiers of cultural identities and belief systems (ideologies).	*Stuart Hall*	• Culture, • Encoding and decoding, • Hegemony, • Ideology, • Mis-reading, • Materiality, • Societal structures, • Reception theory.
Representation as consumption. The sign can only exist as a consumer object. No communication, no reciprocity. Unilateral transmission of information. Pseudo-content, Impossible to transgress the level of the sign.	*Baudrillard*	• Irrealism as totalization, • Simulation, • Models, • The operation of the code, • Consumption, • Information and pseudo-content.

FIGURE 4: A comparative table of representational theories

In the next chapter, I will review the ways in which the concept of representation has been addressed in games studies, and compare them to the five approaches outlined here in order to assess what approaches and concepts have proved useful or problematic in the study of games, as well as what remains to be addressed. The issue of media and media has also yet to be discussed in detail. However,

it goes without saying that representations are not immaterial phenomena, and therefore an account of representation in games should also take into account the role of the material medium involved in the process of representation. Therefore, in chapter 5, I will explore in more detail the concept of media and how it is of relevance to the study of games.

CHAPTER 3

Representation in game studies

INTRODUCTION

This chapter begins with a review of the different approaches to representation within the field of game studies presented in the last chapter. As a term, 'game studies' is not meant to denote a very specific academic formation, but is used in a rather loose sense about the many studies that have games as their object of interest. As we shall see from this review, it is not easy to determine exactly what should be included and excluded from such a review. As already observed in the introduction to this dissertation, all games present themselves to the player through some sort of semiotic elements (Aarseth 2011). This can potentially mean all studies concerned with games as an object or with the process of meaning making (either through play or using games as a means of expression), could be made relevant to a discussion of representation in games. However, it would be an enormous task to take into account all this material, and it would also not be beneficial for the overview of the academic

field that this chapter aims to describe. Therefore, this chapter will only review a limited number of approaches. The works I have taken into account here were chosen with the aim of illustrating the main positions to representation we can find in game studies, and just as in the last chapter, they are approached with the aim of pointing out their differences rather than their similarities.

I will review the following approaches to representation in games: In the first half, I will address several ways to conceptualize games as representational objects, namely as texts, worlds, simulations and cultural artifacts. In the second half, I will review a number of associated theories of game rhetoric and game hermeneutic. Finally, I will map all these approaches onto the Mitchell's model of representation introduced in the last chapter, in order to visualize what aspects of the relationship between sender, receiver, represen*ting*- and represen*ted* object they focus on.

GAMES AS TEXTS

One relatively common approach to games is to treat them as some kind of texts (Beavis 2014; Carr et al. 2006; Carr 2006; 2009; 2019; Fernández-Vara 2015; Jones 2008; Lauteren 2002; Paul 2012). These approaches have often paid attention to what kind of textuality we find in games, as well as with what methods we may use to read these game texts. While these questions are therefore very much concerned with the most formal aspects of games along with methodological issues of analysis, they are relevant to a discussion of representation in games in that the notion of text in its widest sense may be understood as the object of our interpretation or as a locus of meaning. Therefore, we also find studies of representation in games that implicitly or explicitly build on textual methods, for example discussions of representations of gender, race, disability, identity, etc.

Aarseth (1997) discussed the extent to which games can be considered texts. This investigation was spurred by the observation that certain textual forms prove a challenge to existing methods of literary analysis. These forms were not necessarily novel, although the emergence of the computer spawned a range of interesting examples, such as so-called hypertext novels and multi-user

dungeons. While many literary theorists have taken their object medium for granted, Aarseth argues that this is actually one of the most challenging aspects of what he defines as cybertext. Aarseth defines texts as any object with a primary function that is to relay verbal information and he stresses that a text cannot be separated from its material medium but also that a text is not equal to its information, which he considers simply a string of signs that does not necessarily make sense to anybody. In order to analyze textuality, he argues one must distinguish between the *textons*, which are strings of signs as they exist in the text, and *scriptons*, which are the strings of signs as they appear to the reader. While these two categories in some forms of textuality are identical, they need not be.

Aarseth proposes a taxonomy of textuality that consists of seven variables. Each of these variables can have a different set of values. The variable 'dynamics' describes whether scriptons are static or non-static and how. The variable of 'determinability' specifies the stability of the traversal functions of the text, whereas the variable 'transience' distinguishes between scriptons that appear on their own and those that require activation by the player. The variable 'perspective' describes if a text necessitates that the player takes on a strategic role as a character or not. 'Access' specifies if the player has access to all the scriptons at all times or if this access is somehow controlled. The variable 'linking' characterizes the text in terms of the possible ways that scriptons can be linked together. Finally, the variable of 'user function' lays out four ways that the reader can act on the text. Aarseth's taxonomy makes evident that textuality is a complex phenomenon that can take on a variety of forms. But most importantly, Aarseth describes cybertext not as a prescribed message to be transmitted by a media channel, but rather as a material machine generating a variety of expressions (see chapter 5 for further details).

While Aarseth's discussion focuses on the ontology of textuality and in particular cybertext, other scholars have focused on the application of textual methods of analysis to games. Fernandez-Vara (2015), for example, outlines two different ways in which games can be analyzed as texts: we

can study meaning within the game, and second we can study meaning around the game. In addition, we can analyze the meaning of games in relation to other games, focusing on finding differences, similarities and recurrent patterns (a structural and comparative approach), or in relation to their playing and the context in which they are played, focusing on how games become meaningful to different players (post-structuralist approach). In any case, Fernandez-Vara suggests that one should take into consideration not only the 'main text' of the game itself, but also para-text, that is all the surrounding texts, such as game boxes, instruction manuals, commercial websites, reviews, interviews, commercials etc. Similarly, Paul (2012) in his rhetorical analysis of games, takes into account both context, that is the cultural status of games and the socio-technological situation in which they are played, and the texts themselves, by which he mains particular game titles (or series of titles), such as *World of Warcraft* (Blizzard Entertainment 2005) and the *Grand Theft Auto* series (DMA Design 1997; 1999; 2001; Rockstar North 2002; 2004; 2008; 2013). Jones (2008) discusses games as what he calls social texts. This concept describes the collaborative afterlife of texts, beyond their conception as works of individual authors and into a sphere where they are "published, read, and often reconfigured by readers and interpreters" (p. 9). Jones suggests that games are a paradigmatic example of 'social texts' that can never be just formal objects but are instead always made meaningful as played, talked about, reconfigured, and replayed.

Diane Carr is one of the game scholars who has most meticulously worked with textual approaches to games. Carr (2006) considers how to approach storytelling in games, building on Genette's narrative theory. She claims that games consist of both past events already arranged in time and space and recounted by the player during game play, and new events that are generated through play and importantly arranged in time and space by the player. The player position is also distinct in games, compared to other narrative forms. Carr regards the player simultaneously as a generative force who determines which events will take place, and how they will unfold. But this is not done

with a completely free hand, she notes. Instead: "All acts and happenings are shaped by their context: by the game, its physics and rules". Hence, storytelling in games implies a communication model in which the player is not confined to a singular role either as 'sender' or 'receiver' but can move between them and take different roles during play.

In a more recent paper, Carr (2009) discusses the relations between structural, textual, and intertextual methods of analysis to games. Structural analysis focuses on the formal aspects of the game in itself, whereas textual analysis, following Carr, focuses on the game as played and as such "incorporates aspects of practice, and (…) characterizes meaning and interpretation as emergent and situated (…)." Finally, the concept of inter-textuality in her approach considers "exchanges between the text and the meaning-making resources of the situated subject" (p. 2). These three approaches together make up a method for game interpretation that does not categorize game elements as either structural or textual, but rather offers a framework for employing different lenses onto elements in order to identify the different possible meanings they may generate. In addition to this, Carr also discusses the problem of variability in games as different ways of manipulating the game result in different outcomes for the analyst to work with. Therefore, a textual interpretation can necessarily only be done on fragments of the text. Carr then suggests that the work of the analysist must be focused on identifying their various clusters of meaning that emerge when viewed through the above-mentioned lenses.

What is significant about Carr's method, in relation to this dissertation, is that it frames the kind of game interpretation that she performs as a critical and highly non-trivial process. While this process is grounded in the experience of playing the game, additional interpretive work is carried out using several relatively complex theoretical concepts. As such, Carr does not try to qualify the meanings she identifies in the game as something that is inevitably obvious to the player. Instead they

are the result of careful critical engagement. This is an important point, particularly when dealing with the political and ideological aspects of representation. This will be discussed in more detail later. However, Carr also identifies potential problems with her method: "The point of fragmentation is that it undermines the solidarity or totality of the text, breaking it open so that its plurality or multiplicity can be unpacked (Barthes, 1974, pp. 15, 23). What if, by focusing specifically on representations (of disability or gender, for example), I risk closing off the game's plural meanings to fit a particular meta-narrative?" (2019, 712). Another problem that Carr has experienced with her approach, and in particular with the notion of a structural and a textual lens, is that it proved too easy to understand them as ontological categories rather than interpretive lenses. As a way to address these problems, Carr draws on methodological reflections from the field of film studies, according to which textuality is not a matter of ontology but rather epistemology. Carr then describes textual analysis as a particular perspective on games that transforms the game into a text for the sake of analysis. This approach then relieves the burden of trying to document the game in its totality in order to read the entire text. The game emerges as a text through the fragmenting practices of the analysist.

To sum up, Carr's textual method for game analysis builds on the notions of difference and relation from the semiotic tradition stemming from de Saussure. However, at the same she time acknowledges the post-structuralist claim that the meaning of a text can never be identified just by pointing out the formal systems of signs of a text or between texts, but must always be read by readers who may occupy a variety of positions vis-a-vis the texts. Common to most textual approaches in game studies, and particularly exemplified by Carr's theorizing, is that the focus is on the game as played. In other words, what the textually oriented game scholar works with is the output of the textual machine, described by Aarseth (1997). This is the case even to the most earnest archivist as Carr (2019) reflects, for even when the scholar tries to document the different choices for action that the game affords, the different scriptons that become available to the player still add to the existing

string of signs generated by previous actions within the game. Fragmenting this string cannot but detract from possible meanings. Finally, all textual approaches to games are read and consequently meaning making is framed as a critical interpretive practice. Therefore, it is also no surprise that the textual analyzes often focus on the ideologies and world views underlying the ways in which various in-game elements reflect various politicized issues, such as identity, gender and the exertion of power.

GAMES AS WORLDS

A different approach to games theorizes them as experiential worlds. Sageng (2012b) observes that the objects, worlds and events that games present us with occupy an intermediary position between those of non-interactive media and those of the ordinary world outside the game. The difference is that games, unlike non-interactive media, are not only seen, heard or read about, but also acted upon. In the few phenomenological approaches to games discussed in the following, games are understood as worlds in which the player is embodied.

Klevjer (2012) theorizes the avatar as a mediator between the player and the game world. Drawing on Merleu-Ponty's phenomenology, with its focus on the body as a locus of the experience of the world as meaningful, Klevjer argues that when playing computer games, our bodies are extended through the materiality of the computer game. In some games, this takes place through the incorporation of the game object in its entirety, that is the physical control interface (e.g. joystick and gamepad) as well as the screen, and what is presented on the screen. This is typical of action arcade games, argues Klevjer, as these games can be approached like an instrument that can be mastered. However, it is the avatar that mediates the bodily extension of a player. What is typical of these games, Klevjer notes, is a fundamental separation between game world and player. Where the player of an action arcade game can incorporate the whole game space, it remains an external world to the player of avatar games. Thus, the locus of embodiment in such games is not the game as a whole, but only the avatar, through which the player can explore and discover the external game world.

According to Klevjer, the avatar functions as a proxy that extends the player's agency to the game space while providing the player with a bodily stand-in in the game. Klevjer (2012, 28): "The prosthetic avatar allows us to engage in a playful and temporary s*eparation* of subjective and objective body, across the material divide (…). As a body-subject I may be throwing myself into the playground, no barrels held *[sic]*, but as a body-object I am participating through a stand-in, a proxy, an incarnation of myself, an avatar" (italics in original). According to Klevjer, this form of embodiment by proxy does not require a notion of fictional world. Nor should it be understood as the illusion of embodiment or a form of projected embodiment into a diegetic space. Instead, he argues that the player is actually present within what he calls synthetic space, as a "composite of flesh and technology" (p. 34). When playing a first-person 3D game, the game world is not seen from the outside, as a miniature world.

Relating it to the discussion of pictorial representation in chapter 2, we can see that Klevjer's description runs close to a phenomenological conception of depiction and in particular Husserl's idea of seeing the motif in the picture. But Klevjer goes a step further and describes this not as 'seeing-in', but rather what I would then call 'seeing-from-within'. That Klevjer's argument relies on a tradition of theories of pictorial representation that in the last chapter associated with Husserl is even more clear in Klevjer (2013). Here, he explicitly discusses representation in computer games from a phenomenological perspective. Klevjer discusses a claim made by Sageng (2012a), according to which, action and pictorial representation are mutually incompatible categories. We evaluate pictorial representations on how well they fit the world, in other words, how well they "utilize the natural abilities of an individual to recognize things or shapes in the surroundings" (p. 222). Actions, on the contrary, depend on a subject who deliberately carries out an act intended to make the world fit with her intentions. In other words, according to Sageng, there is an opposite direction of fit between pictorial representations and actions. Therefore, while we might be inclined to pretend that the

graphical objects on the screen are actually the things that they represent, when we act upon them, our attention is directed at imaginary objects but on the graphical objects on the screen themselves. Klevjer critiques Sageng's argument on the level of the pictorial experience. According to Klevjer, our primary experience of pictorial representations is exactly that of 'seeing-in': "A portrait painting or a piece of animation, in so far as they are intuitively and unavoidably recognizable at the level of perception, have default status as representations, in the primary framework; they cannot be 'down-keyed' [shift in reference or interpretive frame] in the way that superimposed representational events can. One might attempt to break down or 'peel off' the representational content from the supposedly *real* act of looking at a painting (…) it seems to me however, that this kind of 'looking' would rather be an abstraction, indeed a secondary frame that is being added to the default action of looking at the painting, which is a perceptual act that implies that we recognize its representational features." (Klevjer 2013, 4). This idea of seeing is well aligned with Husserl's notion of seeing-in as an involuntary act that we perform when looking at images (Kurg 2014).

Although Klevjer and Sageng may not agree on what constitutes the real or *primary* act of experiencing representations, both of them rely on the idea of seeing-in and thus come close to the idea of a two-fold pictorial experience, described in the last chapter. It is possible to direct attention to the material picture itself or to what it represents. In Sageng's account, acting upon the graphical objects on the screen is comparable with experiencing the material picture, whereas pretending that the objects are what they represent compares to experiencing the motif of the image or to Wollheim's 'seeing-in'. To Klevjer, however, the primary experience is directed at the image content rather than the picture, and he describes this process with words such as *intuitive* and *unavoidable*, thus granting pictures exactly the mystical and esoteric representational powers that Mitchell criticizes. This becomes even clearer towards the end of the paper where Klevjer (2013, 7) describes computer game spaces as "enchanted".

Vella (2015) contributes an approach to game worlds that, like Klevjer's, draws on phenomenology, but is also even more explicitly concerned with the issue of representation. Vella argues that the player can adopt two different experiential positions in the game, one considering the game from an internal perspective, and the other from an external perspective. In the internal perspective, the player does not perceive the game as such. Instead she experiences things *in* the game and importantly with the game as a sort of backdrop or world: "If I am perceptually aware of the Minecraft tree as it stands before me, I have focused on the tree and isolated it as a discrete object in the world". In other words, the internal perspective is not about the game *as* a world, but it still implies that such an idea as a world exists in which the tree exists in the mind of the player. In the external perspective on the other hand, the player perceives the game as a world that is as a discrete object or, as Vella calls it, a cosmos. This cosmos constitutes a coherent, self-enclosed whole and is only available to the subject through a detachment from her lived experience of the world. As a coherent cosmos, the game can be interpreted as a system, but also as a 'textual heterocosmos'. The latter interpretation involves "taking each experience as a proposition regarding a represented world and filling the gaps as required in order to concretize the heterocosmic domain" (p. 110). As such, the notion of heterocosmos revolves around the idea that a text can prompt a world in the mind of the player that is more than simply the sum of available signs.

Vella observes that while the heterocosmos is seen as a world that is detached from the lifeworld in which the player is present, it is still presented from a perspective that reaches out to the player in different ways. Vella argues that this may be done in different media. Pictures may establish a subject position within the pictorial 'world' through the use of perspectival modes, whereas in literature this may be done using a focalizer that can be distinct from the 'voice' of the narrator. Likewise, films may present the viewer not with "directed representations of objects within the (heterocosmic) world, but as representations of phenomena. In other words, of intentional acts of a

perceiving subject" (p. 140). While Vella notes that in principle this does not hinge on a specific form of mediation, it is still difficult for him to avoid the underlying visual metaphors: presences in the pictorial world are, not surprisingly, described as established through lines of *sight* that converge at the point occupied by the spectator, whereas the literary 'focalizer' achieves a point of *view* in the text. Similarly, a first-person perspective in film adopts the character's *optical* perspective and represents his *gaze* upon objects in the film world, which may or may not coincide with a *viewer's* gaze. Vella is well aware of this point. He critiques existing attempts at applying the notion of focalization to games of equating focalization with visual perspective. Still, I am not convinced that Vella successfully manages to overcome this problem himself. At least, 'seeing' remains the standard synonym for 'perceiving' in his work, exemplified through a recurrent example of the player *seeing* a *Minecraft* tree. There is, of course, nothing wrong with that. After all, most games today have some sort of visual component, and many favor pictorial depiction as a mode of representation and therefore, it is also only natural that Vella's examples reflect this.

To sum up, Vella addresses representation in games in terms of how the game presents itself to the player as a world in which she is embodied. The main difference between Vella's and Klevjer's approaches to game worlds – as described in this brief review – is Vella's idea of a double articulation of the world, as simultaneously something that the player embodies and which becomes present to her through this internal perspective, and as a represented world that the players perceive from the outside.

GAMES AS SIMULATIONS

Another loosely defined class of academic works on games considers them as simulations. The idea of games as simulations is central to this dissertation and will therefore be discussed in a dedicated chapter. What follows is therefore only a brief review of the theories and how they relate to other approaches to representation in games.

Frasca (2003b) represents one of the early attempts of thinking about games as simulations. Frasca conceptualizes simulation as an alternative to representation. He defines simulations as the modeling of a dynamic system through another system and adds that while narratives may provide us with descriptions and sequences of events (actions), simulations are about *behavior*. Moreover, simulations may produce different outcomes. The latter point recall's Arseth's characterization of cybertext as a machine capable of producing various expressions. As I will discuss in more detail in chapter 4, Frasca conceptualizes simulations as dynamic and user centered and notes that they encourage experimentation. Unlike narrative forms, which he claims are based on causality and fate, simulations are about change and what happens if a system is manipulated. And although he admits, that this does not mean that players of simulations are completely free to do whatever they like, they are "less tyrannical than narratives"(Frasca 2002, 136). However, this point is highly debatable, and simulations are of course just as well equipped as narratives to function as very restricting representations. In relation to games, the notion of simulation is often associated with a discourse on learning, training or even persuasion. Frasca observes the rhetorical capacity of simulation, a point that is further elaborated by Bogost with his concept of procedural rhetoric. Contrary to Frasca, Myers argues that games are actually not simulations. Instead the concept of simulation is imposed on games for commercial reasons of for promoting them as educational instruments. According to Myers (2017), simulations are not only representational (like he acknowledges games are) but also always referential, but since games does not necessarily reference real phenomena, they are not simulations.

Finally, Möring offers a discussion of the relationship between metaphor and simulation. Möring (2013) discusses metaphors in games and notes that the concepts of metaphors and games are closely related. In fact, he observes that the term 'metaphor' is often applied to games as a metaphor for an unrealistic or abstract simulation or that metaphor is preferred for describing games that do not represent anything in the real world. To extrapolate on this slightly, we may observe that the two

terms can be distinguished in two different ways. One distinction rest on the quality of the represen*ting* object. Here the notion of metaphor is used when the representational object is of an 'abstract' or 'non-literal kind', whereas simulation is used for what may be described as more 'literal' or even 'realistic' represen*ting* objects. The other distinction rests on the quality of the represen*ted*. Here, metaphor is used for games that represent phenomena that have no extension in our 'real' world, whereas simulation is used for games that represent real-world phenomena.

Compared to Baudrillard's view of simulation briefly reviewed in chapter 2, the concept of simulation is applied to game in more pragmatic manner. As Giddings (2007a) observes, in game studies simulations are often thought of as accurately renderings of reality. Giddings writes: "Indeed an implicit continuity, even identity, is sometimes established between source and simulation: a spectrum of proximity to, and abstraction from, the source system, one end of which is the 'actual 100 percent implementation of the referent system' (Järvinen, 2003). The dissembling of the simulacrum is so effective here that it goes beyond presenting itself as a good copy – it claims the possibility of *being* the original." (emphasis in original). According to Giddings, although this way of theorizing simulations at first sight pits them against representation, it ultimately rests on the same idea of mimesis, and only claims that they are better and more accurate representations. Giddings however, challenges the idea that games accurately represent reality. Game simulations, he notes, does not mirror reality, but rather generates new realities. He therefore suggests that game studies should shift its attention, from studying the resemblances of game worlds, to their "semiotic excess" (Giddings 2007a, 429). As it should be clear from this passage, Giddings articulates a critique of the concept of simulation, as it is used in game studies, that is not unlike Mitchell's critique of the mimetic theories of art discussed in chapter two. In other words, Giddings suggest to conceptualize simulations not as accurate reproductions of reality, but as constituting their own synthetic, but precarious realities which are produced through the intimate consolidation between the player and the techno-material

artifact of the game (Giddings, 2007a, 2007b). Giddings' critique paves way for a conventionalist and media-aware theory of games as representation-as. This will be discussed in more detail in chapter four.

GAMES AS CULTURAL ARTIFACTS

Another approach to representation in games can be framed under the notion of games as cultural artifacts. This approach is concerned with the ways in which games belong to the wider cultural sphere, and how their representational layer reflects cultural values and ideologies. Under this approach, we find studies concerned with meaning making from the player's perspective, that is in regards to identity (e.g. Malkowski and Russworm 2017; Shaw 2011; 2013; 2015a) and every-day practices (Crawford and Gosling 2009). However, we also find approaches interested in the domain of production in terms of the economic and social relations in game development companies for example (e.g. Johnson 2013a a; 2013b b; Potanin 2010; Šisler 2013), as well as studies concerned with post-colonialism and orientalism and the representation of race and ethnicities in games (e.g. Brock 2011; Geyser and Tshabalala 2011; Hammar 2017; Harrer 2018; Langer 2008; Leonard 2006; Martin 2018; Mukherjee 2018; Mukherjee and Hammar 2018; Robinson 2014; Šisler 2006; D. Williams et al. 2009a; Wohn 2011) and finally studies concerned with gender and sexuality (e.g. Beasley and Collins Standley 2002; Bryce and Rutter 2002; Cassell and Jenkins 2000; Downs and Smith 2010; Gray, Voorhees, and Vossen 2018; Kennedy 2002; Ruberg and Shaw 2017; Shaw 2013; 2015a; N. Taylor and Voorhees 2018; D. Williams et al. 2009b; Wohn 2011; Østby 2016).

One of the ways to study games as cultural artifacts is by applying a cultural studies framework that I associated with Stuart Hall and his ideas of shared meanings in the last chapter, and of the encoding and decoding of these meanings in the mass media. Shaw (2010) is one of the scholars who have most explicitly engaged with games through the lens of Hall's cultural studies approach. According to Shaw, games culture should not be approached as a culture that is distinct and separate

from – or even 'other' to – the broader cultural field. Instead, games culture should be approached as a dispersed practice performed by a wide range of different players "of many if not all ages, genders, sexualities, races, religions and nationalities" (p. 416) in a number of different contexts and involving a variety of different games. Instead of relying on, or rejecting, existing popular discourses on game culture, it is also important to "unpack why culture has been labelled in a certain way" (p. 417). To extrapolate a bit on Shaw's claims, I understand her approach as involving a) studying how games – as both objects and practices – are embedded in our broader culture and intersect with other cultural practices, as well as b) questioning the ways in which these objects and practices are conceptualized and categorized and finally c) analyzing how that in turn affects the production and consumption of games as well as the practices and identity constructions that revolve around them.

In regards to the latter issue, Shaw (2015a) offers an interesting discussion of what it means to identify with a character from a media product, and the ways in which it differs from identifying as a member of a group. Shaw observes that much scholarship on the representation of characters in games rests on the assumption that identification and identity are closely linked, and that playing a female character, for example, is a different experience for male and female players, respectively. The playing of a female character by a male player is understood as "cross-gender role-play or objectification." Conversely, if a female player plays a female character, this is understood in terms of "same-gender identification" (Shaw 2015a, 57). To phrase this in more general terms, the claim that Shaw questions is that the ways in which a representational object is experienced depends on the identity of the player. While Shaw acknowledges that representational objects are open for a multiplicity of readings, she challenges that these readings are necessarily closely linked to the identity of the player. She argues that such an assumption rests on a marketing logic by which the industry can target its player demographics by attributing the game characters with certain 'readings'. Instead, Shaw is interested in the ways in which actual players experience game characters:

"Analyzing texts tell us how the audience was constructed and about the inner workings of industry logics, but an audience study helps us make sense of where these meanings go after they are constructed" (Shaw 2015a, 63).

This recalls Hall's notion of encoding and decoding described in chapter two. According to Hall, media products are encoded in a way that reflects, among others, the knowledge framework of the sender – the available codes with which a message can be encoded as well as a set of assumptions about the audience and the resources available for the audience to decode the messages. However, Hall also stresses that these assumptions may not necessarily match the actual audience who may therefore decode messages in different ways than intended. Shaw (2015a) is interested in the actual decoding of games, rather than in the meanings intended by game companies.

However, the encoding of games is theorized in Shaw (Shaw 2015b). Here, the author discusses the encoding of *Assassin's Creed III* (Ubisoft Montreal 2012), which takes place in North America at around the time of the American Revolution. Shaw studies the meanings, assumptions and incentives that are reflected in the particular way that the game is encoded. For example, she observes how the assumptions the designers have about their target audience are reflected in the ways in which the game encourages the player to identify with, and as, the various characters in the game. Shaw also examines the relations of the production team, and how by calling attention to the diversity of the team involved in making the game as well as the use of 'cultural consultants', they construct the game as a more or less accurate representation of Native American culture, but still represent this culture as 'other' to the assumed Not-Native American audience. Furthermore, Shaw discusses how the wish for constructing a game space that is fun to play in and visually stunning is prioritized over the wish to construct a historically accurate representation of the cities represented in the game, but also how the designs of these spaces depend on, and are limited by, the availability of historical

documents and archives. In other words, Shaw's analysis demonstrates exactly the process that Hall (1973) describes as transforming *event* into *story*.

Shaw's analysis makes evident just how important it is to unpack and critique the notions of resemblance and similarity through which the relationship between represen*ting* and represen*ted* objects are often theorized, as I discussed in chapter two. What are framed as realistic representations are, in fact, usually considered a very limited set of properties in the objects they represent. That a represen*ting* object cannot address all of the possible properties of the represen*ted* object is not in itself a problem. Indeed, it is an unavoidable condition for representation. However, labeling representations as realistic runs the risk of obscuring just in how many ways the represen*ting* object is unlike what it represents. Therefore, while it is highly doubtful whether we can ever achieve a realistic representation proper, what we can address and critique are the underlying logics and ideologies by which media products, such as games, become framed as 'realistic'. This can be done by critically examining the various objects, events and beings represented in games and connecting the findings to the ways in which games are situated in actual cultural, economic and political contexts.

While Hall's original model of encoding and decoding concerned traditional mass media, exemplified through television, Shaw (2017) suggests an application of the model for so-called 'interactive' media, such as games. This model takes as its starting point that games are as much activities as they are texts, and that game scholarship therefore needs to address what types of uses are encouraged, allowed or disallowed by the game, but also what uses emerge at the hands of actual users. To analyze these media uses, Shaw builds on the notion of 'affordance' as it is theorized by Gaver (1991), as well as Nagy and Neff (2015). Shaw suggests three different use positions that are equivalent to Hall's decoding position, although as the name suggest, they address media use rather than media interpretation. The dominant/hegemonic use describes using games in a way that aligns

with the uses that designers have imagined and designed them for. Conversely, an oppositional use takes advantage of 'hidden' affordances or making false affordances (uses that the game appears to afford but that turn out not to be available) possible – for example through so-called mods (player modifications to the game code). Finally, a negotiated use employs emergent affordances, or hidden affordance that are available in the game code, but are not intended to be used by players. An example of a negotiated use could be 'proximity mine climbing' in *Deus Ex* (Ion Storm 2000) as described by Juul (2002). With her framework, Shaw wishes to emphasize not only the ways in which games materially constrain our engagement with them, but also how users actively adhere to or resist these constraints when playing the game.

GAME RHETORIC

The last two approaches discussed in this brief review concern not so much which kinds of representational artifacts games are (or if they are representational artifacts in the first place), but rather how games can be used to convey meaning as well as how meaning can be taken from them.

One of the most influential approaches to rhetoric in games can be found in Bogost's (2007) idea of procedural rhetoric. According to Bogost, games can communicate meaning through their underlying procedures or rules by which a software program operates. Bogost sees what he calls *procedural representation* as a form of symbolic expression: "Procedural systems generate behaviors based on rule-based models; they are machines capable of producing many outcomes, each conforming to the same overall guidelines" (2007, 4), and as such, they "(…) afford a new and promising way to make claims about how things work" (Bogost 2007, 29). From this however, several questions arise. If we recall Mitchell's model of representation introduced in the last chapter, then some of these issues pertain to the axis of representation, that is the relation between represen*ting* and represen*ted* objects, whereas other pertain to the axis of communication, that is between the sender and receiver of a message. In regard to the former, it is first and foremost unclear exactly how

processes are representations. More to the point, the question is whether Bogost considers processes as a form (signifiers) or content (what is signified). The latter seems to be the case, in that Bogost observes that procedural representations necessarily require an inscription in a medium. That is, in order to be communicated, they need to be given form by a medium capable of enacting these processes rather than simply describing them. He does not unpack this distinction between inscription and description, so it is difficult to know exactly what he means by it. Inscription can be taken to mean *writing on* something, either in the sense of a physical engraving or imprinting of words on a surface, or in the sense of a dedication or signature, which also connotes notions of ownership or gifting. On the other hand, description can be taken to mean *writing down* in the sense of offering a verbal account of something, but also in the sense of outlining something (that is delineating from something else). As such, however, both *de*scription and *in*scription mean that something is given form.

According to Bogost, inscription takes place when the medium is capable of enacting the procedures. This can be done by computers, but also by human beings. However, this leads us to the core of the problem. Because, while we may be used to thinking about computers as machines governed by rigid rules, we usually do not think of human beings as such. Rather, in relation to humans, we talk about behaviors or practices and so on. Labeling this behavior as a process is not just the application of a neutral synonym. Instead, building on Bogost's own definition provided earlier, it frames behavior as corresponding to a rule-based model. Accordingly, the notion of 'procedure' is a label that we impose *upon* behavior. What about computers? At first sight, the notion of procedures may be a very fitting description of the behaviors of computers, which correspond to the rule-based model (but may also deviate from this in the case of hardware or software glitches or 'bugs'). As such, a procedure may be stated by a computer program (on the level of code), as an instruction of how the computer should behave. In addition, (as with human behavior) we may label

the actual behavior of a computer that we observe as an enactment of a procedure. In both these cases, the notion of procedure is a way to describe (or inscribe into code or discourse) the behavior of the computer either prior to or after it has been carried out. In other and simpler words, procedures are not the behaviors in themselves.

However, some pages later, Bogost does actually further characterize the axis of representation. He notes: "Procedural representation is significantly different from textual, visual and plastic representation. Even though other inscription techniques may be partly or wholly driven by a desire to represent human or material processes, only procedural systems like computer software actually represent process with process. This is where the particular power of procedural authorship lies, in its native ability to *depict* processes" (Bogost 2007, 14). In other words, we find processes on both ends of the axis of representation. The represen*ting* object is a process and the represen*ted* object is also a process, and the computer (or human) functions as a technical medium that executes these processes. From this description, it is not exactly clear how these processes become apparent to the receiver of the message but given that the notion of process itself describes on a completely conceptual level, it has to be made perceptible somehow to the receiver. This is done by the technical medium (computer), typically using static and moving images, sound etc. Möring (2013, 231) argues: "A procedural rhetoric, one might say, should actually work without textual elements. However, this is with regard to computer games per definition not possible because most games always contain textual or, more broadly, semiotic elements (…) In other words inferences on procedures in games are only possible through the semiotics." Later in his book however, Bogost (Bogost 2007, 35) actually specifies that procedural representation actually musters moving images, sound and rules (in discreet units as he argues in (2006)). Still, Bogost offers no explanation of why one process represents another. Since he is using the notion of 'depiction', we may hypothesize that he believes that the relationship between represen*ting* and represen*ted* is one of similarity or resemblance.

In short, in terms of the representational axis, we may observe 1) the processes themselves do not do the representing, but rather the semiotic elements; 2) that Bogost does not explain by virtue of what one process represents another; and 3) the notion of process in itself is a highly conceptual framework through which we may interpret behaviors in regards to descriptions of rule-based systems. These problems will be further discussed in chapter four.

As argued earlier, the notion of procedural rhetoric also raised questions pertaining to the axis of representation. Here the main problem is that Bogost claims that procedural representation is an effective and promising way of communicating messages about how things work. But in order to understand procedural representations, players must learn to read processes in a critical way, identifying the rules underlying the representations that they see on the screen. He writes: "Videogames that engage political topics codify the logic of a political system through procedural representation. By playing these games and unpacking the claims their procedural rhetorics make about political situations, we can gain an unusually detached perspective on the ideologies that drive them" (Bogost 2007, 75). The problem is that the procedural rhetoric Bogost describes can be used in everything from advertising games (advergames), to so-called anti-advergames (games that critique consumption and corporate capitalism more broadly), political games, 'serious games' as well as mainstream games primarily for entertainment purposes. Consequently, this raises the question of how these messages should be interpreted. Should they be interpreted as messages that urge individuals to buy a product (as in the advergame), or messages that urge us not to do this (as in the anti-advergame). This might be specified through the context or paratext (e.g. the title, or game description in a booklet or on a website) of the game. But this is not always the case. Bogost describes how *The Sims* (Maxis 2000) has sometimes been interpreted as a parody of consumption, whereas Frasca (2001) challenges this as he observes how the game actually makes it hard to have fun without buying. In the same review, he even questions the ability of simulations to be operated with parody

altogether. According to Sicart, one of the major shortcomings of procedural rhetoric is exactly its deterministic account of interpretation and play. In this lengthy quote, he writes: "For the proceduralists, a game means what the rules mean, and understanding what games are is to understand what their rules describe. Players are important, but only as *activators* of the process that sets the meanings contained in the game in motion. The rules constitute the procedural argumentation of the game, and play is *just* an actualization of that process. Furthermore, games create meaning thanks to their formal nature, and that meaning is completed when players engage in the processes of the rules of the game. Meaningful play is playing following the rules, and the meaning of a game comes from the meaning of following the rules" (Sicart 2011, n.p).

While I am generally sympathetic towards Bogost's aim of proposing a framework for games representation that takes into account the formal character of games, and his attempt to apply this in a critical analysis, I think the problems pointed out above indicate that the notion of procedural rhetoric is not exactly the correct direction to take.

PLAY AS SEMIOSIS

Building on the tradition of semiotics discussed in the last chapter, Myers (2003), proposes a theory of play as a meaning-making process. Myers considers games as a semiotic form, whereas he understands play as semiosis – the process through which the signs of games become meaningful. Myers argues that there are two different sign-types of games, namely first-order, denotative signs and second-order, connotative signs. With first-order signs, the relation between signifier and signified – the meaning of the sign – is determined purely by the context of the game. As an example, Myers offers *Spacewar!* (Russell 1961). In this game, Myers argues, everything necessary to assign meaning to the signs of the game is given by the game itself in the process of play. While the two player-controlled entities in this game – 'Needle' and 'Wedge' – initially represent spaceships, this soon becomes irrelevant to the player. Instead, 'Needle' and 'Wedge' come to represent nothing else

than two abstract signs with a set of properties that are given solely by the context of the game. In this game, players can therefore interpret the full meaning of the sign based purely on her playing of the game. Second-order signs, on the other hand, are signs where the relationship between signifier and signified is determined by a semiotic system that is other to the game itself. *Colossal Cave Adventure* (Crowther and Woods 1977) is an example of a game that, according to Myers, is dominated by second-order signs. This game relies on linguistic signs that the player needs to be familiar with *before* playing the game, but also on images with a pre-established meaning that are not revealed through play). In other words, the meanings of these signs are not established in the process of play. Instead, in order to play and successfully operate the game, the player has to employ an already established system that connects signifiers with signified (Myers 2003). Based on the two types of signs, Myers proposes two intrinsic game forms, namely action (for first-order signs) and role-playing (for second-order signs)[7] as well as a number of derivative forms, such as algorithmic simulation (*Microsoft Flight Simulator* (subLOGIC 1982)). This, like the action genre, is dominated by first-order signs, experiential simulation (*SimCity* (Wright 1989)), which is dominated by second-order signs. Finally, strategy games constitute a paradoxical genre containing both first-order and second-order signs (Myers 2003).

There are many important insights to be gained from Myer's analysis, which will also become apparent in the subsequent works on hermeneutics that will be discussed hereafter. His distinction between first-order and second-order signs, for example, is an interesting way of framing the history of videogames and the formal conventions we see today, but it also allows him to draw connections between the formal sides of these so-called genres. In addition to this, Myers addresses a very

[7] In Myers' analysis, role-playing replaces adventure as an intrinsic game form. This is because the adventure genre, according to Myers, ultimately failed since it did not provide enough context for the player to make choices but merely offered isolated puzzles, surprises and tricks that were inconsistent with the game form. By comparison, role-playing games, to Myers, offer a more consistent and coherent representation with more structured and predictable play, and therefore they ultimately also became a more successful example of a genre with second-order signs.

fundamental issue for a theory of representation in games. Namely, that games can be said to consist of a mechanical and a surface layer, as discussed earlier, and that the relationship between the two is in principle arbitrary, but that they nevertheless become connected through play in the sense that (in part) the mechanical layer governs what signs we see on the surface layer and similarly, how the player understands and reacts to the signs in turn affects which underlying mechanics are put into work. In other words, in order to understand how games become meaningful, we must consider how the surface signs are given meaning through the function they are granted in the game. Finally, as will be discussed more later in this chapter, Myer's theory points to the idea that some games impose meanings on the player that cannot be ignored by her, since they are hard-coded into the materiality of the game (c.f. Leino 2012; Möring 2013).

Still, there are also some problems with Myer's theory. Most importantly, I am skeptical about the distinction between first-order and second-order signs along with the sign types in themselves. Myers' describe first-order, denotative signs as characterized by "immediacy and lack of prior reference" and further notes that they are "often assumed to be objective, and value free (similar to qualia)" (Myers 2003, 166). He also explains that they are interpreted by their sensory, often visual characteristics (p. 10), and finally, that the player needs nothing more than her biologically endowed sensory apparatus and does not have to depend on cultural knowledge (p. 12).

It is telling that Myers' preferred example of such a first-order sign is an image. This recalls Mitchell's (1987) critique of the ways in which images have long been given a privileged status, as signs that are somehow natural or motivated in the sense that they show the objects it depicts 'as they are'. In other words, they convey their motif to the viewer in a way that requires no interpretation but only the basic sensory apparatus, with which the human spectator perceives the world. As such, the image or icon also becomes difficult to explain for the field of semiotics. In chapter two, I already observed how the notion of a pure icon, described as signifying in terms of its own qualities alone, to

Peirce was only a theoretical possibility. Similarly, Eco notes how the icon is really an umbrella term that "covers many different phenomena, some of them having nothing to do with signification (specular reflection, duplicative replicas, mere stimulation, other being strung out along a sort of gradated continuum from minimal convention (…) to maximal convention" (Eco 1976, 208).

Instead, we can approach Myers' distinction between first- and second-order signs in terms of Goodman's notion of denotation, which encompasses both ad-hoc stipulation in the context of a given particular use of a sign as well the more cultural attribution of meaning through convention and habit. However, this also means that it does not make sense to conceptualize this as two distinct sign types. An act of ad-hoc stipulation can become conventionalized over time, and as such, there is no qualitative difference between the use of conventional textual commands in a text-based adventure game, or the operation of 'Needle' and 'Wedge' in *Space war!*

GAME HERMENEUTIC

While Myer's semiotic approach is strictly concerned with the meaning of games as a form, a number of scholars are more interested in hermeneutics, meaning how to conceptualize meaning making and interpretation in terms of games framed as a text (c.f. the discussion at the beginning of this chapter).

Aarseth (2001b) discusses simulation as a form of interpretation and notes that the hermeneutic circle is "(…) a suspiciously good model for the computer-based work process, from programming (coding, compiling, running, debugging, coding, compiling etc.) to gameplay (problem, solution, new problem, new solution etc.). To extrapolate, what Aarseth describes is that simulations afford a kind of interpretative exploration by which the player can ask questions about a given model, formulate hypotheses, and test them on the model in order to ask new questions based on their results. In another paper, Aarseth (2003) describes in more detail what this kind of hermeneutic could look like. First, he observes that games are intrinsically meaningful and that the primary meaning of games is therefore "to play well and win" (p. 5). This requires what he calls a 'real-time hermeneutic' that

is practiced through play and assessed by the game in real time. While interpretations of a book or a film may be assessed by our peers, Aarseth notes that games provide the player will direct feedback on her interpretations (as they are reflected in her configuration of the game". Therefore, "(…) to show that we understand a game, all we have to do is play it well". What Aarseth proposes is therefore a hermeneutic that is concerned with how gameplay becomes meaningful as an act of play that is constrained and evaluated by the game itself. However, he does not go into further detail with the basis on which this assessment is carried out.

Arjoranta (2011) picks up on the idea of a game hermeneutic, and further theorizes how games shape the player's interpretation. According to him, there are three factors we should take into account when studying meaning making in games. First, Arjoranta, building on Bogost (2007), considers games as procedural systems, and argues that we need to pay attention to the internal logics of these systems. While I do not consider games to be procedural systems per se[8], I agree on the importance of pertaining to the structural level of games and how it affects the surface layer. Second, Arjoranta argues that we must consider the so-called interactivity of games, of which he provides two understandings. Games are interactive because they require user operation, and user input affects what happens in the game. But they may also be said to be interactive if they facilitate communication between players. The third factor that Arjoranta argues that we should accounts for, is the temporal dimension of games and how meanings change over time.

Karhulathi (2015b) contributes with a sketch of how a hermeneutic method can be applied in a critical analysis of games. He outlines two different hermeneutics of games, one that addresses games as a textual artifact, whereas the other as a phenomenological process. The former textual hermeneutic is concerned with the theme or plot of the game and is studied by Arsenault and Perron (2008) for example. As examples of the latter, Karhulathi points to Aarseth's (2003) and Arjoranta's

[8] For further discussion, see chapter 4 on simulations.

(2011) approaches discussed above, as well as Sicart's (2009) theory of ethics in games. Common to these approaches is that "[t]hey do not apply hermeneutics as a textual strategy for unearthing extra-ludic messages but as a process that gives birth and facilitates comprehending the activity itself" (Karhulahti 2015b, np.). However, Karhulathi stresses than in order to understand games fully, one needs to employ both forms of interpretation and treat the game as simultaneously what he calls an aesthetic-textual object and a ludo-performative process. To achieve a *critical* interpretation of the game, the critic also needs to interpret her own playing of the game. That is, she needs to switch from a first-person perspective to a third-person perspective from which she sees not components within the games, but the game as a singular (but multimodal) aesthetic artifact. Karhulathi calls this the meta-ludic interpretation of the game. Approached as a singular artifact, what a game is about may not be easily identified. For this reason, Karhulathi argues that meta-ludic approaches to games tend to disregard questions of theme in favor of what he calls the 'ludic identity'.

Möring (2013) similarly distinguishes between two hermeneutics in games. The first, which he labels a text hermeneutic is concerned with games as a representational form. This kind of interpretation involves transforming games from "a material object which a user engages with in a practical performative process" to "(…) a conversation piece (or cognitive model) to understand other things (…)" (Möring 2013, 295). Similarly, he describes games as texts as "an object in after-the-fact reflection" (p. 296). With regards to Bogost's (2007) interpretation of the game *John Kerry: Tax Invaders* (Republican National Committee 2004), Möring interestingly observes that it is unclear from Bogost's analysis if he is actually discussing the game in terms of tax policy, or rather discusses tax policy in terms of the game. This distinction recall's Goodman's notion of *representation-as* and its distinction from notions of 'seeing-in'. The point of Goodman's concept is to think about representations that do not simply denote an object (which according to Goodman is the primary mode of representation), but rather denote an object through another object that exemplifies certain

labels that we then impose on the denoted object. What *representation-as* (which, incidentally, Goodman argues is frequently found in metaphor) can do is characterize the denoted object by way of selected labels that we apply to another object. When Möring therefore observes that one does not learn anything new about the game *Tax Invaders* from Bogost's analysis, but also that the discourse about tax policy that the game is said to represent in fact precedes the game, this is in line with Goodman's notion of representation-as, which is exactly the transfer of pre-established labels to other domains. Therefore, we may say that Bogost presents not so much an analysis of what *Tax Invaders* procedurally represents, but rather an analysis of the theme of tax policy as read through an application of the game as a model. This will be discussed further in chapter four.

Möring also argues that games make possible another kind of interpretive practice that he calls existential hermeneutics. Drawing on Leino's (2012) idea that the materiality of single-player computer games imposes certain undeniable interpretations upon the player, Möring argues that existential hermeneutics only considers what he calls the *undeniable semiotic elements* of the game – the elements of a game that must be understood in order to (continue to) play the game. Following Möring's argument, playing the level 'Botanic Panic' in *Cuphead* (Studio MDHR 2018), for example, I don't have to understand that the carrot boss is shooting small carrots at me. It is sufficient that I realize I must protect my character from these, because if they hit my character, I will lose one of my three life points, and that when all life points are lost, I will have lost that level. Existential hermeneutics thus involve interpretations about what it means to exist in the game and how this existence is sustained. Following this, Möring also claims this is a more basic form of interpretation that is a prerequisite for conducting textual interpretations. Finally, and importantly in the context of this dissertation, he notes that existential hermeneutics approach the playing of games as a form of 'doing' or 'being', whereas textual hermeneutics consider playing the game as a form of 'seeing-as'. In other words, one is concerned with making sense of the game as an experience in itself, whereas

the other is concerned with making sense of how the game can be seen as standing for something else.

What is common to all the hermeneutic approaches to games discussed here is that, in different ways, they address the problem of textuality in games, as discussed at the beginning of this chapter, which centers on the problem that games are not from the starting point texts, but may generate texts, based on the user's input and operation of the game. Therefore, Arjoranta (2011), Möring (2013) and Karhulathi (2015b) suggest a distinction between interpretations related to playing the game and interpretations related to reading the game as a textual artifact. While the project carried out in this dissertation concerns mainly how we might understand and approach games as representational artifacts, this does not mean that I can then disregard interpretations related to the playing of the game. On the contrary, as the authors suggest, it is exactly through this level of interpretation that I am able to arrive at the game as text. At least this should be the case if I want to make a substantial analysis of the game.

CONCLUSIONS

This chapter has discussed a number of existing discussions that in one way or another engage with the matrix of representation as proposed by Mitchell (2010). The conceptualizations of games as texts, worlds and simulations share a main focus on the represen*ting* object, whereas the rhetorical and interpretational theories are more concerned with what Mitchell calls the axis of communication, that is how games may be imbued with meaning from the sender's perspective, or interpreted as meaningful from the perspective of the receiver.

However, we may make further distinctions. The notion of games as text also addresses the relationship between the axis of representation and the interpreter. In this case, the text does not coincide with the represen*ting* object as a physical medium, but may rather be understood as the structured whole of signs, which is, in itself, a product of the physical medium, the interpreter and

what the medium represents. Furthermore, Carr's textual methods of game analysis shows that meaning is not simply given by the text, but is the result of a significant critical reading in order to arrive at the underlying meanings of a text.

By comparison, in Klevjer's conceptualization of games as worlds, meaning was much more straightforwardly given to the player, who was also invited into the fictional world of the game through the proxy of the player's avatar. As such, we may characterize Klevjer's phenomenological approach as focused mainly on the relationship between the represen*ted* world and the receiver, who is specifically conceptualized as a player of the game. Furthermore, to Klevjer, it is not critical reading but rather *presence* and that characterizes the player's relation to the represented. Vella, on the other hand, while maintaining the notion of games as worlds, identified two different (but mutually dependent) relations between the player and game. First, the player enters into an experiential relation with a life-world embodied from a first-person perspective, and second, the player enters into an experiential relation with a textual world seen from a third-person perspective.

The notion of simulation focused predominantly on the relation between a represen*ting* and represen*ted* object. In itself, the simulation was thought of as a representational mode that was different but also comparable to narrative, image and so on, whereas the player was mostly conceptualized as an operator rather than as an interpreter.

Finally, the idea of games as cultural artifacts stressed games as meaning structures that are defined through the relationship with the sender and receiver respectively. As such, in this approach, games are understood as a text or message, but one that is not ultimately defined by its sender, but rather is encoded with certain values that may or may not be correspondingly decoded, based on the position of the receiver vis-à-vis the sender. As such, the notions of games as cultural artifacts and games as text are certainly related, though the former lays more emphasis on the role of the context of consumption and production than the latter.

In the second half of the chapter I reviewed approaches that more explicitly discuss the design and interpretation of games as representational artifacts. I first discussed Bogost's idea of procedural rhetorics, which focuses on the ways in which the sender may imbue games with meaning through what he calls the processes underlying games. With his strong focus on design, however, Bogost neglected the aspects of cultural context, paratext and interpretation

I discussed interpretation first in terms of Myers' theory of play as semiosis, which considered games as a semiotic form, that become meaningful through play, and second through a number of hermeneutic approaches that treat games that can be interpreted first, relative to the knowledge that the player needs in order to play the game and second, relative to the 'extra-ludic' (Karhulahti 2015b) meanings that games may express. Compared to Mitchell's representational matrix, we may say that both hermeneutics focus on the represen*ting* object from the point of view of the interpreter, but also that the first hermeneutic conceptualizes the relationship between represen*ting* and represen*ted* as completely inherent to the game object, whereas the latter frames it as a relationship between the game and the world in which it is embedded. I have mapped these various approaches to games onto a visualization of Mitchell's matrix in ***FIGURE 1,*** the results of which is shown in ***FIGURE 5***. This visualization should, of course, not be understood as a comprehensive and exhaustive representation of these theories and how they relate to one another, but a reductive stylization that aims mainly to provide an easy overview of issues raised in this chapter.

Finally, I would like to address the take-aways of this discussion in relation to this dissertation project. I would like to begin by stressing Aarseth's notion of the textual machine and the fact that the object of study is, as a whole, rather elusive. If we wish to explore games from the point of view of the sender, we may, of course, study them on the level of code. And while this may yield very interesting and productive results (c.f. Montfort et al. 2012; Willumsen 2018 for example), I do not consider it a study of the game as such, but rather of the set of instructions and materials provided for

the computer to run the game. On the other hand, studied from the point of view of what the player perceives during play, this amounts to only a fraction of the total set of possible outcomes, and even more, studied as a text, can be seen as a way to fix the machine's output in the stable form of discourse. This problem is not easily dealt with. We may try to save the game before and after every major decision we have made, in order to go back and try out the other options that the game make available in order to build a more comprehensive picture. However, this approach would still only be viable in regards to the most explicit choices (e.g. to accept a quest or not, or to choose one response in a conversation over another) the game offers, and not in terms of all the micro-choices we necessarily have to make while playing (how we choose to traverse an open space, or where to point the virtual camera to name just two).

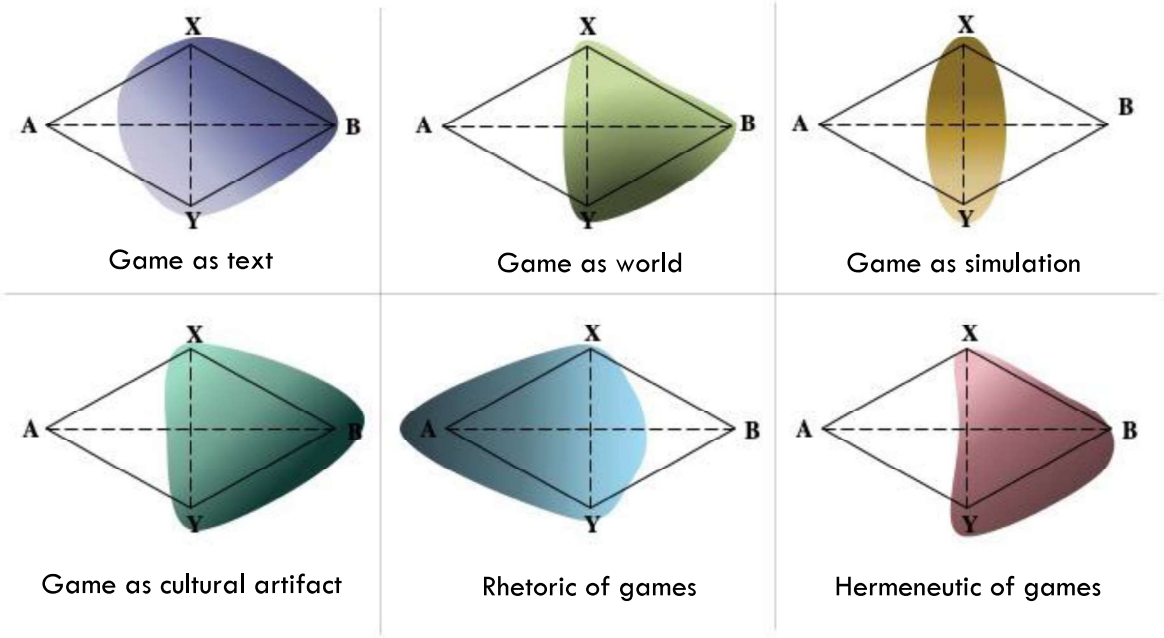

FIGURE 5: Stylistic visualization of the different approaches to games
The approaches are mapped onto Mitchell's matrix of representation
A: addressor/sender/maker; B: receiver/interpreter/audience/player
X: representing object/signifier; Y: represented object/motif/signified/referent

While this is a necessary condition for any engagement with games through the practice of play, it is not necessarily a problem to all the theoretical approaches discussed in this chapter. For example, in Klevjer's and Vella's phenomenological takes on games, this is a fundamental quality of the lived experience that is playing a game. And since games are life worlds (Vella) there are, in principle, no choices, but rather actions, since framing these actions as choices necessitates that we approach this world from a third-person point of view as a system affording a set of different alternatives of manipulation. This is not to say that Klevjer and Vella are not aware of and do not engage with the systems approach to games. On the contrary, this is exactly the double meaning that Vella and other address. However, both Klevjer and Vella in different ways challenge the notion of system to the extent that it should necessarily be considered the main frame through which players experience games. In terms of the current project this allows for an interesting move. While we may start the analysis of games from the point of view of a phenomenological first-person perspective on games as worlds, we may move from this to a critical third-person perspective. This allows us to first experience the ways in which the game naturalizes certain player actions and game reactions during play, but then, while we subsequently employ a critical third-person perspective, enables us to address the various assumptions and values underlying the design of the game world and the ways in which it accommodates the player.

This is, in part, what I believe the idea of games as simulations may achieve. Still, the vagueness of the term 'simulation' poses problems. First, the term connotes a level scientific accuracy and realistic representation that is not easily associated with games. However, more seriously, from its application in game studies it is still not clear by virtue of what a simulation actually represents its target system. While the immediate reply may be to say that it is similar, or structurally similar to its target, this answer is not entirely straightforward. In addition, Frasca's definition of simulation

assumes that the target is a system, but, as I will discuss in more detail in the next chapter, this claim can also be questioned.

This leads us to the associated idea of procedural rhetoric that rests on the assumption that games can communicate messages through their processes. As my discussion revealed, several problems have been raised about this claim. However, regarding my project, there is something to be gained from Bogost' approach, namely the focus on the ideological aspect of games. However, I am generally not sure that this is best understood on the level of game processes. Rather, I advocate following an approach based more on cultural studies, which analyzes what games represent in relation to the ways in which games are media-commodities that take part in a cultural circuit (Kline, Dyer-Witheford and De Peuter 2003) of production and consumption. Furthermore, I argue that such an approach should take into account that the label 'game' does not simply denote its object in a neutral way but rather, in different ways, subjects the object to historically and culturally situated discourses about what games should be, how they should be played and by whom.

Therefore, this approach is also not concerned with game hermeneutics but with critical analysis. In other words, I am not claiming that the analytical approach presented in this dissertation results in readings or interpretations that players necessarily arrive at when playing the game. Having said that, I hope this approach will generate critiques of the various representational strategies in game design that respond to the now often raised criticism of the ways in which games represent issues such as gender.

To achieve at this, I will offer an approach to representation in games beginning with Goodman's conventionalist theory. But this will not suffice. As observed in the last chapter, Mitchell criticizes Goodman for offering a theory that cannot critically address the conventions with which he explains existing representational practice. Similarly, we cannot simply point out the conventional character of representation in games without questioning where these conventions originated.

Furthermore, analyzing the semiotic, surface layer of games in a vacuum will not suffice. Instead, in this dissertation, I argue for a theoretical approach that enables us to connect the surface expressions with the underlying structures of games, as well as linking to the material culture in which games are embedded and from which the conventions underlying the representational practices we may observe in contemporary, commodified games have emerged.

CHAPTER 4

Simulation and representation

INTRODUCTION

The last chapter discussed a range of theories concerned with representation in games. This chapter takes a step further into what is often treated as the core of representation in games, namely that they offer simulations of what they represent. This idea is also central to the approach of representation, I propose in this dissertation. However, the notion of simulation poses many questions. First and foremost, if it is a particular type of representational object, and if so, what characterizes this type of object? Or is it a mode of representing, and if so, how may we then position it vis-a-vis other modes, such as depiction and description? Finally, what does the concept of simulation tell us about what is represented? Can anything be simulated – or can only certain types of phenomena or aspects of phenomena be represented in this way?

The notion of simulation is widely discussed in the field of game studies, but probably most notably by Frasca (2003b) and Bogost (2007) on the one hand, and Aarseth (2006; 2007) on the other. However, these two positions differ considerably. Overall, Frasca and Bogost treat simulation largely as a *mode of representation* that can represent the behaviors or processes of the object it represents. Conversely, Aarseth (2007) is more interested in the *ontology* of the simulation itself, which he argues fundamentally differs from other representations by being real rather than fictional. In the next section, I will explore in more depth the implications of these two conceptions of simulations. However, this rudimentary description already testifies to a certain conceptual messiness and consequently, the importance of untangling the concept of simulation. One obvious way to evaluate this concept is to consider its usage in other academic fields than game studies to understand in more detail what simulations are and whether games challenge the concept of simulations in any sense. But what fields might be applicable? Simulation is a key concept in the philosophy of science, and though this is an obvious starting point, games and scientific simulations are not necessarily the same. Therefore, the limits of adopting theories of simulation from philosophy of science must first be discussed.

The chapter is structured as follows: First, I will review the concept of simulations and models more generally in the field of philosophy of science. Second, I will compare those findings to the notions of simulation used in game studies and the theoretical discussions and disagreements this has generated. Finally, I will suggest a model of game simulations and their representational capacities based on these considerations.

SIMULATION AND REPRESENTATION IN THE PHILOSOPHY OF SCIENCE

Simulations play an important role in the philosophy of science, as tools for understanding and representing our reality. What counts as a simulation and what simulations represent may differ. In

the broadest sense, simulations may be computational or involve scale models, for example, and they may simulate abstract mathematical models or natural systems (Grüne-Yanoff and Weirich 2010). Hartmann (1996) probably provides the broadest definition of simulations as imitations of one process by another process. Central to Hartmann's definition is that simulations are dynamic. As such, simulations are the result of solving the equations of an underlying *dynamic model*, which in turn is a model that includes assumptions about the time evolution of its target system, unlike static models that only cover assumptions about a system at rest. In Hartmann's account, any object or system whose state changes over time can simulate (and be simulated), and if this happens to be carried out on a computer, we may say that it is a computer simulation. As such, to Hartmann, the role of the computer is trivial and only limited to the technical means by which a simulation is made.

Humphreys' (2004) definition rests on but also differs substantially from Hartmann's. He argues that simulations do not necessarily represent the processes themselves. Instead, the notion of simulations must also include examples where the underlying processes of the behavior of objects is not being simulated, but rather the state of change in objects, that is the result of processes. To illustrate this, Humphreys proposes a computer simulation of orbital motion of a planet that calculates the successive states of the planet at discrete time intervals. This is not the only respect in which Humphreys' definition differs from Hartmann's, however. Humphreys stresses that simulations are always carried out on concrete devices in real time. This is what sets simulations apart from mathematical models more broadly. Mathematical models are, per definition, abstract. Only when they are run through a concrete calculation in real time, do they become simulations. This definition has as an important implication, therefore, that the concrete device on which a simulation is run matters as it imposes upon the simulation important physical constraints and capabilities, e.g. the speed at which data is processed, the memory capabilities and so on. In continuation of this, Humphreys distinguishes between what he calls 'the core simulation' and 'the representation'. The

core simulation involves the individual computations of an equation. This task could, in principle, be delegated to a human, although this would often be time consuming and difficult. In regards to the core simulation, the computer only functions as an "amplification instrument" (2004, 110). The representation involves the display of these calculations, and here the computer becomes important. As Humphreys notes, the same core simulation can be represented in many ways. The results of the calculations of the simulation may be displayed simply as an array of numbers, or it may be displayed as static or dynamic images, for example. However, with very complex simulations, the way in which data is represented is crucial because of the overwhelming amount of data the human observer must cognitively process. These vast quantities of data, Humphreys argues, are far easier to understand if represented in the form of dynamic graphics than in the form of numbers.

In continuation of this, Humphreys argues (2004; 2009) that computer simulations raise fundamentally new epistemological and methodic issues that need to be considered in the field of the philosophy of science. These challenges include the epistemic opacity that is characteristic of the computer (broadly speaking, that we do not necessarily understand and know all the details of the computational process running the simulation); that the computer imposes a relation between the represented simulation and its application that cannot be accounted for by existing semantic and syntactic theories; that computer simulations introduce two distinct temporalities, namely the temporal representation of the dynamic development of a system in the one case, and the time it takes to compute the consequences of the underlying mathematical model on the other; and finally, that computer simulations impose a methodical switch from 'in principle results' to practical considerations of the far greater variety of situations in which a computer simulation can be applied.

While there are differences between Hartmann's and Humphreys' accounts of simulations, there is also similarities. Most importantly, both scholars make a principal distinction between model and simulation. While simulations necessitate a (dynamic) model, it is only when the values of an

equation have been calculated that we can talk about a simulation proper. As such, to their way of thinking, simulations are the result of models, or in other words, they generate and constitute representations of the properties of models. This distinction between model and simulation is not trivial but stems from a longstanding question of scientific representation, which in many ways appears analogous to the discussions of mimesis in pictorial art discussed in chapter two. In the philosophy of science, we can generally identify two different positions about scientific representation, namely the so-called semantic view of theories, which emerged as a reaction against what then became known as the syntactic view of theories.

The syntactic view is mainly associated with the logical positivists, most notably Carnap. In this view, language plays a notably dominant role as scientific theories are understood as a collection of sentences or propositions (Winther 2016). This, of course, poses certain requirements upon language: If scientific theories are collections of sentences, then we need to be able to assess the truth value of these sentences. Sentences must therefore be formulated in a language that makes them (in principle) verifiable using formal logic. To arrive at that, language must be stripped of any non-objective elements so that it reflects only strictly empirical and intersubjective truths. The syntactic view of theories necessitates that we understand how these sentences relate to the phenomena that they describe, for example, through the notion of 'correspondence rules', according to which every theoretical term must have a corresponding observable term.

The philosophy of science also included an "anti-linguistic turn" (Frigg 2003, 11) that triggered a semantic view of theories, most notably proposed by Suppe (1977), van Fraassen (1980) and Suppes (1993). According to this position, theories should be understood as a set of models rather than a set of sentences. Furthermore, these models are non-linguistic and thus represent their subject matter in a different way than by means of description. Language then comes to play a less important role, as merely a description of a model, which can be achieved in a variety of different languages

without implications for the truth value of the theory (Morgan and Morrison 1999a). It is important to stress that in this view, models are not seen as representations of various scientific theories, they *constitute* such theories, whereas language describes the scientific models. According to Frigg (2003), in the semantic view of theories, models are structures consisting of a set of objects or individuals along with a specification of the procedures and relations on these objects. While structures are not in themselves representational, they may be seen as such if they are structurally isomorphic to their target, that is if there is a one-to-one correspondence between all structural parts of the model and the target.

However, the semantic view of theories has also received criticism. Frigg (2003) offers a critique of the semantic view of theories, pointing out that isomorphism is a problematic explanation of how models relate to their target. First, isomorphism holds between the structure and the target and is thus external to the model. If we define models as structures, this basically means that they represent qua some external force. Therefore, this view fails to explain how models themselves relate to their target. In addition to this, isomorphism also assumes transitivity and reflectivity, which means that if a model has a certain structure, then the target must also have this structure and nothing more. In reality, the target of a model may exhibit many different structures. Therefore, a model is only isomorphic to its target with respect to a certain description of this target. Description then cannot be rendered as secondary to models but must be seen as an integral part of how models represent their targets. Morgan and Morrison (1999b) criticizes the semantic view for conflating theory and model. Instead they argue that models can serve functions that are independent from theories and thus should be viewed as autonomous agents that *mediate* between theory and the world. Because of this independence from both empirical data and theories, models may serve as representations of both empirical target systems and theories.

How does this affect simulations? The starting point of the discussion of the syntactic and semantic views of theories was Winsberg's (2001) and Humphreys' (2004; 2009) distinction between model and simulation. Winsberg's justification of this move agrees with Morgan's and Morrison's (1999b) claim about the independence of models from both theories and empirical data, which then renders simulations as one type among other mediating models. Humphreys' (2004; 2009) claim is rather different. According to him simulations are distinct from a semantic view of models, because in computer simulations, we cannot abstract from syntax, as the semantic view proposes. Computer simulations only exist when they are run - that is when the computer processes a set of linguistic strings. In itself, the syntactic view of models is also insufficient since computer simulations replaces the deductive relation between axioms and their predictions, with opaque and discrete computational processes (Humphreys 2009). Against this, Frigg and Reiss (2009) argues, that while there are many problems with both the syntactic and the semantic views of theories, there is nothing about computer simulations alone, that offers any *new* challenges to these theories. However, this does not mean that the theories are unproblematic. Indeed, there are several problems with them, as already briefly mentioned above. However, these problems do not only pertain to simulations but also to models more generally. I will leave this discussion unresolved by now, in favor of a more thorough discussion of the representational capacities of scientific models. Here we are faced with a fundamental question: if we reject the syntactic and semantic views of theories as Morgan and Morrison (1999b), Frigg (2003) and other scholars suggest (e.g. Suárez 1999; Toon 2010), we need an alternative explanation for how models relate to their targets.

Models and scientific representation

In the following, I will discuss an account of model representation proposed by Frigg (2003; 2010c; 2010a; 2017a). The advantages of using this account are not only that it supplies answers to the question of how scientific models represent, but also that it does so by drawing on theories that go

beyond philosophy of science. Since games are not necessarily scientific models (although some may be used as such), an account of representation that is applicable only to scientific models would not be worth considering. While Frigg is interested solely in how scientific models represent, he explains representation by drawing on more general theories. As a result, we can, at least to some extent, apply his account to other domains as well. The limitations of this will be discussed at the end of this section.

Having dismissed the notions of similarity and isomorphism as explanations of scientific representation, Frigg (Frigg 2003; 2010c; 2010a) proceeds to suggest denotation as the principle that holds between the representation and its target. According to Frigg then, a model basically represents its target if someone stipulates that it does. As such, models represent their targets in the same way as name denote their bearers (p. 126). Frigg (2010c; 2010a) calls this referential relationship 'T-denotation'.

In itself, the notion of denotation does not describe precisely what is meant by the notions of model and target respectively, which therefore requires further qualification. What counts as a model may differ in theoretical accounts. One particular view held by theorists who support the semantic view of theories is that models are structures (Da Costa and French 2000). However, as such, structures cannot be representations because they have no content. As Frigg notes "(…) in themselves structures do not represent anything in the world. They are pieces of pure mathematics, devoid of empirical content. But a representation must possess 'semantic content', that is, it must stand for something else." (2003, 25).

Instead of supporting the structuralist claim, Frigg proposes that models are imagined objects. According to Frigg (2003), real-world targets can only be said to hold certain structures relative to specific descriptions and conceptualizations of these targets. This involves demarcating parts of the real world to establish what is part of the target system and what is not, and it also involves making various idealizing assumptions about the target in order to make it fit into the structure. We may for

example construct our immediate celestial space into a system consisting of ten perfect spheres, of which nine are in orbit around the tenth sphere. Although this is both a convenient and familiar construction, it is by no means the only one we could make. One could include in the system a range of other objects present in this space, or one could identify the building blocks of this system at a 'lower level', for example on the level of the individual atom. Furthermore, planets are not perfect spheres and they do not only interact with the sun (Frigg 2003, 67). Constructing the solar system as a structure consisting of clearly defined parts and relations between is therefore in a sense a false description if it is taken to refer to our actual immediate space. Instead, Frigg suggests that this description refers to an imagined object which is the model. There are two important aspects of this definition: first, that the imagined object is not the real-world target, and second, that the imagined object is also independent of its description. This allows for different descriptions in different formal or informal languages that refer to the same model (Frigg 2003, 98). The representational relation between the description and the imagined object that constitutes the model, Frigg (2010c) terms 'p-representation', whereas the relationship between the model and the target is called t-representation'. Frigg's account of scientific representation can be illustrated in ***FIGURE 6***, below.

When Frigg writes about imagined objects, the fact that they are imagined is not important. In fact, science also makes use of a variety of models that have physical extensions, for example, scale models, analogue models such as the Phillips machine and model organisms. To return to the notion of simulations, they obviously belong to the category of material models rather than imagined models, and, like other material models, our epistemic interaction with simulations is not confined to our thoughts. This is no obstacle for Frigg, since imagined and physical objects alike denote their target in exactly the same way: "(…) from a *semantic* perspective imagined and material models are equivalent" (Frigg 2003, 100; no italics in original). He admits that although material and imagined objects may be semantically identical, there are ontological and epistemological differences. The

latter are most important, as material models allow us to acquire knowledge about the models by making actual experiments with them and not only reasoning about imagined objects. At the end of this chapter, I will return to the difference between the simulations and other material models on the one hand and imagined models on the other hand, and to what extent we may make the same observations about games.

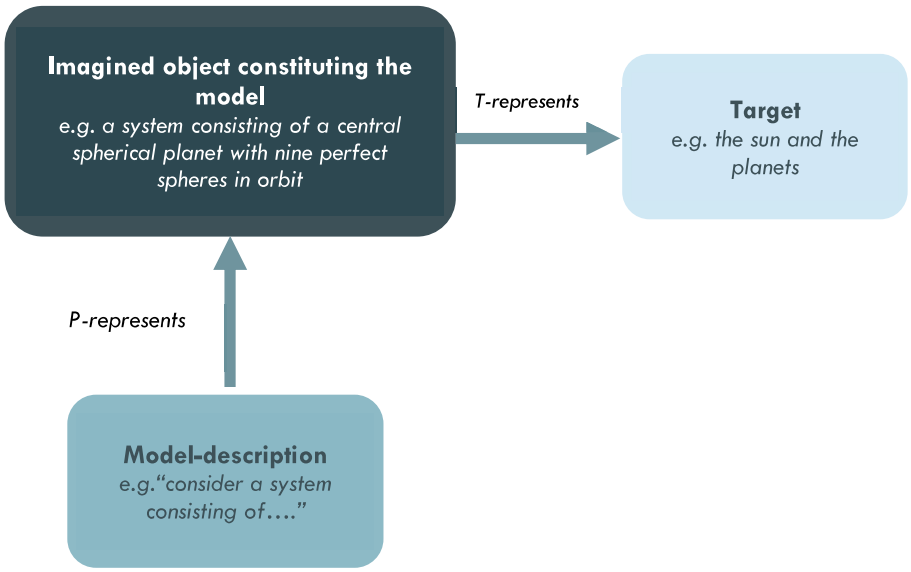

FIGURE 6: **How scientific models represent**
My reproduction based on Frigg (2010b)

Exemplification and scientific representation

Frigg and Nguyen (2017c; 2017b; 2018) offer an account of scientific representation built on Goodman's (1976) representational theory as well as Elgin's (2010; 2011) further work on exemplification. Goodman's and Elgin's theories of representation has certain important implications to the current project. According to their constructive nominalist view, in simple terms, there are no such things as properties in themselves. Properties are always a result of certain symbolic schemes – they are dependent on the way we look at or theorize about particular phenomena. This being the

case, properties only exist as aspects of particular things in the world as seen through various theoretical frames. They depend on the available concepts for identifying and describing what we experience[9].

For instance, an object can only be said to possess the property of temperature because of the availability of the concept of temperature. The property therefore relies on a certain way of theorizing about the world that stipulates fixed anchor points such as freezing and boiling points. The concept of temperature also necessitated the invention of the thermometer. Therefore, instead of merely arguing that the *property* of being red is exemplified by a rose for example we might istead say say that it is the *predicate* of 'red' that is, in fact, exemplified. As we will see later, this additional step has certain benefits. Still, the it might overly complicate how we can talk about representation. For this reason, I will continue to use the term property, but with the qualification that properties ultimately are just predicates.

However, as we might remember from the review in chapter two, merely possessing a property is not a sufficient condition for exemplification. As Goodman (1976) argues, exemplification is possession plus reference. Elgin (2011, 401) explains exemplification as a dual relationship: "an exemplar directly refers to a property it instantiates and thereby indirectly refers to other members (if any) of the extension of that property". It is important to note that this does not amount to saying that the exemplar represents because it is *similar* to whatever object it is said to represent. In comparison with exemplification, similarity is still a vague term, and as Frigg (2003, 81) claims: "similarity is an abstract concept that needs fitting out in every instance in which it is used and that has little interesting content on its own".

The distinction between denotation and exemplification then enables Goodman and Elgin to talk about representations that do not strictly denote anything. This is what Elgin (2010) calls a *z*-

9 It should be clear how this view, to the extend described here, also corresponds nicey with for example Hall's culturally oriented theory of representation

representation. Z-representations are representations that we classify by their type of motif rather than their referents. Although there is no such thing as a unicorn, we are still able to make sense of representations of unicorns, and this to Elgin shows that we classify representations by their motif or what they show, rather than by what they may refer to. Z-representations may show non-existent, fictional entities such as unicorns, but they may also show sets of existing objects, such as men, trees or dogs. In these cases, we may still make sense of the representation, even though it is not any specific existing man, tree or dog that is represented but more the concept of man, tree and dog.

Naturally, this idea presents various problems, most importantly how we are even able to identify a unicorn representation as such in the first place. This is an interesting question, but outside the scope of this dissertation. Suffice it to say that we are able to identify predicates that denote fictional phenomena such as unicorns and dragons. According to Elgin (2011) and Frigg and Nguyen (2017c; 2017b), contrary to our popular intuitions about science, there are plenty of null-denotations in scientific representations. To follow up on Frigg's (2003) example of the solar system, there is no such thing as a perfectly spherical planet, yet we can find many scientific representations of perfectly spherical planets. And similarly, as Elgin (2010) notes, there are ideal-gas descriptions even though there is, in fact, no ideal gas. In the case where the model-description in ***FIGURE 6*** denotes an imagined object, the model is a Z-representation

Models and representation-as

Alone, exemplification refers only to certain properties that can be possessed by a range of different objects. But taken together, exemplification and denotation may be used for what Goodman (1976) and Elgin (2010) call 'representation-as'. As described in chapter two, representation-as involves a denotative relationship between a predicate X and its target Y, but, at the same time, the predicate-X exemplifies certain properties, which the target Y then is represented as possessing. Goodman provides a trivial example of a picture of a horse that has just emerged from a spotlight. To claim that

this is a picture of a black horse is technically correct, as it appears in silhouette in front of the bright light. Still, most people would probably agree that this is not the best description of the horse, if it under other circumstances would be light brown. Therefore, Goodman argues, this might be a picture of a horse *as* black. Similarly, if a friend asked for a portrait of me, and I provided her with a thirty-five-year-old baby picture, she would probably object that this was a portrait of me *as* a baby and not really what she wanted. Note, that most pictorial art involves representation-as, whereas a lot of literary fiction does not. Still, language may also exemplify. Oral language may exemplify a certain pitch, speed, duration etc., whereas written language may exemplify a certain structure, size, color etc.

According to Goodman, representation-as is often found in metaphor and caricature. Take the Guardian's cartoon artist, Steve Bell's, recurrent caricatures of former British Prime Minister David Cameron depicted as a condom. In various interviews, the artist explains that he wanted to portray a rubberlike smooth- and sleekness that could symbolize a certain opportunistic transforming quality which he saw in Cameron. Based on this, and in addition Cameron's transparency campaign in the wake of the UK parliamentary expenses scandal of 2009, Bell decided to depict Cameron first as a jellyfish, later with a condom rolled over his head and eventually simply Cameron as a condom (Slattery 2010; Bell, Healey, and theguardian.com 2016). Similarly, objects may be used as metaphors. For example, if we use a picture of a tree as a metaphor for a philosophy department (Elgin 2010), we must impute certain properties from this tree picture onto the department, for instance that it possesses a branch-like structure rooted in a central foundation, that some parts of the branches are flourishing whereas other a dying.

Frigg and Nguyen (2017c) suggest that this mode of representation-as is the basic representational relation between scientific models and their targets. Anything, the authors argue, can be used as a representation. However, with objects such as pictures and maps, we are so accustomed

to thinking about them as representations that we tend to ignore their material aspects and mistake them for the thing that they show .With scientific models, we tend to pay more attention to the material aspects of the object doing the representation – what Frigg and Nguyen call the base of representation. However, this is only a matter of convention, as all representations have material bases.

With scientific models, the base may be of particular interest as it may exemplify certain properties that the user of the model can then impute to the target of the representation. Frigg and Nguyen (2017c) describe scientific representation-as in the following way. *X* is a scientific representation that denotes its target *Y*. In itself, X is an object that is being made into a *Z-representation* by stipulating that this object represents some imagined system having certain properties ($P_1 \ldots P_n$), which is then said to be exemplified by this *Z-representation*. Note that the object itself may possess many more properties, but they do not all have to be part of the *Z-representation*, and thus the exemplifying capacity of the model. These properties may then be translated into a set of properties that are imputed to the target Y. This translational act is necessary, as models do not necessarily possess the properties that we are interested in imputing to the target. Therefore, we need to be able to translate the properties that the model actually possesses into the properties that we are interested in. This translation requires a key or decoding scheme. For example, a map may specify that we are to take one cm on the map to represent 25,000 cm of its target terrain, that colors on the map represent different features that we impose on the terrain, such as the elevation of the terrain, the density of the population, political demarcations etc. But there may also be less straightforward examples, as the following discussion of a Phillips machine indicates.

Frigg and Nguyen illustrate their account of representation with the so-called Phillips machine, also known as the MONIAC. The Phillips machine is an object consisting of a system of pipes, tanks, valves and sluices that allow for various flows of water. These are the properties deemed

representational, whereas other properties of the object, for example its height, its location, and its age can be ignored[10]. The Phillips machine is then said to constitute an economy model, and the various properties that the model exemplifies are said to represent different aspects of this economy. However, they do not do that in a completely straightforward manner. The property 'containing water' in the model does not exemplify the property 'containing water' in the target. Therefore, we need to translate this property into a property that we are interested in imputing to the target. For example, we may translate the flow of water into a flow of money, the opening of sluices and turning of valves into various political decisions and market responses and so forth. A model may consequently offer a *key* to support this translation process. Maps are frequently accompanied by such keys in the form of scale bars or legends that provide a written description of the various symbols on the map.

Here, it is important to keep in mind that this is an imagined or idealized economic system that the model exemplifies, and by operating the Phillips machine, we may come to know the workings of this ideal economic system. But in addition to this, we may denote that the system that the machine exemplifies represents an actual economy, such as the national economy of Britain or Guatemala, and in that case, we may use the model to inquire about a specific theorization of this actual economy (that is, the economy as seen through the lens of a particular economic theory). Finally, we may note that the material base of the Phillips machine matters, but that the economy model that it constitutes, could also be constituted by other objects. A digital object consisting of virtual tanks, pipes, valves and sluices, would also suffice. In this case, although the materiality of the physical and the digital models may differ (as Kittler (1995) reminds us, the materiality of the digital model ultimately coincides with the physical properties of the computer), they still exemplify the same systemic and behavioral properties (the system of pipes and tanks that can be open and

[10] As noted earlier, an object becomes a model relative to a description, and it is also this description that, with a given object, establishes what properties of the object can be ignored, and which cannot.

closed). This account of scientific representation can be summed up as shown in ***FIGURE 7***, which is based on a model devised by Frigg and Nguyen (2017c, 170).

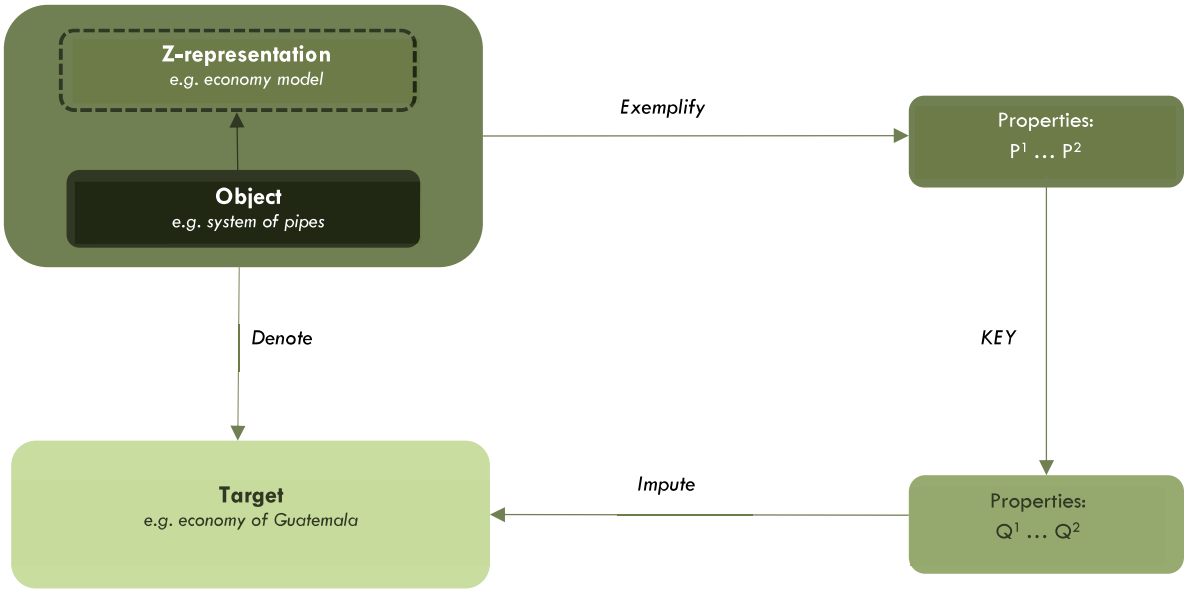

FIGURE 7: **Model of representation-as in scientific modeling**
My reproduction based on Frigg and Nguyen (2017c)

If we compare and map the model in ***FIGURE 6*** onto this model, we see that the notion of the Z-representation in the current figure coincides with the imagined object constituting the model in ***FIGURE 6*** and that the 'target' of ***FIGURE 6*** and ***FIGURE 7*** also coincide nicely. As such, it is perfectly possible to see this model as an elaboration of the model in ***FIGURE 6***. The key points of this account of scientific modeling will be recapitulated in the following list. At the end of this chapter, I will return to these points in order to discuss their consequences for a theory of how games represent.

Models come in many forms: As we have seen, nothing is given, natural or immediate about the ways in which models represent their target, and this also means that, in principle, everything can be turned

into a scientific model. However, for a model to be epistemically useful, it must be possible for the user to draw inferences about the content matter of the representation based on what we know about the representational object.

Models involve interpretation: Scientific representation necessitates several interpretive steps. We begin by constructing a given object as a Z-interpretation, by interpreting some of the properties of this object as representing certain aspects of the target. This act of interpretation can be completely ad hoc, but in that case, a detailed decoding scheme needs to be provided for the model to be epistemically useful. At other times, the ways in which we interpret a model may be highly habituated. The interpretation of the scale model for example, is typically so habituated that we know which of the properties of the model we should consider and which we should ignore.

Models involve non-actual phenomena: Models do not need to represent actual things in the world. They can represent completely theoretical phenomena that we cannot verify the existence of, and they may even represent phenomena that we know do not exist. If models do have an actual target, they do not represent them 'as they are' but as an idealization that possesses only a limited amount of the potentially many possible properties that this target can be said to possess.

Models are intentional: Models do not mirror reality but are rather objects exemplifying certain properties that are then imputed to a target. This also means that models are always used with some specific purpose in mind. Models constitute scientific theories and, as such, are constructed in ways to allow certain inferences to be drawn from model to target.

Models always have a material base: All representations have a material base, be it a canvas covered in paint, ink on a piece of paper or a system of pipes and water tanks. We need to distinguish this material base from the content matter of the representation. This does not mean that the base of the representation is completely irrelevant to the content matter. Indeed, it may be used to exemplify certain properties of this content matter. However, exemplification is also not given but rather requires that somebody takes certain properties as exemplifying the properties of the item that is represented.

Because of this, I argue that the notion of representation-as offers a convincing account of representation in games. Simultaneously, it can alleviate some of the problems encountered in existing discussions of the representational capacity of simulations in game studies. The next section of this chapter will unpack this claim in more detail.

SIMULATIONS IN GAME STUDIES

The notion of simulation has also been a central concept in the academic understanding of games. Most notably, the concept plays an important role in games for educational and training purposes. In other branches of games studies, simulation is introduced as what differentiates games from other media and their representations.

In the following, I will offer a critical discussion of two prevalent uses of the notion of simulation in game studies, in particular, one building on Frasca's (2003b) claim that games are simulations and as such are capable of representing not only an object but also its *behavior,* and another building on Aarseth's (2007) claim that simulations differ from fictions on an ontological level and that the notion of simulation therefore adds an additional category to the dichotomy of real and fictional. Building on the above review of scientific representations, I argue that both uses of the notion of simulation in game studies offer interesting insights into how games represent, but also that both need further qualification. At the end of this section, I will then introduce my revised theory of

how games represent, which will draw heavily on the theory of scientific representation presented by Frigg (2003; 2010a; 2010b; 2010c) as well as Frigg and Nguyen (2017a; 2017b; 2017c; 2018) as discussed above.

The representation of processes and behavior in simulations

According to Frasca (2003) simulations are the representational mode of games. On the simplest level, Frasca's argument runs as follows. Whereas images can depict objects in space, and even, in the case of a sequence of images, in different temporal states, simulations are capable of representing objects as *a set of relations and with certain behaviors.* Frasca (2003b, 223) defines simulations as follows: "to simulate is to model a (source) system through a different system which maintains to somebody some of the behaviors of the original system". Frasca's definition is persuasively simple, but, for that reason, leaves important issues to be explained: What constitutes the notion of system in this account? And more importantly, how does the system represent the behavior of the source system? Frasca's definition tells us only that the representational object and the item it represents must be a system and must have behaviors, but it tells us very little about how the system actually represents – or rather simulates. Building on the discussion at the beginning of this chapter, we may, for example, construct a model of the solar system on a piece of paper by specifying the different parts of the system (the planets) and their behavior (their movements represented as circles or ellipses around the sun or shown as a numbered sequence of images, each representing different temporal states of the planet). This system thus represents the parts and their behavior, though it would be unlikely to pass as a simulation in Frasca's view. However, Frasca further qualifies his notion of simulation by adding to the above that simulations must respond to stimuli according to a set of conditions. This significantly improves the definition but not enough, and even though we now know that the simulation must, in itself, be *dynamic* and operable, we are still fundamentally left in the dark regarding how this dynamic and operable system represents the source system.

The same problem can be observed in Bogost's (2007) idea of procedural rhetoric, which rests on ideas similar to those of Frasca. According to Bogost, games are a unique medium of expression capable of representing *processes by processes*. Whereas other media may represent processes by a narrative or an image, for example, only in games can processes be represented by other processes. Following this, by engaging with the processes in the game, users may experience the relations, limitations and operation of so-called cultural processes. These cultural processes are found everywhere, from courts and law enforcement, to product returns in retail. Bogost argues that video games are particularly capable of representing these cultural processes through other processes, rather than through linguistic description. Because games represent through processes, they become "(…) particularly useful tools for visualizing the logics that make up a worldview (…), the ideological distortions in political situations (…), or the state of such situations" (Bogost 2007, 75). Bogost's idea of procedural rhetoric has been widely popular in game studies and has been adopted by many scholars (c.f. Ferrara 2013; Harper 2011; Matheson 2015; Treanor and Mateas 2009; 2013; Fassone 2015).

Although Bogost offers seductive arguments, they have also met with criticism, most notably by Sicart (2011), Möring (2013) and Aarseth (2015). According to Sicart, proceduralism reduces play to mere actualization of the already predetermined meanings embedded in the game's rule system. Aarseth (2015) criticizes the whole idea that procedures may, in themselves, carry meanings, whereas Möring (2013) makes the important observation that these procedures are made available to the player through various semiotic systems, and that they become meaningful through this *inscription* (see also the discussion in chapter three). This line of argument seems to run parallel to the discussions about scientific models reviewed above, particularly to Frigg's claim that structures are abstract and void of meaning, and then cannot be representational, but also that models, given that they do not stand in a pregiven relationship with their targets, are always interpretative. As such, it is not the processes

alone that represent other processes. Therefore, it is important to stress that game processes can be said to represent their targets *only in so far as* we have also stipulated that a particular process exemplifies some aspect that we ascribe to the target of the representation. In other words, processes gain this status of representations only through acts of inscription and interpretation, which turn the abstract into particular properties that we impute to the target of representation. In fact, the only way processes become *accessible* to us is through their inscription. Aarseth (1997; 2011) distinguishes between the structural and the semiotic layers of games. These two layers work independently of one another, i.e. the player engages with the latter, but the former contains the rules for this engagement, but are only given meaning on the semiotic layer. This separation is important to keep in mind, and is discussed in more detail by Arsenault and Perron (2008). According to the authors, the player can only infer from her engagement with the semiotic layer of the game, some idea of the underlying operational rules of the game: "[the player] does not, per se, discover the game's algorithm which remains encoded, hidden and multifaceted (…). His mental model will never represent the gameplay as a computer set of instructions or calculated formulae (…)." (p. 110). In addition to this, in the game structure, we may, for example, find rules determining completely internal aspects of the structure that are never realized on the surface layer. Therefore, engagement with the surface layer of the game may give only a probable and approximate idea of the underlying structure.

Just as Frigg and Nguyen (2017c) argue about scientific representations that only selected aspects of some object are counted as part of a representation of something, we may say that with games, structure matters but only to the extent that it determines the properties of the surface layer. In this reduced form, selected (not all) properties of the structural and semiotic layers of the games are constructed as a model of something. This model is then treated as exemplifying certain properties that are either identical to or translatable into a corresponding set of properties that we ascribe to the target.

GAME SIMULATIONS AS REPRESENTATION-AS

FIGURE 8 illustrates the theory of representation that I propose for the analysis of games. The theory is inspired by Frigg and Nguyen(2017a), and does not in itself address play as an interpretive practice. In the bottom left of the model, we find an actual game consisting of a game structure, the communicational aspects and an agential aspect. In the structural aspect, we find the formal properties of the game, that is its parts or elements, their relationship and behaviors. Some of the structure's properties, e.g. the rules of behavior only relate to parts of the of the structure itself (represented as the circular arrows pointing inwards in that aspect), whereas other properties of the structure relate to the communicational aspect (represented as linear arrows pointing upwards). Furthermore, it is through the agential aspect, that the player comes into contact with the game. For now, these aspects are not crucial, but I will discuss them in more detail in the next chapter. Similar to Frasca's (2003b) account, the game constitutes a model of something (in the figure represented as a dotted box). It is important to separate the model from the game in itself. The model is first and foremost a mental[11] construct and I could in principle interpret a single game as model of a range of different phenomena. As such, the notion of model operates on the same level as the notion of motif in Wollheim's account. We see in the material picture and motif of something and similar we mays see in the material object a model of something. This model may then be imputed to a range of different actual phenomena, or it may simply be taken as a model of hypothetical or fantastic phenomena. In the review of Frigg's account, I maintained his terminology according to which the model is 'imagined'. However, in more media-oriented fields, this may be read as imaginary or fantastic. Therefore, in my application of Frigg's account, I will rather use the term 'mental model'. With this term, I wish to stress the difference between the material object and the model we may see this as. Still, I want to stress, that I

[11] In the review of Frigg's views on scientific representation, I have maintained his terminology according to which a model is 'imagined'. However, for the sake of conceptual clarity, in relation to my account of how games are models, I will be using the term 'mental model' and retain the term 'imagined' for fantastical phenomena such as dragons. A mental model can therefore denote object that have a physical extension in the world, and object that have none.

do not use mental model in the same way that it might be used in cognitive science of philosophy of mind, that is as our inner representations of all things that are given to us through sensory experience. To return to the example with the picture, a cognitive scientist may say that we have a mental model of the picture (with which we make sense of the material object of the canvas overlaid with paint)[12], whereas I will use the notion of mental model to address how our intentions may be directed at the motif rather than the physical object.

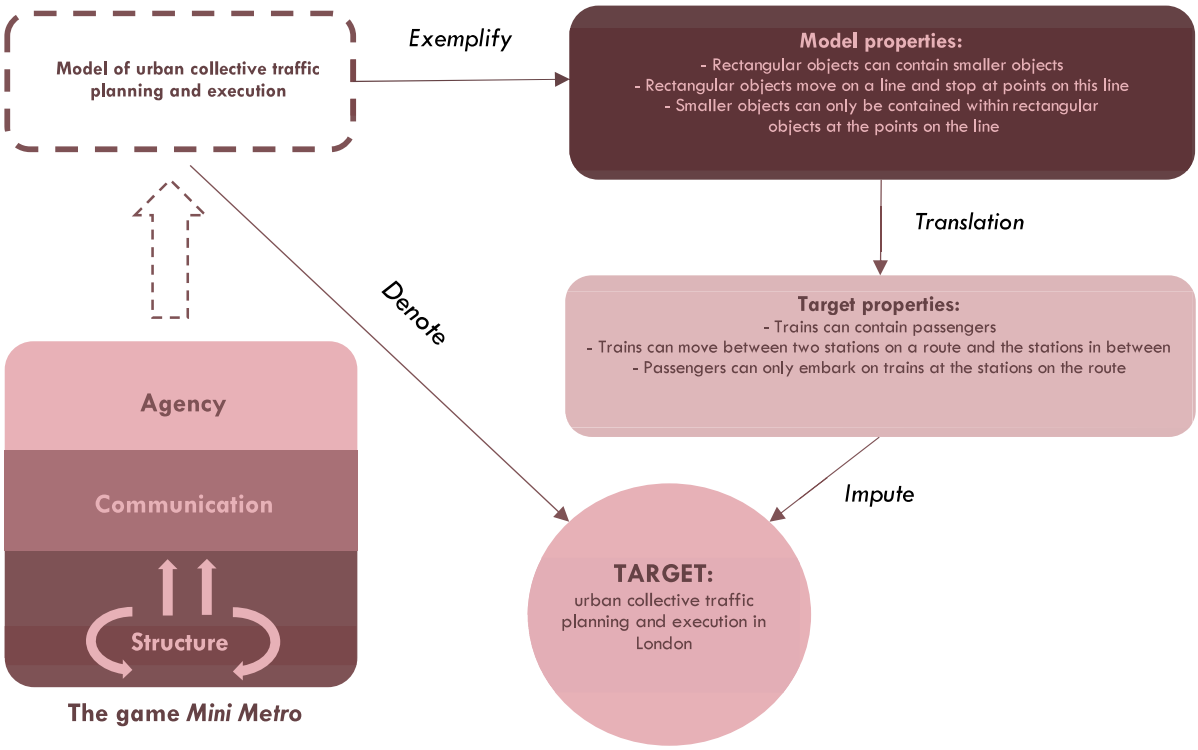

FIGURE 8: Representation-as in games.
Modelled on the example of the game Mini Metro (Dinosaur Polo Club 2014)

[12] In philosophy of mind and cognitive science, the notion of mental model have its own long, complicated but fascinating history, that is not completely unrelated to the study of media representations. Still, it it outside of the scope of this dissertation and will not be discussed further.

Furthermore, not all possible properties of a game are necessarily counted as part of the same model. Which properties are counted, ultimately depends on what the person stipulating that the game is a model, wants the game to represent. The properties that the model exemplifies (the model-properties) are shown in the upper right-hand corner of the figure. These properties are translated into a set of other properties (the target properties, shown in the bottom right-hand corner) that are then ascribed to the target (represented in the model as a circle in the middle of the figure at the bottom). This translation necessitates a key that can be more or less explicit, depending on the extent to which the game employs a relatively conventional scheme for interpretation and the amount of additional information the player may need. Sometimes, this key may come in the form of a written rule book, sometimes in the form of written descriptions at various instances in the game (as textual overlays to the graphics, or additional information provided in so-called in-game inventories and encyclopedias).

Let us run an example through the model. In the game *Mini Metro* (Dinosaur Polo Club, 2014) (***FIGURE 9***), player must construct and maintain an urban metro system for as long as possible. The game begins with three stations that the player must connect with a single metro line on which a train is automatically added. As more stations appear on the map, the player must expand the existing metro line or construct new lines. Similarly, as more and more passengers crowd the stations, the player must add additional wagons and trains to the system. The game proceeds for as long as the player meets the demands of the passengers but will terminate if a station becomes overcrowded.

Several representational claims may be made about the game. First, that the game as a whole denotes an urban collective traffic system. Second, that particular objects within the game denote particular targets. Third, that metro lines are represented by the various colored lines on the map, that trains and wagons are represented by the small rectangles moving back and forth on these lines, that stations are represented by the big white circles, triangles and squares, whereas passengers are represented by the small black dots, triangles and squares. Fourth, we may also take into consideration

the system underlying this model and the behaviors that it prescribes. This system of interrelated objects (representing stations, passengers, metro-lines, trains and wagons) exemplifies certain properties that can be ascribed to the target (the urban collective traffic system). The system may exemplify that the trains are capable of transporting passengers from one point to another point, but also that certain rules apply to the relationships between passengers and stations (passengers represented as triangles can only disembark on stations represented as triangles, passengers represented as round dots only at circular stations and so on), it may exemplify that if this transportation is taking place successfully over time, new lines, trains and wagons become available for use, and finally it may exemplify that if the transportation is not taking place successfully, that is, if a sufficient number of passengers are not transported to another point on the map, the system will cease to be operable.

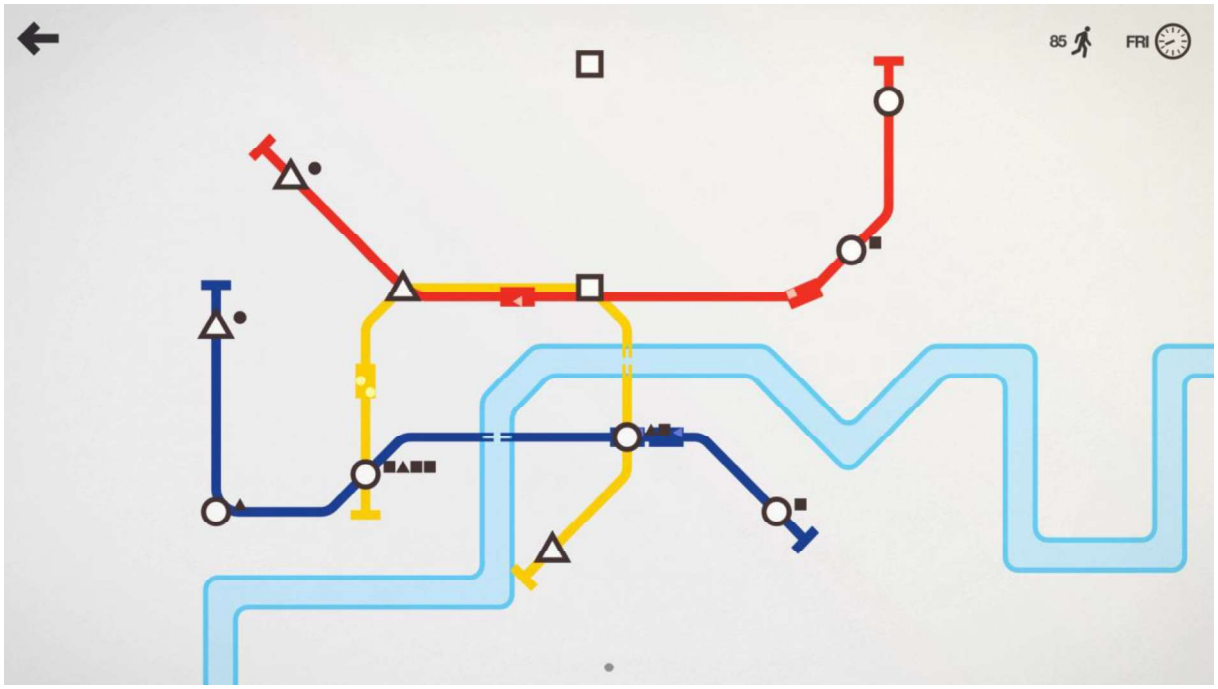

FIGURE 9: Mini Metro played on the London Map.
Image courtesy of Dinosaur Polo Club, https://dinopoloclub.com.

These properties can then be translated into other properties that we may impute to the denoted target. Such properties might be the capacity to transport passengers from one station to the next, that trains can only contain a limited number of passengers but also that this number increases if the number of wagons in the train is increased, that stations can hold only a limited number of waiting passengers and so on. This translation is accompanied by a particular key. In the case of *Mini Metro,* the game employs a conventionalized and widely used representation scheme of urban traffic inspired by Harry Beck's map of the London Underground from 1931-33. The game also offers a limited amount of textual information, for example linguistic labels such as "train", "wagon" and "tunnels", which are associated with the otherwise abstract figures on the map.

Overall, the game represents urban collective traffic planning and execution *as* a model that exemplifies the above-mentioned properties. This claim does not necessarily depend on whether the target (any actual metro system) actually has these properties but only shows that we have constructed it as such, in this instance of representation-as.

Representation-as, null denotation and imagination

There is yet another important aspect of this model that should be addressed. As ***FIGURE 8*** shows, games need not to have an actual real-life target in order to be representational. We may construct the game as a representation of a specific instance of urban collective traffic planning and execution in London, New York or Melbourne. In fact, this interpretation is further supported by the inclusion of these specific city names in the game as well as by particular properties of the levels (such as the locations of rivers) that make them exemplify corresponding properties in actual metro maps of these cities. However, one could also claim that the game does not necessarily represent particular traffic systems but rather the concept of urban collective traffic. Fullerton (2008) for one, describes the simulational capacity of games as a matrix where one side describes the representational style and consists of a continuum between realism and abstraction, and the other describes the scenario

modeled, and consists of a continuum between the specific and the generic. However, as already discussed earlier, labels and simulations alike need not refer to real phenomena (in a particular or conceptual sense). This is no problem according to Aarseth's (2006, 846) understanding of simulation as the "dynamic modeling in general, rather than the faithful mapping of 'real phenomena'". This use of the notion of simulation has been critiqued by Karhulathi (2015a), who notes that a simulation is a specific type of model or *imitating* system, and this implies that one cannot simulate without an empirical counterpart that is being simulated (this view is in line with Myers (2017). He then criticizes game studies for using the term 'simulation' in a 'Baudrilliardian' sense of self-referential representation (see also chapter two and three), rather than adhering to the established scientific use of the term. Put differently, Karhulathi argues that games scholars should not use the term 'simulation' to refer to cases where the game represents imaginary phenomena such as dragons and trolls. To avoid this conceptual confusion, both Karhulathi (2015a) and Aarseth (2006; 2007; 2011) suggest the notion of *virtuality* rather than simulation.

Yet, on further inspection, Karhulathi's argument is problematic, at least if compared to the discussions on scientific representation reviewed in the first half of this chapter. First, as described earlier in this chapter, Goodman (1976), Elgin (2011; 2010) and Frigg (2003; 2010a; 2010b; 2010c) all argued that imitation is a problematic concept. Second, as Frigg notes, scientific representations often represent things that we know for a fact do not exist. Therefore, even in a scientific context, nothing prevents us from using the notion of simulation in situations where there is no empirical phenomenon to be represented. There are plenty of models in science that do not stipulate any real-world target that they denote. Simulations may model many things and are often used simply to study some theoretical tools that can then be included in other models at a later stage. For Elgin (2010), in principle, a griffin-picture and an ideal gas-model do not differ in the sense that we know both griffins and ideal gas do not exist. However, in science, ideal gas remains useful in a range of situations,

including as a basic, simplistic model of gas behavior that can then be used in comparisons with real gases. In principle, therefore, the idea that games are also simulations that do not simulate any real-life counterpart prompts no problems. This is fortunate, given that games often simulate entities such as dragons, Pokemóns, witches, demons that we know have no real, empirical counterpart (neither specific nor generic).

Aarseth (2007) distinguishes between three distinct ontological categories in games. First, like novels and films, games can contain fictional elements. In *Return to Castle Wolfenstein* (Gray Matter 2001) Aarseth (2007, 42) encounters fictional doors, which he describes as mere "textures on the walls that look like doors, but whose functions are purely decorative". These are not fictional, in the sense that they have no real-world counterpart, but in the sense that only in our imagination can we experience them not as signs on a screen, but *as if* they were the represented objects themselves. Aarseth also encounters other types of doors that behave like real-world doors and can be "opened, closed, seen through, walked through and fired through" (p. 42). Because these doors function like actual doors in the game, Aarseth notes that they are un-fictional and virtual. In other words, what differentiates these doors from decorative doors, is that we do not have to imagine that we can open, walk through and close these doors, because these doors exist not as static signs but as a dynamic model. Other game elements may even be real. For example, the concept of a maze does not come with requirements of a particular materiality to qualify as such, and therefore mazes are equally 'real' if they exist as ink on paper, are made out of hedges or are digitally modeled. Therefore, it would also be wrong to classify them as representations-of mazes, as all three would be mazes in their own rights.

However, the distinction between virtual and fictional elements is the most interesting aspect of Aarseth's theory, though also the most difficult aspect to make comply with the views on scientific representation discussed earlier. In accordance with the view on representation presented in this chapter, both the decorative doors and the virtual doors can, in principle, be said to constitute a model

of a door. As I do not discriminate between static and dynamic properties, one could simply say that what Aarseth calls a decorative door models a set of properties that relate mostly to appearance and some parts of a generic doors structure, whereas the virtual door also models properties that relate to its use and change over time. Furthermore, both decorative doors and virtual doors are real in the sense that they exist as actual material objects that present themselves to our sensory apparatus. And both decorative doors and virtual doors could be used as props in a game of make believe (like any other object could in principle).

The virtual doors in Return to *Castle Wolfenstein* exemplify a real system containing a set of individuals (that we may label a knob, a latch, hinges, a frame and a door), the relation that holds between them (that hinges connect the frame to the door and that the latch may join and separate the frame and the door) as well as the behavior (that doors can be opened and closed, for example). Since actual doors exist (and doors are easy to describe in system terms), it is a trivial act to stipulate that the digital door represents a generic door, and it does so by representing it *as* the above described system. Of course, this model only represents a limited number of the many potential properties that a given actual door may have. It may not represent the property of 'being used as an ad-hoc fence or dining room table' it may not represent the property of 'physical material' or 'may be burned' etc.
But what about simulations that have no real-world counterpart? A virtual dragon in *Skyrim* (Bethesda Game Studios 2017) such as the dragon Alduin, can be said to be fictional in the sense that neither dragons in general nor Alduin in particular have any real-life extension. Therefore, representations of dragons (both the purely decorational as well as the ones described in the many books the player can find in the games) can be understood as representations with null denotation (Goodman 1976). And, as described earlier, to Goodman such representations pose only trivial problems because we are perfectly capable of making sense of them, even though, in principle, they have no referential counterpart. However, the virtual dragon, like the virtual doors, is also an example of a real system

containing a set of individual elements (that we may label wings, mouth, head, legs, tail, body and fire, for example) their relations (the wings, legs, head and tail are attached to the body and the mouth is part of the head) and their behavior (mouth may spit fire, wings may be flapping, which in turn makes the whole structure move above the ground, for example). The fact that there is no real-world counterpart that this model may denote does not in itself make the model less real. However, as with the example involving the door, the difference between a dragon picture and a virtual dragon is mainly a matter of the number of properties included in the dragon model. This means, that in my account of representation, and unlike Frasca's, behavior is treated simply as a property among other properties, and not as something that warrants special treatment.

This may help us understand Aarseth's idea of the ontological distinction between fictional and virtual game elements as follows: The virtual dragon belongs to a category of dragon-representations that also contain pictures, stories, toys and films that have dragons as their content matter. Since there are no such things as actual dragons, we may say that these are not representations *of* dragons, but simply dragon-representations. Both the dragon-description, the dragon-depiction and the dragon-simulation are real in as much as they have a real materiality (paint layers on a canvas, ink on paper, electrical impulses in electronic circuits). Furthermore, this materiality is significant because it may relate to the amount of information that a model offers. In the case of the virtual dragon, the material object is a model that exemplifies certain properties such as its behavior that we can then ascribe to the dragon. These properties are real in the sense that they are properties of a real material system. In principle, we may be able to draw the same inferences from a picture of a drawing or a description of a dragon, but in this case, the model exists only as an *mental* object (Frigg 2010b), which also makes the properties of this model *mental* and not material. Therefore, the difference is not merely quantitative. Rather, with the game elements that Aarseth describes as virtual, we see that

the model-properties are inscribed in the materiality of the game. This warrants a more in-depth discussion

The materiality of game simulations

As noted earlier, Frigg (2003) argues that material and mental objects are, in principle, semantically identical. As I explain in this section, this is not necessarily the case when it comes to games, and this conflation between the material and mental model makes sense only inasmuch as we perceive an object as a model in the first place. As discussed at the beginning of this chapter, one of Frigg's main arguments is that a description may evoke a mental object that we can then claim as a model of some target, e.g. the solar system. The object that makes up the model then only exists relative to this particular description of it. The same applies to material objects: The Phillips machine only models an economy relative to a description. Still, there are differences between imagined and material models. As Frigg (2003) notes, these differences may be about the epistemic and experiential engagement we may have with these models in that material models make possible practical experiments, while mental models afford only logical reasoning. This becomes a crucial difference when Frigg's theory of models is applied outside philosophy of science, and in particular when it is applied to games. In a scientific context, it is usually necessary for the scientist to recognize that the object she is engaging with is a model in order for her to understand and employ the results of this engagement. This is regardless of whether the scientist is engaging with imagined or material objects, and whether there is such a thing or target that this object is a model of, or if, instead, it only models a hypothetical construct. In games, this is not necessarily the case. On the contrary, it is perfectly possible to engage with a game without experiencing it as a model in the first place. To explain this claim in further detail, it is necessary to address in further detail the material modality of games (c.f. chapter three). While it is beyond the scope and purpose of this chapter to offer an in-depth discussion of this issue, three examples illustrate the range of material modes found in games.

Consider a game of *Dungeons and Dragons* (*D&D*) played by five players around a table. In this case, we may say that this is a very minimal setup in which the material modality of the game amounts to the Dungeon Master's (DM) rulebook as well as her various notes and drawings, the players' character sheets and the dice. The rulebook, notes, drawings and character sheet all constitute what I, based on Frigg (2003), calls model-descriptions. These descriptions then describe the appearance and behavior of a mental object (the world of the game and the characters herein). Parts of this mental object are made up by the DM (for example, the appearance of the game world, the events, objects and enemies encountered in this world and so on). Other parts are specified by the rule book (for example, certain properties of the player or non-player characters, such as available types, abilities and skills, types of magic, various items, as well as how the behavior of all these components translates into a system based on dice rolls. Since there is not necessarily a material object, but only a description of a mental object, in order for the game to be played, it is important that not only the DM but also the four other players are willing to actually imagine the object that the descriptions refer to. All players must imagine that there is such a gate, as described by the DM, for example. If a player fails to do so, it is difficult for this player to designate the particular actions that she can do to this gate. On the other hand, since D&D exists primarily as a mental object, it can evolve over time. At a given point during the game, we may say that this mental object constitute a model of for example an violent encounter with a troll, whereas at another point, we may say that it models a peaceful encounter with a dryad.

Compare this to the boardgame *Descent: Journeys in the Dark* (Sadler, Konieczka, and Clark 2012) (hereafter *Descent: JitD*). The material modality of this game includes the cardboard tiles that make up the space of the dungeons of the game, the character figurines, tokens and sheets as well as the various cards and tokens that can represent a number of properties in the game: from specific items in the possession of the players' characters or the so-called Overlord's (the referee) characters,

the different abilities that these characters may have, their the spatial location in the dungeon, and various events that take place during play. In addition there are also dice and a booklet, which describes the rules of the game, the different characters and monsters that the players may play, as well as a quest guide that offers a narrative introduction to the particular quests of the campaign, depictions of the setup of the board for these quests, and finally, descriptions of the enemy characters, and special rules and events that apply for this quests.



FIGURE 10: **Descent: Journeys into the Dark**
The image shows how the materiality of the board limits spatial movement

In comparison with the materially minimal game of D&D[14] described above, we may observe that this game includes an abundance of material that delegates much of the work of the DM and the players to the game itself. The players choose between a set of predefined characters instead of creating their own. The referee is not in charge of creating and narrating scenarios, but simply refers

[14] In reality, most D&D games are rarely this minimal but include a variety of materials, such as a grid-based map, dungeon tiles and figurines just as in *Descent JitD.* For a more nuanced discussion of the role of materials in role-playing games, see Bienia (2016).

to the pre-defined quest guide and the rulebook, which spells out in detail all the events and the rules that apply to the game. Instead, the referee takes on the role of a player, who assumes the role of Overlord and thus plays all the enemy characters in the game.

The role that materials play in *D&D* and in *Descent JitD* are different. Whereas the notes, drawings and character sheets in *D&D* can all be seen as supporting descriptions of a mental object that is the game, the materials of *Descent JitD* constitute a material object in their own right. As Zagal and Deterding (2018, 29) note, unlike board games, table-top role-playing games give players unlimited freedom to imagine what their characters might attempt to do. This means that where the *D&D* player would have to imagine the different actions possible at a given time in the game, the *Descent: JitD* player can only choose between a set of pregiven possibilities. Some of these possibilities will be given by the ruleset (such as the rule that the players can only move characters a limited number of spaces on the map, as determined by the number of movement points allotted to them), but they may also be delimited by the materiality of the board. The board, for instance, sets certain material limits to the space in which she can move her piece, as shown in ***FIGURE 10.*** Likewise, the materiality of the board and the figurines make it impossible for two figurines to occupy the same space on the board. By comparison, in *D&D* the player holds a mental model of the object of the DM's description, and adheres to the properties of this object (that one has to open a crate in order to see what is in it, that locked crates must be picked if the player does not have the key, and that certain rules apply to determine whether a player is successful in picking the lock of the crate, for example). In a game of *Descent JitD* on the other hand, the player engages in part with a material object (the board and the tokens) and in part with a mental object (such as the set of rules that prescribe what the player can and cannot do, and which is not already pregiven by the sheer materiality of the game). Based on this we may say, that as a model, *Descent: JitD* contains more definite properties that cannot be ignored or altered. This is not to say, that players are not perfectly free to imagine, that

there is something outside of the tiles of the game. But if they do, these objects are then only imagined, and not constituted by the materiality of the game, and therefore there are no properties of the material game that can be imputed to the mental object.

Finally, compare these two games with a game played on a computer. In this case the player engages predominantly with a material object (predominantly but not completely, as there may be properties of a particular playing of a game that are not pregiven by the materiality but agreed upon by multiple or just a single player). In order to play *The Elder Scrolls V: Skyrim* (Bethesda Game Studios 2017) (hereafter *Skyrim*), the player need not to adhere to a mental object that prescribes the game world and what she can and cannot do in this world. Rather, she may simply observe the possibilities given to her by the game. These are coded into the materiality of the game as a set of possibilities for action, or as Vella (2015, 198) puts it, as an "I can" the player is granted. In *Skyrim*, the player can engage with the game world in a variety of ways. She can walk, run, pick up items, attack with a variety of weapons, talk to NPCs and so on. But there are also things that she cannot do because they are simply not part of the game's code. She cannot sit down on the ground but only on chairs, she cannot climb vertical rocks using her hands, for instance. Similarly, a first-time player of a text-based adventure will quickly learn that although the game seems to allow for any kind of user input, not all verbs will be accepted by the game. Yet this only poses a minor problem as it can be easily resolved by a trial-and-error method of typing in various commands until the game accepts one of them and she can proceed.

If we return to Aarseth's (2007) distinction between decorative and virtual elements in games, we may say that even though they *may* generate semantically identical mental models (but does not have to), they are not identical on an ontological level. Moreover, it is exactly this ontological difference that may become important in the players' encounters with an object in the game, in itself, as the materiality prescribes certain meanings upon the player. Whether I imagine that the dragons of

Skyrim are dangerous, fire-breathing creatures is strictly not necessary for the game to enforce the effect of the dragons upon me. Their threat to the me as a player is not negotiable and dependent on my idiosyncratic judgements, but rather a mere fact of the materiality of the game, as Leino (2012) puts it. Therefore, with regards to game simulations, the materiality of the game is crucial, not only because it makes possible practical experiments, but also because it imposes certain restrictions upon our operation of the game – and therefore also the model. Unlike Leino (2012) however, I take this to be true of computer-games and non-computerized games alike.

Five questions about game simulations

Based on this discussion, it becomes possible to formulate a set of analytical guideless for inquiring into representation in games.

1. *What phenomenon/phenomena does the game model?* Sometimes the game as a whole may be said to constitute a model of something. As mentioned earlier, we may for example, say that *Sim City* (Wright 1989) models urban development. But we may also say that games contain multiple models. If we look at *The Legend of Zelda: Breath of the Wild* (Nintendo EPD 2017), we may construct a variety of models, such as a model of cooking, of physical activity such as climbing, swimming and running, of taking photographs, of putting on clothes or taking them off etc.
2. *What are the properties of the model?* Which elements are part of the model and what relationships hold between them? If we look at the model of cooking in *The Legend of Zelda: Breath of the Wild,* we may say that it at least contains a fire, a pot and a minimum of one and maximum five ingredients. Furthermore, the model is characterized by the following relationships: that there must be a fire underneath the pot, that the player must choose ingredients from her inventory and hereafter place them in the pot, and finally that different combinations of ingredients have different effects on the player when consumed.

Furthermore, it is important to remember that not all properties of the artifact are necessarily part of the model. The property of being played while on the bus for example should most likely not be taken as part of the model. Which are the aspects that should be considered, and which should be ignored? This is a very difficult question that depends on the model at hand. But a rule of thumb is to consider if it would make a difference to the model whether the property is ignored or imagined otherwise.

3. *Which kind of target does the game model?* Not all games, as a whole, have an external target. *Legend of Zelda: Breath of the Wild* for example, can be said to contain a model of so-called Guardians, which are fighting automata found at various sites in the game world. However, these exist only in this game, and therefore they do not have a target external to the game. Similarly, the constitute a model of a fantasy world, that we know do not have a real-world target. Other games, may model phenomena that have no actual extension in the world, but still are familiar to us from novels, cinema or fairy tales and so on. Furthermore, games can have generic targets such as urban development or cooking, or specific targets, such as Lionel Messi in *FIFA 20* (Electronic Arts 2019) Similarly, they may model concepts such as love or masculinity, events such as World War II or spring, objects such as a door or The White House, beings such as a dog or Napoleon Bonaparte, places such as Paris or a dessert, and finally activities such as space travel or truck driving .
4. *How is the relationship between model and target given?* The target of the model may be more or less clearly given by a game. In *Legend of Zelda: Breath of the Wild,* it is explicitly stated with the linguistic label “Cooking” and a letter specifying the button the player must press to initiate this activity. In *Mini Metro* (Dinosaur Polo Club 2016), the title of the game indicates that this game models the generic target “metro”, whereas the titles of the maps available to the player specify more specific targets such as Berlin or New York City. In case

I use a game ad hoc as a model of some phenomena, I will need to specify this relationship. If I say that *Tetris* (Pajitnov 1984) is a model of finishing a PhD project for example, I use the game in a non-conventional way. Therefore, I would probably need to specify, how each tetromino represents a theory or a piece of data that I need to fit into a coherent whole.

5. *Which model properties are imputed to the target and how can they be translated into target properties?* If we consider again the example of cooking from *Legend of Zelda: Breath of the Wild*, we can observe that cooked ingredients always restore more health in the player character than raw ingredients. As such, we can say that this model imputes upon the target that cooked food is healthier that uncooked food. In addition to this, we can observe that the dish that comes out of a cooking session will be described according to its ability to restore health, its added effects (if any) such as restoring the stamina of the player character, increasing his speed, making him more resistant to cold or hot temperatures and so forth, and the duration of this effect. Therefore, we can impute to the target a utilitarian model of cooking (and importantly, eating) that focuses solely on the nutritional value of food, and how it impacts the bodily capacity of the player character, rather than the aspects of flavor and taste or even social interaction etc.

IMPLICATIONS AND EXAMPLES

Before I conclude this chapter, I would like to address some of the implications of the account of game models that I have proposed in this chapter. In addition to this, I will offer a few brief examples of how it can be applied. What I have proposed here is a constructivist and conventionalist theory of representation. I argue that games are not models per see and by necessity. But to the extent that they are taken as representational artifacts, they offer models of the things that they represent. When game designers employ familiar imagery and textual labels, for example, it is quite trivial to treat a game as a model. This is not unlike how we are used to conflate the material pictures with its image, the

novels with its story and so on. Furthermore, it is often because games contain conventional textual labels and imagery that we can make sense of them in the first place. For example, the design of the playable characters informs the player of the possible actions, that she can make this avatar perform (c.f. Klevjer 2012; Vella 2015). However, it is important to remember that this does not preclude the player from having assumptions that prove to be wrong. Therefore, in many games, it is highly beneficial if the player, at least to some extent, recognizes that the game represents something. Still, this does not mean, that she has to take all properties of the game object as being part of its model. We often treat some games, such as nine men's morris, checkers or *Tetris* (Pajitnov 1984), as abstract. But, as I have argued, this does not mean that I cannot stipulate that these games represent something, as long as I provide a key for how the properties of the model (as I then take them to be) should be translated into target-properties. What separates 'abstract' games from the ones we readily take as representations is therefore only a matter of convention and use.

The account of representation I have proposed here is therefore also highly flexible, compared to alternative ways of theorizing simulation. One alternative would be to claim that games simulate because they are structurally similar to their target. However, this require that we would know the structure of the target. Such an account therefore reduces the things that a game can be said to model. We would only be able to say that games are models of objects with a known structure. This would exclude fantastical phenomena whose structure is completely speculative, and it would also make it difficult to claim that a game represents more conceptual targets, such as masculinity. The account of representation that I have offered in this dissertation, allows me to construct a model that exemplify certain properties, which I then simply impose on the target, regardless of whether the target actually possesses them or not. In other words, rather than saying that the capacity for representation is in the game itself (as it contains a structure that is similar to the target), the conventionalist account claims that the representational capacity lies only in its use (by someone who represents the target *as* the

model). By necessity, this account of representation must also address the player, or any other person (for example the game designer) to whom the game represents something. As such, it also differs from the more formal views on representation often found in game studies, that I, in chapter three, visualized as addressing primarily the relation between represen*ting*- and represen*ted* object.

This account of representation has consequences to the ways in which we talk about realism in games. Since I reject similarity as an explanation of the relationship that holds between model and target, realism and mimesis, ultimately also becomes a matter of convention. This applies both to the agential aspect (for example the control scheme with which we operate games), and the communicational aspect (such as the use of images and text). The latter has already been discussed in chapter two (under pictorial realism). In regards to the agential aspect most people would probably agree, that clicking a button or moving a stick on a gamepad does not realistically represent the actions that the game communicates. However I argue that the same applies to so-called mimetic interfaces (Juul 2012). In the current account of representation, this term denotes only a control scheme that we by convention has decided to treat as analogous (or similar) with the actions that they represent. Therefore, these actions must also necessarily be translated into a another set of target-properties. Take for example a bowling match in a game of *Wii Sports* (Nintendo 2006). Here the player's movement of the Wii remote needs to be translated into dynamic imagery of the ball's movement on the screen, which the player can then take as a model of a real bowling ball. If the player does this, the movement of the ball on the screen (depicted in a conventional perspectival mode, but later shown in different angles, as if in a televisual mode of replay) must be translated into properties of a real ball, as it is moving through real space and hitting real bowling pins from a certain angle and with a certain force.

Finally, I want to stress, that saying that games represent by convention does not mean that the player will necessarily treat the game as a model. As Wollheim (2015 [1968]) argued, our

attention can be directed at the picture or at the motif, or it might be that we do not recognize any motif at all. Similarly, it is of course possible that the player directs her attention only to the materiality of the game, and do not recognize it as a model, that she does not identify all model-properties or that she takes it to be a different model than intended. Let me illustrate this account of representation with a few examples. For now, these will be relatively simple and trivial, but in chapter seven, I will offer a more complex case study.

Reigns

The game *Reigns* (Nerial 2016) may be said to represent monarchic rule. Reigns is management game in which the aim is to make it continue as long as possible. This is done by managing four different parameters, which are represented as accumulation meters. In the beginning of each game, the four meters contain a value that is half of the total value attainable. During play, the value of the four meters will increase or decrease as a consequence of the player's choices. The player will be presented with different states of affairs, which are described in writing; for example: "The war is long and painful. Call for a cease fire!". The player then has to make a choice between two different reactions, such as simply "yes" or "no". The player cannot decline to make this choice. Above each of the symbols, a dot will show how if the value of the four meters is affected a little or a lot, but the player cannot see if it will affect them negatively (reducing value) or positively (increasing value).

While this game could in principle model an infinite number of phenomena, it is communicated to the player as a model of monarchic rule. This interpretation is obviously suggested by the name of the game, as well as various textual descriptions and labels in the game. For example, the game opens with an image of a character wearing a crown. This image is accompanied by the question "Are you the young king?". Moreover, the game features a counter of the years in power, and will conclude with the statement "The king is dead". The game does not employ what is often taken as realistic imagery, but instead uses simplistic illustrations, which consist mostly of

geometrical shapes. These are nevertheless recognizable as depictions of people, animals and so on. In addition to the images, the game also contains text as well as other highly conventional symbols such as a cross, a stick figure, a sword and a dollar sign. These represents each of the four meters. To the extent that the player recognizes these symbols, they attribute meaning to each of the parameters, namely the church (the cross), the people (the stick figure), the army (the sword) and the economy (the dollar sign).

As a model of monarchic rule, we can observe a number of properties that can be attributed to the target. For example, each year in the model brings with it only one single decision. This will always be a choice between two different predefined options. Choices will always affect one or more of the four parameters. If the value in any of the four meters (representing the church, the people, the army and the economy) is depleted, the king's rule will be over. As such, monarchic rule is represented as the management of only four out of a potentially infinite number of other aspects, that we may impose on the concept kingdom. In addition to this, we may observe that sending the army in response to an upheaval has a negative effect on the army. Similarly, if the player decides to continue to dig in a mine that has recently had an explosion, this reduces the value in the meter representing the people, while it increases the value in the economy meter. More generally, we may say that *Reigns* models a monarchy which by necessity is ruled by a king (a version in which the player assumes to role of a queen is also published). Furthermore, the game models absolute monarchy where the king is also the decisive power. We may also note, that the state of the monarchy is always dependent on the king's actions. For example, if the country is attacked, this does not in itself affect the four parameters. These are affected only as the result of the player's reaction to the attack. As such, the king is not only in absolute power – generally nothing can happen to the monarchy, to which the king is not able to respond (although the choices offered may vary in terms of how significant they are) and is therefore also ultimately responsible. There are of course a range

of additional properties of this model, but these examples must suffice for the current discussion. It is important to stress, that these are not properties of the model in itself, but rather a translation of the model-properties into target-properties. For example, strictly speaking, it is only a property of the model that a given value of one of the four parameters is depleted, but we can translate this into the property of economic collapse, a famine that kills all the king's subjects and so on. Furthermore, I want to stress that the actions and behaviors of the king and other characters of this game, are not represented by processes, but purely with written descriptions and accompanying imagery. When played on my Android phone, all I do is swipe left or right, and occasionally tap the screen. These actions translate into the operation of 'cards' in the game. But nor the property of 'swiping left' on a screen, or 'discarding a depicted card' are attributed directly onto the target, but instead translated into a set of target-properties. This translation depends on a key that the game provides us with, in the form of written descriptions that accompany or are generated by the player's operation of the game. Finally, to this it should be noted, that it is in principle possible to play the game without understanding what it models. Similarly, saying that this game models monarchic rules does not prevent us from also saying that parts of it may model a duel or a battle and so on.

80 Days

80 Days (Inkle 2014) offers a quite different example. This game is loosely based on Verne's (1999 first published in French in 1872) novel *Around the World in Eighty Days*. As such, whereas *Reigns* modelled the more generic and conceptual target of monarchic rule, *80 Days* models a particular story, that we know primarily from (and can compare to) Verne's novel. In the game, the player needs to navigate the two characters Phileas Fogg and his valet Passepartout around the world in only 80 days. The player can choose different routes that will be unlocked during play. In addition to this, the player also needs to manage the finances, luggage and health of Phileas Fogg, and find the most effective route and means of transportation, in order to complete the trip within the 80 days. The

player may be faced with various events that will interrupt or in other ways challenge the journey. The player can make Passepartout explore the different locations that they pass through and have him converse characters that they meet on their way. This may unlock new routes or generate various events in the game. If the player runs out of money, she can have Passepartout visit a bank to have more money transferred. This however, may take some time. Until the money is transferred, the player cannot take Passepartout and Phileas Fogg any further on their journey. When in a city, time will pass with the same speed as real time. If the player decides to take the travel companions to a hotel, one day will pass immediately. During the travels between cities, time will pass much faster. During play, the player will need to make choices to further advance the game. Until the player makes her choice, time will not pass and the journey will not progress. The game will continue until the player has successfully navigated the two characters back to London, even if this happens to take more than *80 days*.

The game communicates through text accompanied by still images. The text offers a narrative account of the events, places and people, but also Passepartout's thoughts about these things and the conversations he may engage with. Some parts of the narrative are predefined, but in other cases, the player will have to make a choice between two or more narrative options. These choices are mutually exclusive. In terms of the game's imagery, a globe functions as the main model of the available routes between the locations that Passepartout and Phileas Fogg visits. The globe also shows the progress that they have made, and the routes they have already travelled.

In its entirety, the game can be interpreted as a model of the story of Verne's novel This is suggested by the game's title, the names of the protagonists as well as the written content that is offered in the beginning of the game. This describes the same basic scenario as found in the story (the wager to travel around the world in eighty days). As a model of the Verne's story, we can then impute a number

of the game's properties onto the target[16]. During the game, Passepartout will always accompany Phileas Fogg. While at one point, it is possible for the player to make Passepartout stay behind with the Finish scientist Vitti Jokinen (whom the player can make Passepartout romance), Phileas Fogg will continue his travel, but the game will immediate come to an end. As such, while Passepartout is presented as the protagonist, the model only revolves around the wager of travelling around the world. Furthermore, the cost of the different means of transportation varies, and so does the time it takes them to reach a destination. Some means of transportations are more strenuous than others and will decrease the health of Phileas Fogg. No properties of the game exemplify the health of Passepartout. The player can make Passepartout attend to the health of Phileas Fogg, but this is done on expense of making other choices such as conversing with people to unlock new routes, obtain additional objects or unlock events. Therefore, the story of Verne's novel is represented as a management model, in which the player will constantly need to balance the different needs with the overall goal to succeed the trip in 80 days. Compared to the novel then, there a substantial number of elements of this story, that is not modelled by the game (but could have). For example, the appearance of the different locations that they visit and the characters they meet are only minimally suggested. Also, as the game keeps firm track of time for the player, and the routes the player may take around the globe, the story's plot-twist with respect to time difference is also not included in the model. Conversely the game model on the other hand includes a great number of properties that is not part of the story. . The game contains a great number of different scenarios, and thus models the consequences of different actions that the player can make Passepartout take. Even though the player can of course only pick one linear route across the world, she can embark upon a new journey after having completed the first one. Moreover, the game contains the property of spending more than 80 days on the travels, which are translated into a loss of the wager. The game also allows the player to choose between different routes

[16] As this is only a brief case study which serves as its primary purpose to illustrate the account of representation proposed in this chapter, I will only highlight and discuss a few of the games many properties

around the world. In comparison, the novel only models a single linear set of actions through the world.

I stress that the game provides a model of Verne's *story* and not his novel. This is because I take the novel as a set of specific objects that expresses a story, either through written text (for example arranged on a set of ordered pages that is bound in a book, or in continuously laid out on a screen), or oral language (if read aloud by a someone). What matters in this regards is not how the story is distributed, or the materiality of the object in itself, but that the novel is constituted by a specific order of linguistic expressions. These words then express a story, and it is the story, and not the linguistic expressions, that the game models. As it should be clear from this, even though we may say that the game models the story, it does not model it in all respects. While *80 Days* may be a very straight forward example of how a game can model an existing story, the player does not have to interpret it as such. It may for example be, that the player does not know the particular story of Verne's novels, and rather takes the game as a more generic model of travel in a steam-punk inspired world, that is in turn modelled over the real world and has specific, named real-world cities as its target.

It is somewhat reductive to discuss how a game models a story, by focusing only on the properties that the model imputes on its target. There are many other aspects of adaptations that are not accounted for by a theory of models alone. For example, while my approach distinguishes between model and target, none of them are attributed with any specific value, but are merely treated as to parts in a formal relationship. Therefore, in itself this account does not conceptualize the story as the *original*. As a consequence, it cannot address issues such as fidelity and faithfulness. It is also not concerned with the cultural context (of production and consumption) in which adaptations are situated. Therefore, this approach to games as models should not be read as a theory of adaptation, even though, as the above example makes evident, games can model content of other media.

CONCLUSIONS

This chapter has discussed how we can understand the commonplace idea that games are simulation. First, the chapter offered a discussion of the representational capacity of simulations and what kind of relationships hold between a simulation and its target. This discussion focused particularly on Frigg's (2003; 2010a; 2010b; 2010c), Frigg's and Nguyen's (2016; 2017c; 2018) and Elgin's (2010) theories of scientific representation. The core of this approach is first that models and simulations are basically the same, and that they can address a variety of different aspects spanning from physical appearance and behavior to material constitution, for example; second, that denotation characterizes the relationship between a simulation and its target – in other words, that the connection to a target is not something intrinsic to models; third, that this makes possible the distinction between the physical object (if any), the model and the external target; fourth that models exemplify a set of properties that we may impute to the target (if any), and finally, that models may relatively straightforwardly represent phenomena that have no empirical extension.

These ideas of simulations were then used as a starting point for constructing an account of how games can model phenomena. I began by comparing the above view of scientific models with existing discussions of simulations in game studies. I for example concluded, that simulation is not an alternative to representation, as Frasca would have it, but simply examples of what Goodman (1976) calls *representation-as* – representations that include a denotation and an object with a set of exemplifying properties. The result of this is an inclusive and flexible theory of game simulations that does imply that simulations are qualitatively different than other representational forms, nor that their expressive capacity is of a different kind. According to the approach to simulations that have I sketched out here, simulations are fundamentally models which in turn are simply representations that can be mediated in a variety of ways. Furthermore, my approach also does not favor or privilege any particular kinds of content. This differs from many of the existing claims within game studies,

that simulation is essentially the medium for representing behavior (Frasca), processes (Bogost) or actions (Galloway). In my approach these things are conceptualized as nothing more than properties of among a great range other property that models (and any other form of representation for that matter) is able to represent. Furthermore, in my approach the relation between the model and the target is arbitrary yet conventional, and thus does not substantially differ from the relations we may find between depiction and depicted or description and described. My rejection of a quantitative difference between models and other representational forms have practical benefits for the analysis of game representations. It makes it possible to study game models without first having to identity and isolate different 'types of elements' of a game, and analyze how they represent with distinct methods.

Another benefit of this view is that it makes it possible to account for targets that are not necessarily empirically observable and has have a physical extension (and a known structure that the model can reproduce) but also more intangible phenomena such as cultural concepts and emotions. As such games can represent very generic phenomena such as cooking (*Cooking Simulator* (Big Cheese Studio 2019)) but also specific phenomena, such as the soccer player Lionel Messi (*FIFA 20*, (Electronic Arts 2019)). But they can also represent phenomena inner experiences, such as fear, anger or recollections of traumatic experiences (*Hellblade - Senua's Sacrifice (*Ninja Theory 2017)), or speculative, fantastical beings, locations and events that we know are only constituted by our imagination and do not have empirical extension (for example in D&D (Gygax and Arneson 1974)). This is possible, because the approach to simulation offered here affords a free translation of model-properties into target-properties, without having to claim that these properties necessarily resemble or a similar to one another.

However, this application is not straightforward, as there may be differences between scientific simulations and games. Most importantly, the player's engagement with the material object

of the game does not necessitate that the player conceptualizes this object as a representation in the first place. As Leino (2012) and Aarseth (2011) point out, the material game artifact must not be mistaken for the 'ideal game', as the latter is a mental construct not unlike Frigg's (2003) concept of imagined object. The main difference between simulations in science and in games is that while the former necessitates a mental object, the latter does not. Nevertheless, the distinction is not clear cut. Most players probably construct some form of mental object (ideal game) during play. This significantly helps the player make sense of the game, draw inferences about its behavior and operate it successfully. Similarly, games are also often used for scientific purposes (c.f. Sørensen et al. 2016; Pedersen et al. 2016)

My account of games as models also made it possible to address Aarseth's (2007) claim that simulations in games are not fictional. Compared to novels or canvases, the materiality of the game offers a model that operates outside the player's imagination. This does not pose a significant problem to the model of simulation put forth in this chapter, as it already operates with distinctions between the physical objects, the models and their targets. In other words, we may construct a physical object as a simulation, but this does not preclude others from simply seeing it as nothing more than a physical object.

Finally, the chapter posed five practical questions that we can ask to initiate a critical inquiry of the ways in which games represent phenomena. These questions involved the properties of the model but also the ways in which these properties could be translated into a set of properties of a target. These questions should be understood as starting points of an analysis of representation in games, but not as its conclusion. Rather, they are intended to clarify the constructed nature of game representations and highlight the fact that these representations could be imagined otherwise.

With this, I have provided an account of the representational capacity of games. Due to its conventionalist and anti-essentialist character however, it is in itself maybe too flexible to really

constitute a theory of representation in games that will yield interesting analyzes. When anything can be turned into a model, and the representational capacity of models are not an inherent quality of the object in itself, we are left with little more to say about representation in games. Therefore, in the following two chapters, this basic account of models will be complemented with a theory of media and an analysis of the ways in which games are qualified as one or more media. This allows us to refocus the discussion from the representational capacity of games, to the representational practices. This is beneficial, as the idea of representational practices does not hinge on making claims of any essential medial nature of games, but rather allows us to inquire into the ways in which they are conceptualized and used as such.

CHAPTER 5

The problem of media[17]

INTRODUCTION

So far, this dissertation has discussed representation in relatively abstract terms, and with the concept of medium only mentioned in passing. Since its emergence as a field of research, game studies have expressed a difficult and ambivalent relationship with the media concept. Aarseth (2001a) notes that in their ontology, games differ from non-ergodic media such as literature, Eskelinen (2001) conceives

17 This chapter is a revised version of an article entitled "Media and Games: An intermedial Framework" published in *Fdg '18 Proceedings of the 13th International Conference on the Foundations of Digital Games*: August 7–10, 2018, Malmö, Sweden, 2018, edited by Dahlskog, Steve, Deterding, Sebastian, Font, José, Khandaker, Mitu, Olsson, Carl Magnus, Risi, Sebastian, Salge, Christoph. The paper was written as part of the work carried out during my PhD studies. Parts of this chapter will consist of text passages identical with passages from the published article, whereas other passages are substantially revised versions of passages from the article. Finally, this chapter also contains original passages published only in this dissertation.

of computer games as remediations of games, and Juul (2010) argues that games are transmedial and that there are many games media, not simply one. The term 'medium' or its plural form 'media' is used extensively in game studies literature. A search conducted in November 2019 in the DiGRA online library for the term 'media' results in 125 articles, while the term 'medium' results in 53 articles. These numbers say nothing about in what context the term appears and whether authors stipulate a definition of the term or engage in a critical analysis of it.

While this is an interesting question that deserves a dedicated study of its own, it is not within the scope of this chapter. The aim of this chapter is rather to discuss to what extent games can be conceived as a medium or even as plural media, and to suggest a framework for analyzing, not the 'medianess' of games, but rather their various medial modes. However, since the problematic relationship between games and media has been a congenital and maybe even a constitutional aspect of game studies that we all seem to be able to tolerate and look beyond, one might rightfully ask why we need such a framework now. This chapter argues that the question of media is as pertinent as ever in the current landscape of game studies that, according to Apperley and Jayemane (2012), is marked by a 'material turn'. Furthermore, the question of media, as it is raised in this chapter, is not so much concerned with essentialist media categories, but rather with particular material phenomena in their multimodal existence.

The chapter is structured as follows. First, I will offer a brief discussion of the problems with the media concept and how it has been applied in game studies specifically. Second, an intermedial approach, based on the work of Elleström (2010) will be introduced in detail, and discussed in terms of how this approach resonates with current trends within game studies. Third, a framework for analyzing the basic modalities of games will be presented before finally, I offer a general communication model of games.

MEDIA, MEANS, MODES AND MEDIATION

The term 'media' has a long history and has changed its primary meaning several times (c.f. Guillory 2010). While the term is frequently used in contemporary discourse, Meyrowitz (1998) noted that there is less consensus about what media means than we probably think. This lack of consensus has likely not decreased over the last twenty years that have passed since Meyrowitz published his article. On the contrary, every time a new medium appears, it apparently spawns a range of other media concepts. The concept of 'new media' generated the term 'old media', 'online media' spawned 'offline media' and so forth. Guillory (2010) observes how early efforts to theorize communication and media were grounded on discourses about the so-called fine arts such as poetry, as well as the ancient arts of rhetoric, logic and dialectic. Based on this, the term medium then rests on at least two important concepts, namely communication and representation, and thus coincide with Mitchell's (2010) matrix of representation ***(FIGURE 1*** page 18***)***, introduced in chapter two. The two concepts that underly the notion of media are definitely related but also slightly different. Communication typically refers to the transmission of content between sender and receiver, whereas representation primarily refers to the relationship between a sign and what it signifies. Similarly, Guillory (2010) outlines and contrasts two different conceptions of media in early modern philosophy, namely 1) the medium as an *abstract process*, which he associates with Locke's conception of communication as the (transparent) transmission of ideas and Locke's focus on speech as the medium of thought, and 2) the medium as a *material technology*, which Guillory links to Wilkin's discussion of communication over distance and time and Wilkin's focus on writing rather than speech. Each of these two conceptions lays different weight on the issues of representation and communication, respectively. Both conceptions suggest that ideas (or messages) are given a form or maybe rather an *expression*, but in the latter conception, this expression is given a higher degree of autonomy from its immediate context as a relationship between sender and receiver. In other words, the message in the

form of writing becomes an *object* that has its own existence independent of the particular communicative situation in which it emerged.

As described by Benjamin (1935), by the end of the 19th century, the emergence of new technologies of reproduction and more importantly remediation had altered the status of works of art. Previously unique in time and place, but also closely linked to their makers as the concrete results of their efforts as well as the context in which it resided, works of art were now detached thanks to the new reproduction technologies. Benjamin (1935, 221) wrote "(…) the technique of reproduction detaches the reproduced object from the domain of tradition. By making many reproductions it substitutes a plurality of copies for a unique existence. And in permitting the reproduction to meet the beholder or listener in his own particular situation, it reactivates the object reproduced." Furthermore, in this reproductive process, the work of art is transformed from the beforementioned autonomous and unique object, into a whole series of objects of which none can be said to be the original.

Finnemann (2005) outlines eight different but contemporary ways to conceptualize media. (1) The notion of *mass media* stresses the size of the audience and implies an idea of the medium as a public object and the audience as universal/general and anonymous. The paradigmatic examples of mass media are television, radio and newspaper. (2) Another way to understand media is regarding a capacity to facilitate *asynchronous communication across time and space*, for example in the form of print or telecommunication. (3) A third conception of media is as a *channel*, that is, an instrument for the transmission of messages. This definition is associated with the Shannon-Weaver model (***FIGURE 11***), which will be discussed shortly. (4) Media can be understood as grammar. Here, Finemann notes, a special emphasis is on the mechanisms of variation that can be employed in the construction of messages (style and genre, for example), and unsurprisingly, language is the archetypical example of this conception of media. (5) We may also frame media in terms of its

institutional environment, that is, in the sense of individual *media institutions*, such as the British Broadcasting Company (BBC) and its practices, but also more broadly in the sense of the economic, political and legislative *settings* in which a medium operates (such as public service- or marked-based broadcasting). (6) Media may also be theorized as what Finnemann calls an *externalized artifact*. Here, the emphasis is on the ways in which media extend or amplify our sensory and cognitive apparatus. This conception of media can be exemplified by writing tools such as paper and pen and is perhaps most notably formulated by McLuhan (1994 [1964]) in his idea of media as extensions of man, which will be discussed shortly. (7) Finnemann further suggests that we may also understand media in a broad sense as *that which may mediate meaning*. Like the last definition, this stresses the functional aspect of media, but in this broader conceptualization, we may also include speech and thought itself as media, which was not possible in the externalized view. (8) We may define media as an *organized physical material* used for symbolic purposes. Here, the emphasis is on the material object that is a medium and ways in which this object is structured and organized. This definition, notes Finnemann, is particularly useful for comparisons between digital media and their non-digital counterparts.

The existence of the notion of communication and representation in the media concept is reflected in two main trajectories of media theory, as Winthrop-Young (2010) identifies and describes them. In the United States, media theories are often preoccupied with the notion of communication, which is evident in American engineer and information theorist, Claude Shannon's abstract and 'universal' theory of communication, illustrated in ***FIGURE 11*** below. What is striking about this model is exactly that it is concerned with the transmission of *information* from sender to receiver rather than with communication in the sense of exchange or dialogue emphasized by Baudrillard, for example, as discussed in chapter two. Although Shannon calls the model a schematic view of a general communication system, it is a system in which communication is conceptualized as a *linear*

(rather than reciprocal) process by which a sender encodes a message into a signal that is then transmitted from one device to another, where it is decoded back into a message for a receiver. Therefore, it is also not surprising that Shannon exemplifies his notion of an information system with a telephone network. Further, this model is more interested in how messages travel through the transmission chain than in the content of the message or the type of medium that enables this transmission.

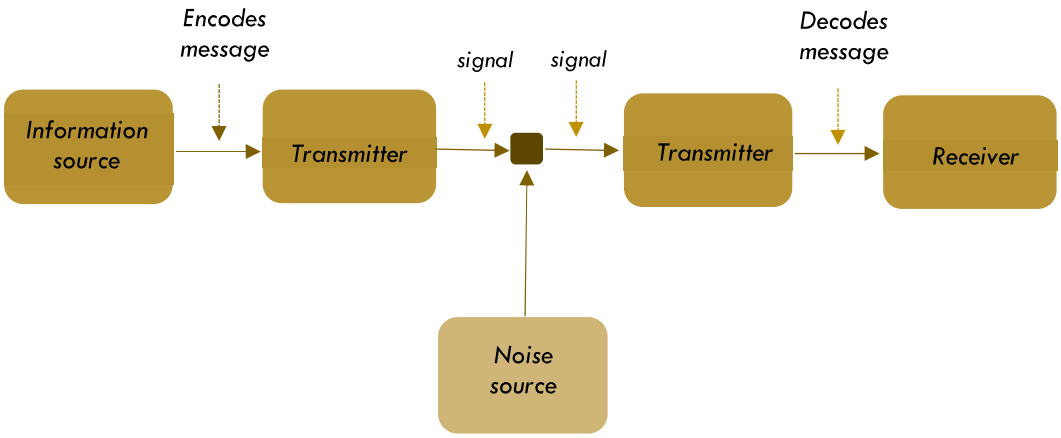

FIGURE 11: The Shannon-Weaver model of communication.
My reproduction from Shannon (1948)

Conversely, Canadian and Continental European media theory has historically been more concerned with notions of 'mediality' and 'mediation', which mark an interest in particular material media and how they operate upon (and affect) society and enable exchanges within society. This trajectory has especially been influenced by Benjamin's (1935) beforementioned analysis of the artwork in the era of mechanical reproduction, Adorno's and Horkheimer's critique (2006 [1947]) of the cultural industry, and finally McLuhan's (1994 [1964]) famous claims that the medium is the message and

that media are extensions of man. All of these theories work *to some extent*[18] from the Marxist idea of a dialectic and mediating relationship between the base and superstructure. According to Kperogi (2015), although Marx did not present a media theory proper, the so-called Frankfurt School and, particularly, Adorno's and Horkheimer's (2006 [1947]) work laid the foundation for several subsequent Marxist media theories. They focused on the commodification of media and the ways in which it brought standardization and segmentation of media products and their consumers alike. Media products, they argued, are governed by rigid conventions so the consumers know what to expect and how to react. In this way, the media industry provides consumers with products under the pretense of simply following public demand. McLuhan was likewise deterministic in his view of media, but he believed technology and not late capitalism determined the social practices. According to McLuhan (1994 [1964]), the media form in itself affects society and not the messages a given medium carries. He could therefore include in this concept of media phenomena as diverse as electric light, railways, film and radio. These technologies, he argued, in some way or another all changed our human condition, and as such, they can be considered 'extensions of man'.

As these few and brief examples show, theories of the media concept may not only stress the aspects of representation and communication differently, but also the institutions and production processes of media as well as the technologies they employ, and how they impact on and affect society.

Media and the computer

In many ways, the emergence of digital technology has challenged the humanistic academy in general, and media studies and related fields such as literary, film and culture studies. This challenge

18 McLuhan was highly critical of Marxism, but Brantlinger (2016) observes how his media theory nevertheless recalls the dialectic of Marx, while he replaces Marx' economic base with communications technology. For a further analysis, see Grosswiler (1996).

can be identified in relation to the theories and methods evoked in these various fields. Consequently, we can see that the notion of a computer has been conceptualized in quite different ways. Andersen (1997) understands the computer as a medium. Others, such as Finnemann (1999), prefer to frame the computer as a sort of *meta-medium* that can simulate older media and turn them into genres of the meta-medium of the computer. Finally, some scholars have been skeptical about the notion of thinking about the computer as a medium in the first place. Aarseth (2004b) rhetorically asks to what extent it makes sense to conceive of a Furby, an ATM and a Palm Pilot as the same medium just because they are all digital. Instead, he suggests the notion of an intermedium, which he understands as a nexus where different and similar media interface with each other. The computer also brings with it questions about on which level it should be studied. This is not only a problem associated with digital technology, but its emergence makes it difficult to ignore, because of the separation between the physical, technological machine (hardware), the functional architecture (the software) and finally its surface expression (Aarseth 2004b).

However, according to Kittler (1995), the question of software was redundant since all code operations can ultimately be reduced to signifiers of voltage differences. There is no software, argued Kittler (1995, n.p.): "All code operations, despite their metaphoric faculties such as 'call' or 'return', come down to absolutely local string manipulations and that is, I am afraid, to signifiers of voltage differences". Therefore, he claimed that it was for commercial reasons, that software is inserted between the user and machine in an attempt to hide the latter from the former. This is done through graphical user interfaces that obscure the material machine operated by the user, but also through protection software that even serves to make the core of the operating system untouchable for the human operator. Kittler points out that software renders the computer as a tool used for specific purposes, such as writing, when in fact they are much more. Similarly, software also enables us to think about computers as a medium. This is because these programs limit our possible engagement

with the computer and turn it into a usage that produces a certain output. Therefore, we can to think of computers as affording the mediation of meaning. Conversely, Mulder (2006) claims that different types of hardware are the result of nothing more than economically motivated decisions by individual commercial companies. Instead, he emphasizes the status of software that he argues can emulate any piece of hardware: "Emulation is the translation of this accidental digital segmentation back into one universal code that can run on any hardware (…) when emulation ruptures the artificial boundaries between hard and software companies it wipes out the economic and cultural history of the computer medium" (Mulder 2006, 295). As such, this view of the relationship between hardware and software seems to echo Bolter and Grusin's (2000) notion of remediation, by which they describe how older media becomes the content of newer media. Importantly for this context, what is being turned into content is the medium in itself. As such, to extrapolate on Mulder's claim, we may say that regardless of what hardware is in itself, it is turned into a medium through the process of emulation. Despite these differences, for both Kittler and Mulder, the computer renders the media concept obsolete, as it loses its explanatory power because the computer is capable of simulating all other media (Winthrop-Young 2010). As Mulder (2006, 296) puts it: "If it is true that even a computer's hardware can be converted into software, and all other 'media' remediated on computers are nothing more than software packages, then there is no longer any point in speaking of media when we talk about computers".

To sum up: on the one hand, the concepts of medium and media have proven useful in the sense that we colloquially all seem to understand approximately what we are referring to when we use the term. On the other hand, the concept of medium and media in distinct theories has come to mean things as different as a mode of communication, a channel, a technological artifact, an abstract set of instructions, a way of doing things, a language, an industry or institution to name just a few.

As a result, Mitchell and Hansen (2010) provocatively argue that in humanities and humanistic social science we are all practitioners of media studies, whether we recognize it or not.

The media concept and games

As we have seen, while the concept of media comes with its own ambiguities and is further challenged by the computer, its application to games poses additional problems. The first problem concerns whether games are media at all. Eskelinen (2001) adopts Parletts' (1999) notion of games as systems of ends and means and understands computer games as remediated games. Similarly, Juul (2010) argues that games are transmedial and consist of six features that are independent of any particular medium but can be realized in a number of different media. Implied in such ideas is a dualism according to which games then exist as abstract entities, ideas or better still, systems that may be mediated by different techno-material artifacts. The medium is therefore viewed as a relatively trivial phenomenon. On the other hand, there are scholars who argue that this is a reductive strategy. Keogh (2014, np.) goes as far as calling it "scholarly sabotage that works to toss aside any elements particular to the videogame form that we do not immediately understand until our object of study represents a form we already have a framework for: non-digital games". Notwithstanding the harsh tone in Keogh's criticism, and his quite reductive account of the so-called "formalist approaches" (np.) to game scholarship, to some extent I sympathize with his critique and his call for studies and methods that do not cut games off from other media. However, I see no point in why such an approach should consider only computer games. Therefore, the end of this chapter presents an intermedial analysis model that aims to unravel notions of 'the medium of computer games' and 'the medium of non-computerized games', in favor of an approach that can analyze the variety of medial characteristics found in games played with or without a computer, along with any other medium for that sake.

The role of the player poses an additional problem regarding the question of games and media. As already described in chapter three, according to Aarseth (1997) games are ergodic texts, which means

that they consist of underlying textons and 'surface' scriptons, whose appearance is governed by the mechanics of the text as well as the ways in which the text is configured by a player. The player thus occupies a radically different position in relation to the text itself than in other media. This position, he argues, cannot be compared to the position of the reader in active audience theories, such as Hall's approach discussed in chapter two. This is because the audience not only takes active part in processes of meaning-making and redistribution of a text, but also in the actual material configuration of the text itself. In 1997, Aarseth describes cybertext as a triangular relationship between a sign, material medium and operator, and thus still maintains a distinct position where the medium is other to both sign and player. In a later model by Aarseth and Calleja (2015) (***FIGURE 12***), the term 'medium' seems to be replaced by notions of mechanics and materiality. In this model 'medium' – or rather 'cybermedia' is used to describe the whole relationship of all dimensions in the model, that is, materiality, mechanics, sign and player.

Aarseth and Calleja therefore abandon the term 'medium' in favor of 'cybermedia', where the prefix cyber- emphasizes information feedback loops rather than linear communication.

The notion of cybermedia seeks to identify a common structure to what Wittgenstein (2009 [1953]) and several games scholars after him have described as a highly heterogeneous group of phenomena that are all labeled as games. With games as different as tag, *StarCraft II* (Blizzard Entertainment 2010), *80 Days* (Inkle 2014) and Rummy, one might rightfully ask if it is even possible to characterize them as the same medium. Games, it seems, are very different in terms of their materiality, the type of signs and mechanisms they employ and so forth. This leads to a conception of cybermedia not as a specific technological object or a particular semiotic system but rather an unstable exchange between materiality, signs, player and mechanics. This instability is both a strength and a weakness in the cybermedia model. It allows us to overcome conceptions of games as 'platonic ideas' that exist independent of their realization, technological determinism, and notions of a particular game medium with a distinct expressive power. However, the model provides no method with which to study in more detail how these four cybermedia aspects are expressed in particular games, and how they relate

to one another. To be able to do this then, this paper adopts an intermedial approach. What this entails will be discussed in the following section.

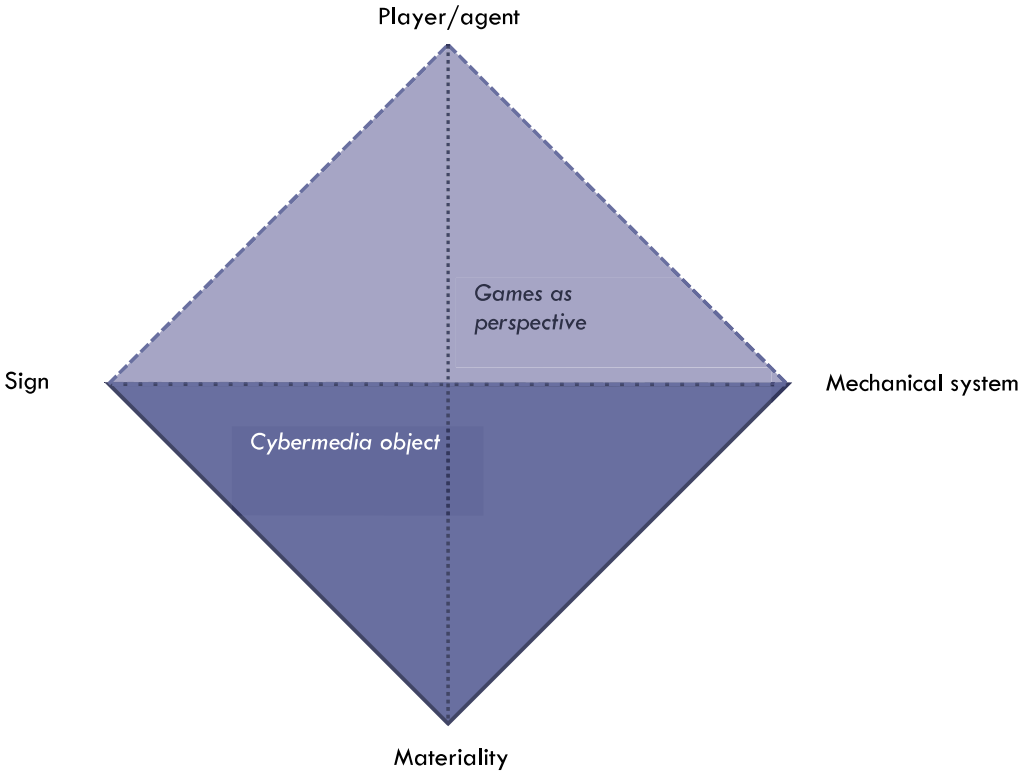

FIGURE 12: The cybermedia model.
My reproduction from Aarseth and Calleja ***(2015)***

INTERMEDIAL STUDIES

Intermedial studies is a particular perspective on art and media studies that inquires into the relations between media. This has – for obvious reasons – been a persistent perspective in the field of comparative literature and has a relatively long tradition as a research field in German academia, but has also been studied in English speaking communities under the heading of 'interart studies' (c.f. Rajewsky 2005). However, the aspects that characterize the relations between media differ. In some theories, the notion of intermediality is better understood as transmediality, since the focus is on how a phenomenon, such as a narrative, can occur in more than one medium, e.g. literature, cinema and

games. The notion of transmediality thus challenges media-essentialism while maintaining relative stable media borders. Concepts such as transmedia storytelling, and convergence culture belong to this branch of intermedial studies, and in game studies, the works of Ryan (e.g. 2009) is a good example of this approach.

Another and somewhat different branch of intermediality studies concerns the combinations of modalities – or communicative forms (Bruhn 2016) – in 'works' ranging from the fine arts to entertainment media. This notion of intermediality follows Mitchell's (1994) claim that all media are mixed media. To stress this 'a priori mixed' or 'combinatory character' of all media, Bruhn (2016) suggests the term *heteromediality* rather than intermediality. Heteromediality is therefore not about the exchange between media as in transmediality, but about the mixedness as an ontological characteristic of all media. While the notion of heteromediality is easy to apply to phenomena such as games that typically combine image, sound and tactile feedback, and employ different semiotic systems such as verbal and pictorial communication along with gestures, for example, it is important to stress that heteromediality does not concern specific mixed-media texts but all media.

Elleström (2010) proposes a framework for studying the modalities of media in a detailed yet systematic manner (***FIGURE 13***). Elleström makes an important distinction between what he calls *basic media*, *technical media* and *qualified media*. These will be introduced in reverse order in the following. The notion of *qualified media* refers to the ways in which media borders are constructed, not so much based on intrinsic qualities, but rather on how they have been understood and used over time and in different cultural and aesthetic contexts. Elleström distinguishes between the contextual qualifying aspect of media, which refers the origin, delimitation and use in specific historical, cultural and social circumstances, and the operational qualifying aspect, which refers to the aesthetic and communicative characteristics that form the baseline of a normative understanding of a given medium. The notion of qualified media is therefore an analytical instrument that enables us to both

talk about abstract and discursive media categories while inquiring into how these categories came to define a set of actual, material artifacts, such as games (Elleström 2010). The notion of qualified media will be discussed in more detail, and employed in an analysis of games, in chapter six.

Technical media describes an actual material object that realizes or displays some content. A piece of paper or a painted canvas are examples of technical media. In another article, Elleström (2013) distinguishes between media of production, storage and distribution, and although they are not explicitly framed as technical media, and although Elleström does, in fact, limit his discussion of technical media to those physical objects that display content, I see no reason to exclude from this category, physical objects involved at other stages of a media artifact's 'life time'. This proposal is justified if we consider Elleström's own examples: "pencils and brushes are media of production (…). Ink and paint on canvas on the other hand, are media of storage and media of distribution (…) a violin can be said to be a medium of production and distribution as it is used to create artistic sound that is heard immediately. However, the violin cannot store the music. A computer's hard disk completed with software, is a medium that can produce and store a wide range of media content, but it cannot make this content discernible without media of distribution such as screens and loudspeakers". Therefore, in this dissertation, the distinction between media of production, storage and distribution is considered to describe technical media, although this deviates from Elleström's original model.

Finally, basic media consists of four different modalities that he characterizes as the latent properties of a media object, namely the material, sensorial, spatiotemporal and semiotic modalities. Each modality can be realized in a number of variant modes. As such, the term 'modality' refers to the overall categorization, and the term 'modes' to the actual values that make up any media artifact. The material modality refers to the latent corporeal interface and can have many different modes, for example, a flat or elevated surface, surfaces that are static or changing, sound or light waves, human bodies etc. A media artifact will often be a combination of several different material modes. The

sensorial modality concerns the physical and mental acts of perceiving the interface, and here Elleström distinguishes between three levels: the sense data that originates from the phenomenon, the sensorial receptors used to receive this data and finally the sensation, which is the experienced effect of this. The spatiotemporal modality refers to the gestalt that these perceptions take in space and time, and Elleström stresses that all media have both spatial and temporal qualities. The material interface of a photograph, for example, has only two material dimensions (width and height) and in addition to this, the interface remains the same over time. In other words, it is static. However, the material interface is not the only level of the spatiotemporal modality. Rather, Elleström also includes in this modality, space and time as general cognitive concepts that affect our whole way of thinking, and finally space and time as interpretative aspects that refer to the construction of imagined space or time. To describe the latter, think of motion blurring in still images or the use of 'dirty lens' effects in computer games. Finally, the semiotic modality describes how the other three basic modalities are interpreted as meaningful. Elleström applies the triadic framework of symbol, index and icon, originating in the Peirce's semiology (see chapter two). These three categories are neither distinct nor mutually exclusive, he notes.

Elleström uses the distinction between qualified, technical and basic media in two different but related ways. First, they simply describe three different media concepts, or perhaps better 'types' of media that we may invoke. If, for example, we conceive of moving images as a medium, it would be a basic medium, since it can be described solely in terms of its basic, latent properties, and independent of any physical medium or historic or culturally defined type. Similarly, the medium of a television show could be considered a qualified medium, as it describes more than simply the basic latent properties associated with moving images, but also comes with a set of cultural conventions governing the medium at a specific time in history. For instance, we expect a television show to have an opening title, credits at the end, and to be relatively short (compared to cinema). Finally, we may

talk about the television set as a medium, which then denotes a technical medium. However, Elleström's triad may also be used to analyze the different aspects of a single particular media artifact. The basic aspects of Dickens' *David Copperfield,* for example, may be described as a collection of flat surfaces inscribed with ink, perceived mainly visually and in tactile terms as a materially two-dimensional, static object that is engaged with over time and evokes a narrated word and time through the use of the conventional symbol scheme of language. The qualifying aspect of *David Copperfield* may be described as an illustrated novel, published as a serial over the course of a year, narrated from a first-person perspective, and belonging to the type of novels we usually call a 'Bildungsroman'. Finally, the technical aspects of this novel may be described as a printed codex book. Here, it becomes important to note that, used in this way, Elleström's model addresses particular artifacts rather than 'works' (c.f. Wollheim's discussion of works of art in chapter two). So, if we described the original publication of David Copperfield, we would not be talking about a printed codex book, but rather a series of printed booklets.

In ***FIGURE 13,*** the triad is presented in this second analytical sense and to avoid confusion I have decided to call each of the three media types 'medial aspects'. Using Elleström's framework, with his notions of modalities and modes, it is possible to describe both the particular and the general. The model steers clear of any normative ideas about different media categories and rather takes actual media artifacts as its starting point. Also, it separates basic, qualified and technical aspects, which we may describe as *medial characteristics* of different objects that are not necessarily in themselves obviously media. In other words, we may address what they have in common with other objects typically qualified as media, without necessarily subscribing to the idea that these objects are first and foremost media.

Medial aspect	Modality	Description	Example of modes
Basic medial aspect	Material modality	*Latent corporeal interface*	Human bodies, other demarcated or non-demarcated materiality
	Sensorial modality	*The physical and mental acts of perceiving the media interface*	Seeing, hearing, feeling, tasting, smelling
	Spatiotemporal modality	*The structuring of the sensorial perception of the material interface into experiences and conceptions of time and space*	Space of the material interface, cognitive space, virtual space, time of the material interface, cognitive time, virtual time
	Semiotic modality	*The creation of meaning by way of different kinds of thinking and interpretation*	Convention, resemblance, contiguity
Qualified medial aspect	Contextual qualifying aspect	*The historical and cultural context of a qualified medium*	n/a
	Operational qualifying aspect	*The communicative and aesthetic conventions of a qualified medium*	n/a
Technical medial aspect	Medium of production	*Technical objects or mechanisms used to produce content*	n/a
	Medium of storage	*Technical objects used to store content*	n/a
	Medium of distribution	*Technical objects used to distribute content*	n/a

FIGURE 13: Elleström's intermedial framework

My reproduction elaborated from a model of basic media in Elleström (2010)

However, the framework does not force us to settle simply with descriptions of individual artifacts, but also enables us to address the conventions surrounding them and the ways in which medial borders are constructed, governed and transgressed. Elleström's framework makes it possible to combine the very formal analysis of media artifacts with a more critical interpretation of the ideological and political underpinnings of medial forms. As such, the framework is highly suited for the work carried out in this dissertation.

Elleström's model also avoids the very clear-cut separation between form and content that can be found in many communication models. This is particularly interesting in relation to intermedial studies. In the late 18th century, Lessing (1984 [1766]) argued for clear borders between the expressive power of different art forms. He considered painting an advanced medium for representing bodily objects and forms, whereas poetry was better equipped to represent actions and causes (the outer as well as inner causes of 'the soul'). However, with the emergence of technical media capable of remediating from one channel to another (Guillory 2010), content was now rendered relatively independent of form, which is evident in the before-mentioned Shannon-Weaver model of communication. Therefore, as I understand Elleström's intermedial framework along with other associated approaches, to some extent they challenge this rather modern distinction of form and content and mark a return to the idea of a reciprocal and interdependent relationship between the two aspects of a media artifact. Importantly, now the relationship between form and content is articulated in a manner more flexible and refined than Lessing's distinct media imbued with a particular expressive power, but rather as a set of modalities that address both form and content and which are present in different combinations in all media. I therefore find the intermedial approach useful in the study of representation in games for two reasons. First of all, games can employ a number of different representational and material modes and also combine these modes in different ways. This makes it difficult to point to only one set of modes, as the proper 'medium of games.' Furthermore, the

intermedial framework also affords an analysis of representation in games that acknowledges and accounts for the ways in which the surface layer of the game is closely entangled with the material structure of the game, as well as its operation (by a player).

Given the above discussion and the many media concepts outlined in this chapter, a brief statement about terminology is required before we proceed. First, while I believe Bruhn's (2016) notion of heteromediality is better equipped to express the mixedness of all media, I will be using the term intermediality to make it more consistent with the terminology used in Elleström's model and other applications of it. When referring to intermediality in the following, I am therefore addressing media as conceived in Elleström (2010). That said, I will try to avoid the label 'media' altogether, and instead use 'qualified media' or 'technical media' when necessary. In addition to this, I will be using the term 'media artifacts' for a group of actual objects usually described media. When describing a single, particular object I will use its specific name or title. At the end of the chapter, and addressing games specifically, I will introduce a further separation of the media artifact, into 'game as machine' and 'game as played', in order to distinguish between the text that is the result of the players engagement with the game, and the 'machine', with which she engages. I will avoid using the notion of text as I do not wish to confuse my approach to representation in games with the textual approaches described in chapter three.

Intermediality and Game Studies

While the transmedial approach outlined above has been applied successfully by games scholars (c.f. Ryan 2004; Jenkins 2006; Ryan 2009; Thon 2009; Ryan 2013; 2014; Thon 2014; Booth 2014; Ryan 2015; Thon 2015; Freyermuth 2017; Schmidt 2017; Tosca 2017), the idea of heteromediality and Elleström's notion of multimodality has so far not enjoyed a great impact on game studies. However, this version of intermediality offers great potential as it is able to address many of the current issues in game studies, as outlined in the following.

For a long time, the research typically associated with game studies has tended to draw borders between board games and computer games (both of which are broad and heterogeneous categories) and has concerned primarily the latter category. In addition to this, games research has formed roughly three relatively distinct categories of research, 1) the game as a formal system, 2) the game as played, and 3) studies of players. However, while these categories have probably always been transgressed in game studies, the research community has lately seemed to more consciously embrace a wider approach to game studies.

The intermedial approach discussed in this chapter aligns well with what Apperley and Jayemanne (2012, 5) label as the 'material turn' in the field of game studies and describe as a "(…)re-imagining of digital games in their material contexts across different scales and registers: the machine, the body and the situations of play". As examples of this shift, the authors discuss the focus on practices and materials of play in ethnographic research, the role of hardware in platform studies, and finally studies of labor, and particularly unpaid labor in the game industry. Computer games, they note, are not only virtual aesthetic objects, but material artifacts that are produced by workers, take part in the depletion of environmental resources, are played through bodily engagement and thus also leave traces on our bodies. While Apperley and Jayemanne's material turn still focuses primarily on computer games, in an editorial in the journal *Game Studies,* Aarseth (2017) convincingly argues that the study of games cannot and should not be segregated based on the technical platform on which games is played (computer games and board games), but that we should think of games as a perspective from which we can study a number of very different phenomena.

Elleström's intermedial framework is capable of addressing games (as a set of basic modalities, a qualified medium or involving technical media), in a material manner, precisely because it enables us to break down otherwise abstract media categories into a set of particular and concrete aspects. While, Elleström's framework has not yet been applied to games in a thorough manner,

research already exists that, in fact, engages with the different modes of games. Kirkpatrick (2011) for example, discusses aesthetic form in computer games and challenges the visual hegemony in existing game studies. He argues that if we want to understand visual experiences of play, we must position them alongside other elements of the gameplay experience. Kirkpatrick therefore focuses on how play 'feels', something he explores by looking into how the body is engaged in play through the physical control interface. The aesthetic experience of play thus becomes something that involves the actual physical hardware of the game as well as a broader range of sensations than just sight. This also positions games not only in relation to narrative media such as film or literature, but also in relation to more embodied phenomena such as dance (p. 120), musical performance and sculpting (p. 89).

Niedenthal (2012) explores the role of smell in games, both as stimuli that have been designed into the gameplay, via so-called 'scratch-and -sniff cards' etc., but also the possible 'smellscapes' that accompany games and their play, such as the smell of drinks and snacks on the board game table, the smell of old cardboard, or the odor of the gamer who has been sitting in front of her PC for a whole day. However, Niedenthal is not only interested in smell as it can be perceived by our olfactory system, but also the representation of smell through other types of sense data. In *Discworld Noir* (Perfect Entertainment 1999) he observes how smell is visually represented as transparent clouds of hue that provide clues to advance the game. With this exploration of smell as something that occurs on many different levels of a game, Niedenthal's analysis provides a good example of the potentials of the intermedial approach to games studies. Finally, Wirman (2014) discusses the limits of touch technology in relation to game design for non-human animals. Wirman observes how her orangutang users engage with touchscreen technology using input methods (such as a full palm or a tongue) that were not anticipated by the designers, but also how the viewing position for which the touchscreens were designed was not initially preferred by the orangutang with whom she worked. Wirman's

findings suggest that a careful unpacking of the assumptions and conventions associated with particular technical media (such as touchscreens) but also the content that they display that may prove highly valuable when we try to make sense of individual games along with the physical and cognitive efforts required to play.

These examples suggest there is a trend in current games research for conceiving of games as more than mechanics and a narrative, but as things that exist as material objects in the world and that therefore in different ways engage the whole sensory apparatus. This should also be addressed when we discuss the extent to which games are media and how they relate to other media products.

A LUDOPHILE INTERMEDIAL FRAMEWORK

While Elleström's framework is both fine-grained and flexible, it does not account for one important aspect of games, namely their cybertextual character, that is, that they do not transmit, but produce texts. Therefore, to arrive at a more ludophile version, Elleström's framework needs to be slightly modified. To do this, I apply Grabarczyk and Aarseth's (2018) meta-ontology of games. This model has several advantages for this project. First of all, Grabarczyk and Aarseth aim to develop a framework that is flexible enough to account for the current and future heterogeneity of games, as well as the complex role of the player. Furthermore, their model also strives to be general enough to describe games played on very different platforms. The authors also recognize the multidisciplinary character of game studies and have constructed their model so that it can be used by game scholars with a wide range of different epistemological and methodological backgrounds.

That said, there are also important differences between my approach and the approach of Grabarczyk and Aarseth. First and foremost, and as the name suggests, their meta-ontology focuses on describing games and comparing different definitions and conceptions of games. As such, the framework is ill fitted for comparisons between media objects. However, the framework presented in this paper is not primarily interested in the ontology of games as such, but rather their medial character

and how they are different and similar to other media objects. While games are frequently compared to other media, this has so far not been qualified systematically. Therefore, the aim of the framework presented below is to be able to make such intermedial comparisons – despite the many ambiguities with both the concept of games and the concept of medium. As such, the framework proposed in the following aims not to describe what games are, but rather what 'medial forms' games may take. Consequently, while the current framework will retain many of the dimensions in Grabarczyk and Aarseth's model, some will be conflated into one dimension, whereas others might be rephrased if too game-centric for this project. It is important to stress that while the aim is to revise Elleström's (2010) model, this should be accomplished in a manner that preserves its basic purpose. This also means that Grabarczyk and Aarseth's model is used simply as an application for a quite different project that focuses not so much on games, but on the modes of all media.

Grabarczyk and Aarseth's model consists of four layers (***FIGURE 14),*** each with its own sublayers. The first layer is the physical layer, which consists of three sublayers: 1) 'platform', which is the material medium, e.g. computer or cardboard, 2) physical interface, which is the physical means for play, and 3) behavior, which covers the physical actions used for play, e.g. pushing buttons. The second layer is the structural layer, which again consists of three sublayers: 1) computation (code), 2) mechanics and 3) economics, by which the authors refer to the way the game is sustained. The authors call the third layer the communicational layer. This layer is divided into three sub-layers, namely 1) presentation (aesthetics), 2) semantics, which refers to communicational information, and 3) interface, which is the non-diegetic information in the game. The fourth and final layer, the mental layer, consists of the following three sub-layers: 1) phenomenal, i.e. the way the game is experienced, 2) conceptual, which refers to how the player understands the game, and 3) social, which refers to the social interrelations between players. These four layers corresponds roughly to Aarseth and Calleja's cybermedia-object, where the physical layer equals 'materiality', the structural layer coincides with

'mechanical system', the communicational layer with 'sign system', and finally the mental layer corresponds to 'player/agent'. However, it is important to note that whereas Aarseth and Calleja's model is first and foremost an ontology of games, the meta-ontology proposed by Grabarczyk and Aarseth is just as much a mapping out of different scholarly approaches to games as it is an ontological model in itself (Grabarczyk and Aarseth 2018).

Main layer	Sub-layer	Description
Physical	Platform	*The material medium used to implement a game*
	Hardware interface	*All the physical means used by players*
	Behavior	*The set of physical actions needed to play the game*
Structural	Computational	*The code*
	Mechanical	*The game mechanics*
	Economical	*The economic structure of the game that determines how it is initiated, sustained and finished*
Communicational	Presentational	*The aesthetic aspects of the game*
	Semantic	*Any communicated semantic information*
	Interface	*Non-diegetic information for the player*
Mental	Phenomenal	*The way the game is experienced by the player*
	Conceptual	*The way the player understands the game*
	Social	*The way the player interacts and perceives other players in the game*

FIGURE 14: Grabarczyk and Aarseth's meta-ontology of games
My reproduction based on Grabarczyk and Aarseth (2018)

Using the dimensions proposed by Grabarczyk and Aarseth, the modalities of Elleström's model will now be revised in the spirit of Elleström's original framework. This entails that while media objects might have different modes, the overall modalities should be common to all media. Therefore, there

should be no modality in the framework that cannot be applied to games and non-games alike. In other words, the framework will not include a 'core game modality'. Such a 'game-modality' will both be untrue to the spirit of the original framework, but also runs the risk of oversimplifying the phenomena that we call games. To think that games can be properly described with reference to an essence that sets them apart from other media seems over reductive, especially given the discussions earlier in this chapter. On the other hand, the revised model should be able to address the cybertextual character of games (and other media).

The revised model is shown in ***FIGURE 15***. The overall distinctions between the basic, qualified and technical dimensions are retained. In relation to games, the qualified dimension could refer to the concept of 'digital games', and how this group of games is often conceived in terms of very specific conventions such as a domination of visual sensory data (for example evident in the term videogames). But the qualified aspect could also refer to a much narrower type of games, such as so-called roguelike games or AR games. The technical dimension is a particularly useful distinction in relation to the game industry, where games are often released on several platforms simultaneously or older games are ported to newer or different platforms. Here, the distinction between the basic and the technical dimension of media allows us to address the ways in which these games are similar and different as well as the extent to which the basic aspects of the original game have been retained or altered in a ported version. In terms of the basic aspect, like Elleström, I distinguish between four different modalities.

The first modality is the *material modality*. This corresponds to Elleström's modality and is called by the same name. But it also to some extent correspond to the physical dimension in Grabarczyk and Aarseth's model. However, similarly to Elleström's model, but unlike Grabarczyk and Aarseth's model, I distinguish between the latent material interface and the actual realized physicality, which instead belong under the technical dimension. The latent material interface of a particular game might be a flat, touchable surface with moving images, which may be realized by a number of screen-based technical media.

The second modality I call the *structural modality*. Structure refers to the formal arrangement and function of elements of a media object. All media objects have a structure, but this structure can be simple or highly complex. Examples of structural modes might be repeated patterns (for example rhythm in music or architecture or the use of alliteration in speech and text). In comparison to Elleström's framework, I take space and time (the spatiotemporal modality) to be part of the structural modality rather than a modality in itself. Furthermore, what Grabarsczyk and Aarseth (2018) in their model call code, mechanics, and economics may be seen as different structural modes in my model.

The *communicational modality* is the third modality in the revised model and corresponds to Elleström's semiotic modality and Grabarczyk and Aarseth's communicational layer. The communicational modality refers to the aesthetic and semantic aspects of the ways in which the game presents itself to the player. I follow the terminology of Grabarczyk and Aarseth's model and avoid the term 'semiotic' as it connotes a set of particularly scholarly approaches to signs. Instead, the focus of the communicational modality is on the particularities of the game in itself and not the methods and theories with which they can be studied.

The last modality is the *agential modality*. This describes all the aspects of the game that pertain to the ways in which the game (and all its modalities) is experienced, interpreted and performed by an agent (the player, spectators etc.). This modality to some extent corresponds to Grabarzcyk and Aarseth's mental layer. I use the term 'agential' rather than 'mental' to stress that this modality not only concerns what goes on in the minds of the players, but also the set of actual actions that the player performs during the game. This also relates this modality to the structural modality, which, as mentioned, describes the operation of the game. The difference is that in the structural modality, this is conceptualized as properties of the object – that is the ways in which the object structures a certain operation, whereas the agential modality concerns what the player then actually does, which may or may not comply with the structural properties of the game. Similarly, the modality compares in a limited way to Elleström's sensorial modality, but also goes beyond that, as it concerns not only the perception of an object, but also the ways

in which it is interpreted, and what the player does with it. This is accomplished at the expense of the phenomenological quality of Elleström's model, which spans from the material itself over the perceptual to the cognitive. To avoid this, the agential modality could be divided into two, but this road has not been chosen, as a relatively simple model seemed preferable. The notion of an agential modality instead stresses that games – but also more generally many so-called interactive media – are not only perceived and interpreted, but also manipulated and reconfigured in ways that also affect the other modalities of the object.

Medial aspect	Modality	Description
Basic aspect	Material modality	*Latent corporeal interface*
	Structural modality	*The structural elements of a media-product, their function, operation and organization*
	Communicational modality	*The aesthetic and semantic aspect of the ways in which the game presents itself to the player.*
	Agential modality	*The ways in which the game is experienced, interpreted and performed by an agent.*
Qualified aspect	Contextual qualifying aspect	*The historical and cultural context of a qualified medium*
	Operational qualifying aspect	*The communicative and aesthetic conventions of a qualified medium*
Technical aspect	Medium of production	*Technical objects mechanisms used to produce content*
	Medium of storage	*Technical objects used to store content*
	Medium of distribution	*Technical objects used to distribute content*

FIGURE 5: My revised intermedial framework

Together with the structural modality, the agential modality mainly distinguishes this revised framework from Elleström's original model. Though these changes are made to cater for the description of games, the modalities also apply to other media objects. While the operation of games is particularly non-trivial

and often also very complex, all media objects can be said to be operational to some extent. Therefore, while the sensorial and semiotic modality might be sufficient to describe the interpretation of non-ergodic media objects, all four modalities in this refined framework can be applied to ergodic and non-ergodic media products alike. Finally, it is important to stress that the four modalities are highly interrelated and interdependent. The actual modes of the structural modality, for example, naturally depend on the material modality – such as the spatiality of the material – but they also depend on the mental modality in the sense that pattern recognition is a fundamentally cognitive ability.

The intermedial framework as a tool for analysis

The intermedial framework can be used as a tool for analyzing representation in games. As this dissertation has so far discussed, the concept of representation in games cannot be applied in a straightforward manner for at least two reasons. First, this is because games, like other qualified media, consist of a surface expression that is immediately available to the player, but also an underlying code (or ruleset) that governs the behavior of the surface expression, as well as a potential mental model through which the game may be conceptualized as a representation. That means that an analysis of representation in games must consider all three aspects, as extrapolated only through the surface expression, as this is what remains straightforwardly available to the player-analysist[19]. Second, this is because games do not, therefore, easily lend themselves to the media concept, as they do not transmit content as such, but rather generate it. This is not only true of games, but of any cybertextual objects. However, because they are so pervasive in our culture, games make for an excellent paradigm.

How does the intermedial framework answer these questions? First, through the notion of basic medial aspects, it structures inquiries into what constitutes games as a representational artifact, and in what ways and to what extent the properties of the artifact exemplify properties in the

[19] As noted earlier, other methods, such as an analysis of the software code, are available.

represen*ted* object. In other words, the basic medial aspects describe the actual cybertextual object and the mental model that may spawn from this (c.f. chapter four). The qualifying and technical medial aspects constitute the material conditions and contexts through which the cybertextual object is designed, played and made sense of. All of these aspects, affect how games represent. They constitute the actual object in question, but also the context in which they are situated, and the conventions and expectations that characterize how games are approached by designers and gamers alike. Furthermore, it is exactly because games are situated in a conventional context that we can say that they sometimes also challenge and transgress existing conventions.

To highlight the critical potential of the relatively formal intermedial model, we may map it onto Hall's model of encoding and decoding of media discussed in chapter two, ***FIGURE 3***. The result of this constitutes what may be called a *cybermedia communication model*, which is visualized in ***FIGURE 16***. Like in Hall's model, the bottom left and right corners consist of the before-mentioned **contextual conditions** in which games are situated and the conventions and expectations and technological infrastructure with which they are **produced** and **played**. This part of the model can be analyzed through the notions of qualifying and technical aspects from my ludophile intermedial model. From this context, the game is designed. In the model, this artifact, which is produced by the designer, is called a '**game as machine'** in order to distinguish it from the '**game as played'** (on the right side) which is the result of the encounter between the player and machine. The name is inspired by Aarseth's (1997, 12) description of cybertexts as "ergodic textual machines". The 'game as machine' also corresponds to what Aarseth and Calleja (2015) call the cybermedia object (see ***FIGURE 12***), and contains the material, structural and communicational modalities in my ludophile intermedial model. This machine is then operated by the **player** through a feedback loop between the **input of the machine**, and the **input of the player**. Through this operation, the game as played is generated. This is visualized in the left part of the model. Since the game as played is the

result of the player's actual operation of the game, this can be described with the additional agential modality, which also distinguishes it from the 'game as machine'. From her encounter with the game as played, the player may extrapolate a **mental model** that then becomes a 'representation-as' a **target**. This is explained and visualized in more detail in chapter four, ***FIGURE 8***. Therefore, for the sake of not further complicating this already highly intricate model, it is shown here as a relatively simple relationship between a mental model and a target, though chapter four showed that this was far from the case.

The mental model is simultaneously a product of the game as played, but also informs how the player makes sense of the game and the actions that she performs when operating the machine. Through the results of this configuration of the machine, new information may be added to the mental model. In ***FIGURE 16***, this is shown as a double arrow between the game as played and the mental model. Furthermore, it is worth noting that both the actual playing of the game, as well as its transformation into a simulation, is informed by the qualifying and technical aspects, that is, in a nutshell, the cultural context, the aesthetic and operational conventions, and the technical infrastructure available to the player. However, it should also be noted that this is a reciprocal relationship, and the ways in which the game is interpreted as a simulation also informs the very context and conventions of the player. Finally, the model does not treat the two poles in the communicational process equally. The producer makes the game as machine and can, as discussed in chapter four, provide the game with certain keys as to how it should be interpreted, for example, through game descriptions, titles, in-game labels, and the use of conventional imagery and so forth. However, apart from being the producer of this machine, the player does not enter into a direct communicational relationship. Therefore, the producer is not conceptualized as the sender in this model. That the producer is only indirectly related to the player is visualized with the striated arrow between the producer and machine. Still, I argue that it is important to keep the producer in the model,

because producers play an important part as the incarnation of the cultural, economic, aesthetic and technical contexts in which the game is made.

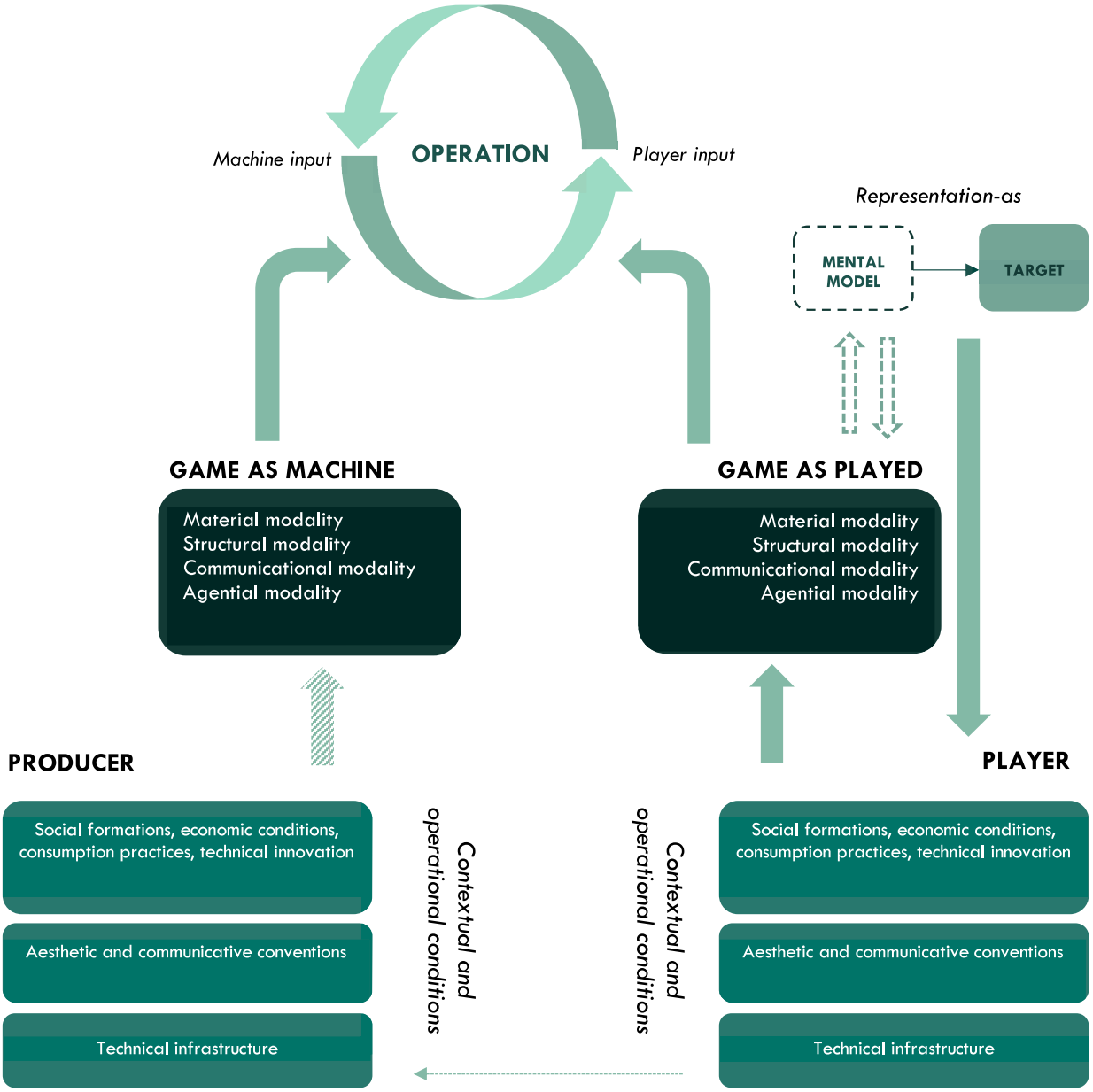

FIGURE 16: A situated cybermedia communication model for games
The model illustrates the game from the point of view of the player

It should also be noted, that ***FIGURE 16*** shows the game as a model from the point of view of the player. This is not to say, that the producer may (and does) construct the game as a model. For the sake of simplicity, I have omitted this part from the model. However, one could in principle add on the left side of the model, the same relationship between game as machine, mental model and target, as I have visualized on the right (players) side.

I call this a situated cybermedia communication model, though the model stretches the concept of communication. I do not consider the relationship between producer and player a direct communicative relationship. In the model, the arrow between the producer and the 'game as machine' is visualized via a striped arrow to indicate that the producer is only indirectly part of the communication process, by virtue of being the producer of the machine, but not on the expressions that it generates. Therefore, the communicative relationship that this describes pertains only the machine and the player. The reason I retain the position of producer in the model is that it is vital to consider the context in which the communicative relationship between the machine and player is situated if we are to conduct a cultural critique of representation in games and not only a descriptive account. Furthermore, just like in Hall's model, it is possible to observe an indirect communicative relationship between the player and the producer, as the production of especially commercial products is typically informed by the knowledge that the producers have about their target audience and their preferences. It should be stressed that the defined target audience does not necessarily coincide with the actual players of a given game. However, the model can still be used for more formal analysis if the lower third of the model that considers the contextual conditions is ignored. What would then be left is a more abstract feedback loop between the player and machine, which generates a mental model in the mind of the player. Such an analysis can certainly have its merits, but it would not enable me to deliver an analysis of the politics of representation in games.

CONCLUSIONS

In this chapter, I have discussed the concept of media, and how it can be applied to games. As I concluded in the last chapter, the concept of media is important because I apply a nominalist understanding of games, and a conventionalist theory of representation. If anything can in principle, be called a game, and the representational capacity of games is ultimately not something that is inherent in them, but depends on how they are used, we need a concept of medium to anchor the analysis of representation in games. For this purpose, Elleström's nuanced framework of the modalities of media and their qualified and technical aspects seems a perfect fit.

Based on Elleström's framework, I proposed a materially oriented framework of analysis, that was also accompanied by a communication model. The framework distinguished between the basic, qualified and technical aspect. As such, it imposed a further division onto the distinction between material game object and model, discussed in the last chapter. According to this model then, we should not only discuss models as constructed from a material object that consist of four modalities, we should also consider how this material object is realized in some technical medium. It should be noted, that the basic material modality is of course a product of the technical medium, and therefore, it may seem unintuitive to make this distinction. However, I maintained it as the technical aspect describes modes of production, storage and distribution, whereas the basic material aspect describes the interface only. Furthermore, according to this model, the playing of games is conceptualized as a communication process in the sense that expressions are generated through the encounter of the player and machine. It is materialist in the sense that it conceptualizes communication as a process between an actual player and a material machine, which together can be described through the four basic modalities of material, structural, communicative and agential. However, it is also materialist in the sense that it situates the communication process in a concrete socio-historical and cultural context,

which is characterized by a set of conventions, social formations, economic conditions, consumption practices and a certain technical infrastructure.

The following two chapters constitute a proof-of-concept of this model. In the next chapter, I discuss the qualification of games as a medium, whereas chapter seven is devoted to an analysis of a particular game, *The Witcher 3: Wild Hunt* (CD Projekt Red 2015) and the ways in which the game represents gender. This analysis is based on the framework presented in this chapter.

CHAPTER 6

The qualification of games as media

INTRODUCTION

This chapter will set out to discuss in more detail, the idea that games can be considered a qualified medium The starting point of this inquiry is on the one hand that I regard different media, such as literary fiction, video games or cinema, first and foremost as discursive rather than 'essential' categories, and on the other hand that I conceive of games as fundamentally heterogeneous groups of artifacts and practices that are not easily constructed as a single medium with a distinct expressive power. Still, in both popular and academic discourse, games are indeed often thought of as a single medium, or as several media, with certain ways of communicating to their players. The aim of this chapter is therefore to explore the ways in which these communicational conventions have been established discursively. This discussion will be structured around Elleström's (2010) notion of media as qualified. With this notion, Elleström is able to describe the ways in which media borders are

constructed, not so much based on intrinsic qualities of distinct media, but rather as a result of their histories and use over time and in different cultural and aesthetic contexts.

The chapter thus constitutes a second step in the intermedial analysis of games begun in the previous chapter. However, whereas the previous chapter focused on describing the basic latent modalities of the artifact (through a descriptive framework, where it was of less importance whether we call the artifact a game or not), this chapter addresses how games are culturally constructed as a concept of medium or media at the same time connected to, and distinct from other media.

The chapter is structured as follows. First, I will introduce in greater detail Elleström's notion of the qualified aspect of media. Second, I will offer a very short discussion of the benefits of separating the analysis of what games are from the analysis of what we tend to think and say that they are. Third, I will discuss in detail the ways in which games are qualified as a medium, or even different media among other media. This discussion will begin with an analysis of the socio-historical contexts in which various types of games have emerged and for a time consolidated as different media. The latter part of the chapter will focus on the contemporary aesthetic and communicative conventions that govern the production and consumption of games.

THE QUALIFIED ASPECT OF MEDIA

The qualifying aspect of media together with the basic aspect and the technical aspect constitute Elleström's intermedial framework, introduced in the last chapter. Elleström (2017) describes qualified media as abstract media categories that are historically and communicatively situated. Therefore, the properties of these media categories are also subject to change depending on when and where they are used. According to Elleström, qualified media are made up of a cluster of concrete media products. For example, the qualified medium of literature is made up of a set of concrete literary works, whereas the qualified medium of pictorial art is made up of a set of concrete paintings. Some qualified media may be made up of concrete objects of highly different kinds and made in very

diverse ways. The qualified medium of photography, for example, may be realized in photos printed on distinct sheets of paper or photographic film, realized digitally on a screen, printed in a book, or projected on a wall. They may be made with light-sensitive chemical film, or with an image sensor that translates an optical image into data. They may even be produced solely by a computer (c.f. (Elleström 2013).

However, the qualifying aspect of media does not describe the totality of characteristics of these concrete media products. Rather, the qualifying aspect is an idealization of concrete media products, highlighting some aspects, while ignoring others. By doing this, the qualiying aspect describes what are supposedly the significant or even defining characteristics of a set of media products and thus allows us to draw certain borders between different media categories. Consequently, the qualifying aspect of media is always in some way normative in that it not only describes concrete media products, but rather points to what are allegedly the important characteristics of these media products at a given time, place and context.

The qualifying aspect of media therefore is an informative site if we wish to examine how we imagine different media to be, not only in our reception of media products, but also in our creation of them. Elleström (2010) distinguishes between the contextual qualifying aspect and the operational qualifying aspect. The contextual qualifying aspect describes the socio-historical context in which a qualified medium appeared and was popularized. Qualified media are not eternal, Elleström notes, rather media appear, evolve and disappear at certain times and in certain cultures. The causes of these ruptures in the media landscape may differ.

One obvious aspect may be technological advances that may spawn new qualified media and supersede others. In the 80's for example, so-called fax art emerged as a result of the invention and popularization of the fax machine, but still rested on existing artistic practices such as correspondence and copy art. However, explaining the appearance of new qualified media only as a result of

technological innovation is a reduction. Indeed, as Williams (1974) argues, early communications technology, such as radio, were initially developed for a military context, and only much later solidified into its qualified cultural form. Often, we will find that both technical means and communicational practices exists long before the emergence of a qualified medium. Downloadable audio files for example, existed years before the construction of the podcast as a distinct qualified medium. Still, the qualified medium of podcast did not spawn in a complete vacuum. Rather, podcast was qualified with reference to an existing radio industry, whether it was conceived of as 'anti-radio' or as a revival of radio (Bottomley 2015). This association cannot only be explained by the fact that radio and podcast share the same basic modalities (because so does the audio book, or other auditory texts), but rather because the many successful podcasts originated within the established radio industry.

Another interesting aspect of the ways in which media borders are drawn is the consumption practices that characterize qualified media. As Ellis (2002) argues, technology alone does not create the use to which it is put, but is rather implemented in prevailing patterns of use and social formations. As such, qualified media may persist despite great changes in the technological means for producing, distributing and displaying content, as is the case with both the qualified medium of cinema, television and photography. For example, the consumption patterns of so-called episodic fiction have undergone great changes from scheduled television to on-demand viewing, first on DVD box sets and later on online streaming platforms such as HBO or Netflix (Jenner 2016). This may come to challenge established distinctions between television shows and movies. However, other traditional television formats, such as news programs or sports broadcasting still rely on traditional scheduled 'live' viewing, though this does not necessarily require a traditional television set.

The second qualifying aspect of Elleström's (2010) model is the operational qualifying aspect, which he uses to describe the aesthetic conventions and communicative practices that characterize a

qualified medium. As such, it is the operational qualifying aspect that enables us to draw the distinction between, for example, music and mere sound (p. 25), but also between different media such as cinema and television. These conventions are constantly negotiated through enforcement and transgression in the production as well as consumption of media products. In certain contexts, media products must stay within the aesthetic and communicative conventions of the qualified medium to which they belong. This can, of course, have obvious functional reasons. For example, most listeners of a radio news program would probably prefer to have the news narrated in an audible form. But media borders may also be maintained through more value-laden judgements, especially in the arts, where the painter Malevich (2003) for example argued for non-objectivity as a painting's purest form.

On the other hand, aesthetic and communicative practices are also constantly challenged and transgressed. Debord's film *Hurlements en faveur de Sade* contains no images at all, but only a soundtrack accompanied by frames of solid black and white. Similarly, Schönberg's twelve tone serialism challenged the conventions of western classical music. In a less artistic context, after users of the social network Twitter, for years had tried to work around the constraints of 140 characters per tweet, in 2017, Twitter increased the limit to 280 characters instead.

The two qualifying aspects described above allow us to inquire into the ways in which media are discursively constituted as such. Such inquiries are essentially comparative. The qualifying aspect of media becomes clear from comparisons of discourses on different media, from comparisons of different ways of qualifying a particular medium over time or in different cultures and finally, in comparisons with the basic and technical aspects of a given media product.

Qualified media - beyond description

While Elleström's model allows us to describe the construction and consolidation of so-called media in terms of two aspects that are at once different, but still highly interrelated, it offers only limited support for a critical analysis that goes beyond mere description. Therefore, in order to explain *why*

media emerge, and become stabilized as distinct, I suggest a two-fold approach inspired on the one hand by Raymond Williams' approach based on cultural studies and on the other hand by Friedrich Kittler's more technologically centered approach.

Williams followed a Marxist tenet and regarded media as first and foremost *social practice* (1977). By doing this, he critiqued a particular tendency he observed in media and communications theory to abstract and reify media as if they possessed their meaning a priori. According to Williams, this tendency may in particular be found in McLuhan's work of media, in which the Canadian scholar regards the properties of a medium "as determining not only the 'content' of what is communicated but also the social relationships within which the communication takes place." (p. 159). Instead of this, Williams proposed a theory that goes beyond such essential and universal media conceptions in order to examine media as sets of practices involving a variety of materials and taking place in particular socio-historical and economic conditions. Williams' notion of media thus easily extends and continues the intermediate analysis so-far pursued in this dissertation.

The analysis that Williams offered is then very much a social history of media practices, in which he explored how particular media emerge and are appropriated in particular social conditions. Whereas literature, for example, is often conceived of as a solitary practice between the author and his medium (pen and paper), the result of which is only subsequently printed and distributed, Williams observed that this only represents one phase – albeit an important one – in the rich social history of literature. Similarly, in his social history of television (1974) Williams suggested that this medium did not just arrive accidentally but was indeed a foreseeable consequence of a long line of purposeful technical inventions on the one hand, and just as importantly, as a result of changes in the organization of production and of the social formations. The conditions in which broadcast media emerged was characterized by industrial production, increased mobility, urban development, individualization and privatization.

According to Williams, broadcasting technologies were developed in a complex of other technologies such as the motor car, box camera and home appliances. What these technologies had in common was that they served a new form of industrial and urban living. Williams notes that although "(s)ome people spoke of the new machines as gadgets (…) they were always much more than this. They were the applied technology of a set of emphases and responses within the determining limits and pressures of industrial capitalist society". According to Williams then, there is nothing pregiven about particular media. While we may imagine them otherwise, the forms these mediating practices and technologies take are not coincidental but intentional and fundamentally shaped by a particular set of historical and social conditions. Williams' theory also seems particular well equipped to address games, in particular considering the long and particularly social history of games and play as well as the many different mediating practices with which they have been involved or interfaced.

At first sight, Kittler's understanding of media is very different from Williams' as he was first and foremost interested in technical media. In fact, he directed a harsh critique of those practitioners of media studies who understand mediation only from the point of view of social usage (Winthrop-Young and Wutz 1999). Rather, Kittler was interested in the materiality of the technical channel and how technologies are, at the most fundamental level, entwined with human experience, from how and what we perceive, to the ways in which we organize and structure our knowledge of the world. The invention of storage media, such as the phonograph, made possible a separation between information and its original source and also made this information available over time and space. In continuation of this, the invention of technical media for recording, writing and storing, marks a significant historical shift in how we think of the human. Building on Foucault's notion of *epistemes*, i.e. the epochal paradigms that define the knowledge perimeters of a given discourse, he argued that different mediating technologies bring with them significant epistemological shifts. Kittler (1999, 18) wrote: "Once the technological differentiation of optics, acoustics and writing exploded Gutenberg's writing

monopoly around 1880, the fabrication of so-called Man became possible. Machines take over functions of the central nervous system, and no longer, as in times past, merely those of muscles. And with this differentiation (…) a clear division occurs between matter and information. The real and the symbolic. (…) So-called man is split up into physiology and information technology". Based on this, we may observe that unlike Williams, Kittler argued that in order to understand not only the social, but indeed our very idea of the human, we must first understand the logic of technology, as technologies not only mediate, but in fact transform our social world..

Kittler's approach to media fits well with the intermedial framework applied in the current dissertation for several reasons. First and foremost, he does not address media as abstract categories but rather as particular technological artifacts. In continuation of this, these technological artifacts are not just objects in the world but are intimately connected to our sensory apparatuses (in this, Kittler almost comes close to post-phenomenology). As such, using Elleström's vocabulary, Kittler articulates both the basic and the technical aspects of media.

Based on these short introductions, it is clear that the approaches offered by Williams and Kittler respectively are highly different and even in some respects at odds. Still, there are notable similarities as well. Most importantly, both Kittler and Williams are fundamentally materialist thinkers. Furthermore, at the same time it is possible to appreciate that media technologies may, in fact, shape our experience of the world, but also that the technological artifacts are themselves shaped by human intention. As Mitchell and Hansen (2010, xv) writes, "(…) media are themselves mediated – constituted, that is, by a three-way set of exchanges among the dimensions of individual subjectivity, collective activity and technical capability".

Finally, both Williams and Kittler have influenced game studies in various ways. Williams, through his association with the school of cultural studies, is in particular reflected in studies focused on players and the relation between games and players, playing practices and the ways in which game

design may constrain and afford certain player practices (Crawford and Rutter 2006; Shaw 2010, 2013, 2017). Conversely, Kittler's work has explicitly or implicitly been engaged with in media archeological works, and by scholars interested in the more material aspects of gaming technology (Huhtamo 2005; Parikka and Suominen 2006; Montfort and Bogost 2009; Apperley and Parikka 2018).

GAMES AS A QUALIFIED MEDIUM

Elleström's notion of qualified media seems particularly useful in the analysis of games, especially in the light of Wittgenstein's (2009 [1953]) observation about the difficulties of a formal definition that covers all kinds of games. This difficulty has been of central concern in game studies (Arjoranta 2014) (Stenros 2015). Scholars such as Salen and Zimmerman (2004) and Juul (2005) have suggested definitions of games which have positioned certain games at the core of this definition whereas other have been rendered borderline cases. Aarseth and Calleja argue that the term 'game' works only in a nominal sense, and that in this sense, games are a category of constantly morphing and expanding objects and activities (2015).

Therefore, this chapter takes a radically different approach that is less interested in analyzing what games are, and instead more interested in exploring what we usually *think* games are. Elleström's notion of the qualifying aspect of media provides an excellent framework for an inquiry into the morphing quality of the term 'game', but also to the ways in which the term is constantly discursively positioned relative to various phenomena, such as other qualified media, technological appliances or social practices.

In the first of the two following sections I will delve into the various historical contexts and conditions that have shaped relations between games and media, ranging from their association with technical artifacts such as the computer or particular media institutions such as the print press, over the societal and economic conditions that gave rise to proprietary games, and finally to the ways in

which specific hobby practices have more recently shaped the ways in which we think about the *consumption* of games. The latter section will explore how this is reflected in more normative claims about the representational capacity of games. This part of the analysis touches upon the role of spectacular aesthetics in digital game development, the notion of interactivity as a way to mark off the territory of games from other media, but also the ways in which particular (types of) games are dismissed as not 'real' games.

THE CONTEXTUAL QUALIFYING ASPECT

The analysis of the qualification of games as media takes its starting point in the industrialization of the 19th century. As I will argue shortly, this period has had a significant impact on the ways in which we understand games as an entertainment medium today, but also on ideas of the harmful and/or instructive potential of games. This was a period characterized by a mechanization of labor, as well as the birth and commodification of leisure time in which games came to play a significant role. But it was also a time of technological invention, and as a result of this, the birth of the modern concept of communications media (Guillory 2010). But most interestingly, this period also saw the emergence of so-called proprietary games, which, as Woods (2012) describes, "(…) unlike traditional games, (…) are a manufactured commodity, designed and published at a specific time in history, and produced for a particular market and for essentially commercial reasons" (p. 16). Compared to the earlier games of that time, which are typically identified as traditional board games, proprietary games represented an important shift towards a contemporary understanding of games as work, a product or even intellectual property of a named creator or company. The proprietary games that arrived in the 19th century in many ways fit more easily into the concept of medium than traditional board games. They were (mass) produced for commercial reasons by a publishing company and with a designated authorship (Whitehill 1999). In addition to this, they typically contained a clear specification of the rules by which their creator(s) intended them to be played, but also appeared as tangible artifacts that

were not so easily separated from their ruleset. And finally, they typically contained themed elements (Woods 2012, 18), which makes it easier to frame them as 'delivering a message' than the so-called abstract traditional board games.

However, while proprietary games thus represent a significant shift in the history of games, in regards to the media concept, the distinction between traditional and proprietary games should also not be overemphasized. Although proprietary games have a defined author, players may still change the rules, for example. And even though they appear as ready-made commodities, players may modify and customize them, for example by replacing standard tokens with homemade or third-party components (Rogerson, Gibbs, and Smith 2016). On the other hand, traditional board games have always been more than just a set of rules. Just like proprietary games, they are actual manufactured game artifacts that reflect the time and culture in which they have been made. Compare, for example, the Staunton chess set with the Lewis chess set. The latter refers to a distinct collection discovered on the island of Lewis in the Outer Hebrides in Scotland, but most likely manufactured in Trondheim, Norway. Most of the pieces are made from walrus tusk, and all are figurative except for the pawn, which is represented as a simple geometrical shape. The king and queen pieces are depicted as sitting on a throne, the bishop is standing, whereas the knight is sitting on a small horse. The rook is depicted as a warder, in some pieces equipped with a sword, and in some equipped with a spear. Caldwell, Hall and Wilkinson (2009) suggest that the visual appearances, including the clothes, thrones and equipment worn by the pieces, are based on real examples familiar to the craftsmen, but also that the differences in the attire of individual pieces suggest changes of fashion at the time of creation. Compared to the Lewis set, the figures of the Staunton set seem highly abstract and timeless. Still, the set in many ways reflects the industrial, Victorian period in which it was designed. As such, the design was not only inspired by the neoclassical aesthetics in fashion at that time, it also lent itself easily to industrial manufacture and mass production (Donovan 2010, 32).

The take away from this example is that even though the rules and form of chess as well as other traditional board games, may have evolved over time, particular realizations of this game are still designed and created at a particular place and time and in history, and may very well reflect the ideas of this time as well as those of their creators. This is not to say these objects at their time of creation were thought of as 'authored', but rather that there might be something to be gained from also analyzing traditional board games as particular material objects that – in terms of both their production and their consumption – are situated in a particular cultural and socio-historic moment.

Furthermore, companies also produced and published traditional board game sets side by side with the new, themed proprietary games. Therefore, even though traditional board games can be traced back to a time before the modern concept of communications media (Guillory 2010), I argue that we can still see them as qualified media through their association with the later proprietary games. This however, is not the main objective of this section. Rather, I look at the development of games – from the emergence of proprietary games and up until today – with a particular focus on the ways in which these games have intersected with other existing and emerging qualified media.

Industrialism and the emergence of leisure

With regards to games and play, industrialism had a significant impact for at least two reasons. First of all, not only did labor become mechanized, it also became organized in a way that demarcated work from non-work and hereby created the notion of leisure time. In addition to this, the 19th and 20th centuries saw several successful attempts to reduce the working day and thus increase free time, which could then be spent on leisure. The notion of leisure itself is an umbrella category covering a wide range of very dissimilar activities. As such, Cunningham (2016, 13) importantly notes that leisure is the idea of the observer or even reformer, rather than the participants. As such, the notion of leisure itself is an abstraction that aims to make certain activities susceptible for political discourse.

Therefore, it is leisure as a political concept that emerges with the industrial revolution, rather than the recreational activities themselves.

In a British context, already in the 16th century, many traditional recreational activities of late Medieval times, such as sports and communal festivals, began to be eroded as a result of the joining of forces of puritanism and capitalism that saw these leisure activities as a site of moral regulation and commodification. It is worth noting the ambiguities in this. Free time – or 'idleness' – was treated with suspicion as an economic and political problem and therefore as a domain that should be disciplined. This disciplining was achieved through its framing as leisure, which effectively demarcated it from working time and thus marginalized it in a way that made it subject to a degree of hegemonic control. In continuation of this, by commodifying leisure, the free and unproductive time was turned into a new source of profit (Cunningham 2016).

However, access to these new sites of leisure was not equally distributed. A range of public leisure activities, such as sports and music hall, were primarily available to men, whereas the norms of the periods confined women's leisure to the bounds of home, family and class (Cunningham 2016). Confined to the home, women could spend their time on domestic activities such as reading, listening to music and socializing in the parlor (Cunningham 2016; Grier 2013; Pearson 1999). In particular, the home underwent significant changes during industrialization. The new organization and centralization of labor removed work from the home (at least if we disregard housework as a form of labor), which was instead transformed 'into a unit of consumption' (Somerville 2015, 278). However, perhaps in response to this, the home also came to provide the domestic setting for so-called serious leisure or hobbies, such as crafting and collecting, which took on a more work-like form than the casual activities described above, and, importantly, were available to both genders (Gelber 1999).

Proprietary games and casual leisure

In addition to the more cultural issues of this period, there are other important aspects that pertain more to the realm of production than to consumption. Whereas traditional board games and other recreational artifacts were once hand-crafted objects carved in wood and tusk or etched into stone or slate, industrialism brought with it cost-effective mass printing of games on paper (Whitehill 1999).

This was an important development, as it made these artifacts available outside the upper classes. As such, industrialism therefore not only brought designated leisure time, it also made playing board games an affordable activity on which to spend this new free time. From this, a whole industry of game manufacturing arose, which in the USA gave birth to companies such as Milton Bradley and Parker Brothers. As the game boards were printed on paper, they became part of the product portfolio of companies specializing in print production and publishing, until finally emerging as an industry in its own right (Parlett 1999). For example, the company McLoughlin Bros. published a wide range of printed products for children, such as picture books, paper dolls, short stories, conversation cards, drawing books and, of course, card and board games. This association with the print industry is also reflected in the terminology with which these objects were described. Whitehall (1999) notes that it is significant that these games were being recorded as 'published' with an accredited authorship, rather than merely 'manufactured'. Looking at the game boards from that time, the connection to the print press is immediately recognizable. The games reflected the aesthetic and communicational practices of the print industry as they employed a combination of text and images. Typically, they were lithographed on cardboard and often featured attractive and detailed illustrations in two or more colors. In the McLoughlin Bros. catalogue from 1898, the descriptions of products ranging from picture books to board games emphasize facts such as the number of printed cards, the number of colors used in printing, or descriptions of the illustrations: "Each game contains twenty

colored cards" (p.63) "The label shows a number of children playing store, and is lithographed in full colors and gold" (p. 93) or "The board and label are lithographed in full color and gold" (p. 96).

Whereas the pictorial aspect of the above examples is highly significant, other games were more related to the written novel either in their subject matter (e.g. *Game of Authors*, Abbott 1861) or in their form. *Game of Visit to Camp* (McLoughlin Bros., 1880) is an example of a common type of story game. The game consisted of a number of cards with words printed on them and, in addition to this, a booklet with a printed short story. During play, one player would read the story aloud. However, parts of the story were omitted, and when the reader arrived at a missing part, another player would fill in the blanks by reading out words from the cards, often with highly ridiculous results. From this description, it is not difficult to see the connection back to printed literature and the qualified medium of the novel. But there is also a significant similarity to more modern forms of games applying text or oral storytelling modes, such as role-playing games, choose your own adventure books and text-based adventure games for the computer.

Whitehill (1999) notes that the proprietary games of the 19th century were often made to be played by children and adults together as an appropriate and wholesome family activity. Given the domestic settings into which the games were appropriated, it is no surprise that they had a significant educational or moral dimension. This is evident from some of the successful games at that time. *The checkered game of life* (Bradley 1860), and *The Mansion of Happiness* (Fox 1800/ Abbott 1843), expressed moral lessons about how to lead a good and moral life (although what is considered a moral life differs in the two games), whereas *Game of Authors* (Abbott 1861) and *The Traveller's Tour through the United States* (Lockwood 1822) focused on trivia. Finally, *The Game of Department Store* (McLoughlin Bros. 1898) instructed players in cost-effective consumption.

However, while the educational element may have been highly important in the early days of proprietary gaming, sheer entertainment became a more legitimate aspect of play in the 20th century.

And while earlier games drew inspiration from popular novels (*Game of Robinson Crusoe* (Chaffee and Selchow 1898)) and cultural and technological events of that time, (*The Crystal Palace Game* (Alfred Davies & Co., 1854), *The Nellie Bly Game* (Mcloughlin 1890)) not to mention national and colonial politics of the 19th century (S*tar-spangled Banner* (Wallis, probably 1842-45), proprietary games came to draw on a new source of inspiration, namely cinema and later television. This significantly impacted the design, publishing and marketing of games. Game publishers acquired licenses to movies and television shows in order to re-package pre-existing mechanics in a popular theme (Woods 2012; Parlett 1999), but this also significantly decreased the lifespans of the individual games, which were only relevant as long as the show on which they were based remained popular and on the air (Whitehill 1999).

So far, this section has focused on a particular type of games that emerged as a result of domestic parlor activities and that qualified as a wholesome family-oriented leisure activity for men and women alike. These games were further characterized as targeting a casual and non-specialized audience. Woods (2012) labels these as mass-market games and we can follow this trajectory of games throughout the 20th century and up until today. While until the 21st century, mass-market games remained largely (but not exclusively) a gaming practice that did not involve computers, this significantly changed with the arrival of the smart-phone and touch-screen technology in the early 21st century. Juul (2012) describes a 'revolution' in computer game consumption, with the emergence of so-called casual games, which attracted a whole new audience. However, another version of this story may be to frame these casual games in continuation of the existing casual gaming practices described above. This would frame so-called casual games, not as a revolution, but rather as a descendent of existing games and practices stemming back to the late 19th century and involving both the mass-market board games described above, but also the range of older computer games such as Tetris (Pajitnov 1984) and Pong (Atari and Alcorn 1972) for example.

Specialist leisure and hobby gaming

Naturally, casual, or mass-market games do not constitute the only trajectory of domestic play. In fact, in order to understand the qualifications of contemporary computer games, it is probably more fruitful to inquire into the more specialist leisure activities described above, such as crafting and collecting. In particular, I am interested in what Woods (2012) calls 'hobby games' and Parlett (1999) calls 'specialist games'. These are games that typically target adult players who not only play games casually, but as the name suggests, consider playing board games as a hobby or as a specialist field of serious leisure.

Just as with other leisure practices, serious leisure may be seen as a product of industrialization and capitalism. However, serious leisure reflects the organization and ethics of industrialized labor in a different way than casual leisure. Gelber (1999) observes that serious leisure in many ways resembles labor in that it requires specialized skills, perseverance and measurable achievements. But on the other hand, serious leisure may also be seen as the antithesis of the 'alienation' of depersonalized factory or office work, in that it is understood as a voluntary and for the leisure worker inherently meaningful activity. As such, Gelber understands serious leisure as a 'disguised affirmation' of the logics of industrial labor and capitalism. For a game scholar, it is difficult to overlook the similarities with the notion of play. The notion of 'disguised affirmation' however, questions ideas about the distinctness of play and non-play. Drawing on Marxist terminology, we may rather say that even the forms of play that can be observed at a given time are dependent on and reflect the substructure of society, that is the economic relations and the organization of work. An important aspect of serious leisure is that it historically opened up the domestic space for male 'work-like' activities, but also that it allowed women to rehearse these very practices of work at an appropriate site. Later in this chapter, I will return to how the ideas of serious leisure have impacted contemporary understandings and engagements with the qualified medium of games.

Although hobby gaming is a relatively modern phenomenon that emerged in the mid-20th century, it links back to earlier forms of (male) gaming and hobby activities. The earliest form of hobby gaming is undoubtedly wargaming (Peterson 2012; Woods 2012). Wargaming has its own long and complicated history in which entertainment and leisure is intersected with much more serious concerns. For example, Smith (2010) notes that as early as in the Roman Empire, sand tables with various miniature tokens were used to plan and strategize warfare. However, as a form of gaming, wargames can be traced back to traditional games such as the Chinese game of *GO* (or *Wei-qi* dating back to the second millennium BC according to Parlett (1999)), the Indian game of *Chaturanga* and its modern derived form, *chess* (which according to Parlett (1999) dates back to some time prior to AD 600) . These games all involve aspects of modern wargames such as placement and territory control (in the case of *GO*), as well as movement and material capture (in the case of *Chaturanga* and *chess*) (Parlett 1999).

However, while the war aspect may be extrapolated from the mechanical systems in the above-mentioned games, it was a more explicit theme in other games. In the latter half of the 16th century, a German army commander and military theorist zu Solmz published a description (as well as templates for the cards) of a card game focused on military formations (Wintjes 2015). In 1811, von Reisswitz demonstrated a military simulation game that was played on a sand-covered table, and in 1812 published over 200 copies of an instructional manual for playing the game. Later, Reisswitz' son developed the game even further and in 1824, Reisswitz the younger began selling a boxed version of the game under the name of *Kriegsspiel* (Peterson 2012). *Kriegsspiel* received great attention after the Prussian victory over France in 1870. Following this, in the late 19th century and on, military simulation games were frequently used to plan military operations. Smith (2010) observes that wargames were used during the late 19th century in the United States to plan defense

strategies against a potential invasion of New York harbor, and in WWII wargames were used by the Germans to plan the invasion of Poland and by the Japanese to plan the attack on Pearl Harbor.

However, wargaming did not remain exclusively within the military domain, but was also appropriated in the domestic domain as a specialist leisure activity. The Prussian victory also had other implications. Peterson (2012, 252) notes how a whole industry manufacturing miniature tin soldiers emerged in Germany in the wake of the Prussian war, and quickly spread throughout Europe. As wargaming was popularized among the general public, these toy soldiers were soon appropriated as part of this hobby activity. Here, it is interesting to note how two figures from the literary community came to have a great impact on miniature wargaming. The Scottish author Robert Louis Stevenson was a particular pioneer in this regard, as he conceived of a whole system for miniature wargaming. While it was not published until 1898, after his death and by the time that he had become a cherished author of adventure novels, it was received with great enthusiasm by the burgeoning wargaming community. Another author who came to have an impact on wargaming was science fiction writer H.G. Wells, whose book *Little Wars* (1913) comprises both a description of miniature wargaming and a ruleset for play. Notably – given the toy soldiers used in miniature gaming – Wells described the participants in the game as middle-aged men (Peterson 2012, 265), which probably helped qualify the activity as an adult's 'serious' hobby rather than merely childish play. It is particularly through this inclusion of miniature figurines that wargaming came to resemble the serious leisure practices of collecting and crafting described by Gelber (1999).

In the 1950s, wargaming became commercialized with the publication of a number of military simulation games from the game publisher Avalon Hill. The popularity peaked in the 1970s, which spawned many more game companies (Woods 2012; R. Smith 2010), as well as dedicated magazines such as *Strategy & Tactics*, *The General*, and *Ares*. In contrast to the mass-market games, these games were promoted as creations of specific game designers, and interestingly, Woods (2012, 22) notes

how the term 'game designer' was actually coined in the wargame industry by the game publisher *Simulation Publications Incorporated*. In regards to the concept of media, it is particularly notable that wargames would often simulate actual historical battles. Through these games, players could thus re-enact historical events, but also explore alternative, counterfactual trajectories of history. Gradually, however, wargame publishers expanded their catalogues to include games that deviated from the conventions of wargaming by allowing more players and by focusing on soft power rather than direct conflict (Woods 2012, 45).

From within this existing hobby tradition of wargaming, new types of hobby games soon emerged. In terms of board games, two trajectories emerged. A trajectory of so-called 'Eurogames' that to some extent resembles traditional board games. The trajectory of American-style board games may have a greater heritage from the tradition of wargaming, and often include a more recognizable representational theme. The roleplaying game *Dungeons & Dragons* (henceforth *D&D*) (Gygax and Arneson 1974) was also derived specifically from miniature wargames (Peterson 2012), but was set in a Tolkien-inspired fantasy universe and importantly only allowed players to control a single character (Woods 2012). *D&D* became a huge success and paved the way for a whole new type of game – namely roleplaying games. The wargame legacy is evident in the focus on combat in early role-playing games, whereas later games put greater emphasis on the narrative aspects (Woods 2012, 26; White et al. 2018). While *D&D* was originally designed for communal play, in 1975, Gygax published a set of guidelines for solitary play, where the tasks of the gamemaster were delegated to the game system (Arnaudo 2018). This addition to *D&D* rendered the gameplay more akin to what would soon become known as adventure games.

However, wargames and roleplaying games did not remain on the tabletop. Instead, these gaming practices were soon adapted to the computer, where they also transformed into new 'genres'. Real-time strategy games and turn-based strategy games, for example, owe much to their wargame

predecessors, whereas adventure games, and multi-player roleplaying games (MMORPGs) may be seen as a spinoff from tabletop role-playing games.

According to Barton (2008) the first roleplaying games were developed for mainframe computers as early as in 1974 (the same year as the publication of the first *D&D*), whereas the first roleplaying games for the home computer arrived in around 1979. This is probably not completely coincidental. Rather, hobby tinkering and hacking, as Swalwell (2012) describes, were indeed central to the appropriation of the home computer. While this activity may seem far removed from the hobby gaming practices described above, it is actually not. Since its popularization, hobby games were not only about play, but also about crafting. In fact, hobby gaming may be a laborious activity that involves creating scenarios, drawing maps, making miniatures and characters, and developing strategies. Seen in this light, the hobby practice of home computer tinkering and gaming may not be that different. It is therefore not difficult to imagine that people already engaged with the highly productive and specialized leisure practice of hobby gaming have greeted the home computer as an interesting new hobby activity. In particular, the computer may have been seen as an obvious aid to the increasing complexity of tabletop games. Woods (2012), for example, notes how the home computer offered an "attractive alternative to complex manual bookkeeping required in many games" (p. 24). The interrelations between computer tinkering and hobby gaming is nicely illustrated by the story of *Colossal Cave Adventure (henceforth Adventure)* (Crowther and Woods, 1977). In fact, William Crowther was involved in the hobby gaming community as a *D&D* player and initially wanted to make computerized bookkeeper of the game (according to the account by Don Woods cited in (Aarseth 1997, 99)). The fact that *Adventure* then turned out to be something very different is beside the point. As such, we may see *Adventure* as a result of both hacking and hobby gaming practices (Lessard 2013).

Becoming a huge success, *Adventure* paved the way for a whole range of more or less similar games, often building on popular fictions (Aarseth 1997). In itself, the emerging genre of so-called adventure games may, in different ways, be qualified in regards to both literature, games and cinema. Just like in cinema (and other screen-based forms such as TV, peep boxes etc. (Huhtamo 2006a)), but unlike tabletop games and literature, the adventure game player is situated in front of a screen. The connection to role-playing games relates to the fact that adventure games first appeared within a community already occupied with role-playing games and in some ways they also resemble the representational style of these role-playing games, most notably through the textual interface, which resembles the voice of the gamemaster who narrates the settings and events of the game to the player in natural language (in written rather than oral text) and importantly, in a step-by-step fashion (Lessard 2013).

Another spinoff from tabletop hobby-gaming practices is the tradition of multi-user dungeons (MUD). Inspired by *Dungeons & Dragons* as well as adventures games (Lessard 2013) Trubshaw and Bartle in 1979 created *MUD*, which was a text-based multi-player game in a dungeon setting. Contrary to adventure games, *MUD* allowed for communal play, but contrary to a traditional *D&D* setting, this play was not confined to the limited space across the tabletop. This game was imitated and refined into a range of other MUDs, some of which focused on game-like aspects such as quests, dungeons and monsters, whereas others focused more on free-form interaction between users (Aarseth 1997). The type of more game-oriented MUDs would eventually evolve into more modern MMORPGs, such as *World of Warcraft* (Blizzard 2004) or *Guild Wars* (ArenaNet 2005). A detailed discussion of the connections between the types of phenomena mentioned here is beyond the scope of this chapter, but Aarseth (1997, 73) provides a useful map of the relationships between adventure games, hyper-texts, static texts, and what he calls unpredictable texts (MUDs and text-generators).

However, we may also observe similarities beyond the digital realm. As such, hobby gaming is also reflected in phenomena such as live-action roleplaying games (LARPs) and choose-your-own adventure books. The latter were printed books with branching narratives where the reader would make choices that would affect the ways in which the novel progressed. While these gamebooks appeared as traditional codex books with multiple pages stitched together on the middle, in many ways they resembled solitary role-playing games and adventure games, although only with very rudimentary game elements. For example, the books would apply similar narrative techniques, such as simultaneous narration and second-person point of view.

Furthermore, the computer did not take over hobby gaming. Rather, hobby gaming continued to thrive with significant new additions such as *Magic: The Gathering (*Garfield 1993 henceforth *Magic*). While most hobby games revolved around the gaming board, the publication of *Magic* introduced cards as a hobby gaming artifact. Garfield drew inspiration from basketball trading cards but built an elaborate game on top of them (Woods 2012). As a hobby then, *Magic* involved core serious leisure practices, such as buying and collecting cards, playing the actual game, as well as the strategic meta-game (Carter, Gibbs, and Harrop 2012) of building decks. *Magic* immediately attracted many hobby gamers, but sales suggest that the game enjoyed a popularity beyond the adult, 'specialist' demography of the hobby-game market alone. This is also evident from the release of similar games such as *Pokemon Trading Card Game* (The Media Factory 1996) and *Yu-Gi-Oh*! (Konami 1999), which targeted a younger audience than *Magic* (Woods 2012).

Games and public space

To frame the historical qualification of games only in regards to domestic leisure activities would be a gross shortcoming. Therefore, this section considers the role of public space. The trajectory of public gaming has a long history that includes phenomena such as the spectacular games of ancient Rome, medieval carnivals, sports and more recently arcades and gambling.

An interesting starting point of this discussion is Bakhtin's (1968) writings on the role of play and games in Medieval Europe, and in particular, their close links to the marketplace or festival. Here it is particularly interesting to note the double character of games, as at the same time "a condensed formula of life and of the historic process" but also activities that "drew the players out of the bounds of everyday life, liberated them from usual laws and regulations" (Mikhail M. Bakhtin 1968, 129). From this, we may note an ambiguous relationship to dominant ideology, by which games and play simultaneously rehearse and subvert the logics of dominant ideology. Of course, the aspects of dominant ideology that are reflected in games may differ, depending on the temporal and spatial context of play. As noted earlier, already in Europe's early modernity, the medieval festival forms described by Bakhtin came under attack by both Catholic and Protestant reformers, but also underwent significant transformation with the rise of commercial capitalism. While play and games did not fade away with this transition to modernity, they came to reflect a different ideological order. An example of this are the slot machines that emerged in the second half of the 19th century. In their early days, slot machines came in the form of a variety of coin-operated machines, such as vending machines, fortune-telling machines, electric shock machines, automated miniatures etc. These machines were placed in public spaces, often in so-called penny arcades. According to Huhtamo (2005), the slot machines appeared as the antithesis of industrialization. Industrialization not only resulted in the emergence of leisure time discussed earlier, but also significantly changed the organization of work, introduced the commodification of labor, and according to Huhtamo, transformed human workers – not only in factories but also in offices – into machinic gears. Slot machines then rehearse this ideology by simulating discrete mechanized labor by also by capitalizing upon this in a way that transforms the labor as a commodity into a leisure commodity proper. However, on the other hand, slot machines also subvert this logic, as the work involved in operating them may seem labor-like but is still in a way un-productive and remains within the sphere of leisure.

Slot machines thus represent a very different kind of leisure activity than the domestic leisure described earlier. Taking place outside the bounds of the home, it may have been more difficult to discipline, and could therefore retain more residues of its earlier, carnivalesque forms. Cunningham (2016) describes how Victorian discussions of leisure often expressed a clear class motive: Public leisure were often seen as a site where the lower classes could come in contact and 'learn' from the upper class. But this capacity of leisure was only viewed as positive when it came to the male part of the population. When it came to women, the intermingling of classes was seen as harmful and inappropriate. Therefore, it is unsurprising that public games have also been met with a great deal of suspicion. For example, Huhtamo (2005) notes how the penny arcade was simultaneously immensely popular but also considered a breeding ground for diseases and immoral behavior, as it made possible interactions between people of different genders from mixed social backgrounds (Huhtamo 2005). Similarly, we may note that whereas domestic play may have been subject to the soft forms of power, the public games of the penny arcade became the subject of the harder powers of legislation and regulation, often justified by their association with gambling. In particular, the pinball machine is interesting in this regard, as it represents a move from chance- to skill-based mechanics. Therefore, the industry argued that it was a game of skill that was not susceptible to gambling legislation, whereas the legislative bodies saw it as a game of chance (Kocurek 2015).

The context in which these games were situated plays an important role in the ways in which they became qualified. As we have seen, the controlled space of the living room rendered the games played there as a socially acceptable pastime, but also associated them with casual, family-friendly leisure. On the other hand, the arcade appeared as a more uncontrolled environment, frequented by a socially mixed crowd. The fact that the pinball machines and arcade games of the 20th century could also be found in backrooms of bars only underlines that this site of play was not associated with

family leisure, but rather, as Kirkpatrick (2013, 49) notes, qualified these play practices as adult leisure, awarding them with an aura of counter-culture.

Screen technologies

The slot machine and its decedents in the arcade hall must not only be considered as gamic [in] form but also as technological artifacts. And following this, computer games are qualified as media, not only through their associations with other game and play practices, but also through their historic relationship with technologies. In particular, I argue that contemporary computer games are qualified with reference to two technical media, namely the screen and the computer.

In particular, the relationship with the screen can be found in the early slot machines, which may be seen as a continuation of existing optical devices such as perspective boxes, magic lanterns, and peep boxes, which were already common by the 17th and 18th century (Huhtamo 2006a). As a screen-based artifact then, slot machines belong not only to the family of games, but also to other qualified media families such as television and cinema. Here, Huhtamo (2006a) distinguishes between the big screens that afforded communal viewing, such as magic lanterns, panoramas and more recently the big 'silver screen' of cinema, and the small screens, which afforded private and isolated viewings such as the peep boxes, mutoscopes, some slot machines, and more recently, computer monitors and smartphones.

This difference in affordance however, does not mean that they should be seen as two trajectories that were distinct from the start. Rather, their developments often coincided. Huhtamo (2005), for example, notes that in the early 20th century, cinemas were sometimes opened at the back of penny arcades, which made the 'small' screens of the kinetoscopes and mutoscope, and other slot machines, function as a sort of pre-show before the actual show. Yet, this not only signifies a family resemblance between the small and big screens, but also points to a certain tension between the two

modes of consuming moving images, namely the private, hand-operated and labor-like slot machine, and the communal and more casual screen projection (Huhtamo 2005).

Despite this common lineage, cinema and the penny arcade developed in different directions, and the coin-operated machines of the penny arcade soon moved away from displaying film-like content (Williams, 2017, 2017). And while cinema gained a much more respectable and even serious reputation, the arcade remained suspect as an associate of the uncontrolled public play and game forms. It is interesting that this somehow subverts the neat distinction between the family-friendly, feminized, casual play practices of the domestic space and the more masculinized, frivolous and labor-like play practices of the public sphere. Huhtamo (2005) points out that the living room was indeed the original sphere of the 'small screen.' In regards to public peep shows situated at street fairs, he notes that women actually made up a prominent part of the audience, and even suggests that the peep show may have originally been thought of as an infantile form appropriate for women and children (compared to the more game-like slot machines, I would add), and that the phenomena only later, by the end of the 19th century was associated with 'adult', erotic content and seen as mostly a male activity. Concerning the history of the 'small' screen alone then, we may observe a certain tension that also becomes evident in the appropriation of the gaming console. According to Flynn (2003), for example, the gaming console was integrated into the living room as an extension of the television set, which functioned largely as the heart of the domestic space. But due to its pre-history in arcades, the gaming console simultaneously connoted ideas of masculine leisure in the uncontrolled space of the arcade hall.

The computer

Finally, we also need to consider the role of computer technology in the qualification of games. In fact, today the computer stands as one of the most prominent qualifiers of games in public discourse, where the notion of game appears almost synonymous with the computer. If we look into the historical

context in which the terms discussed above came to qualify distinct media, we can unsurprisingly note that technology has indeed played an important role. The association between games and computer technology may go back to early experiments with electronic games (though not yet called video games), which were used to showcase the latest technological achievements in a popular and attractive way. The computer *Nimrod,* for example, was created and programmed to play the game of Nim as a show-case [event] at The Festival of Britain's Exhibition of Science in 1951 (Donovan 2010). Similarly, in 1958, the game *Tennis for Two* was displayed at an exhibition at Brookhaven Laboratories in the state of New York (Ahl 2008). Nevertheless, these early electronic games may have simply been thought of as fun demonstrations of technology and equipment and have not in themselves warranted the creation of a whole new category of games.

The link between games and computer technology became much more significant in the 1970s, when coin-operated computer games began to appear in gaming arcades. As Wolf (2008) notes, before that time, computer games had only been available to a select few. And while some of these people came to influence the future of computer games (as the story of Woods' and Crowther's *Adventure* illustrates), the popularization of computer games took place in the gaming arcade side by side with the pinball machines mentioned earlier. But computer games soon found their way into the domestic sphere as well. According to Kirkpatrick (2013) computer games were central to the domestic appropriation of the computer, as they showcased in an effective way what one could do with a computer. But just as important to this appropriation were the hobby practices of computer hacking and tinkering (c.f. Swalwell 2012; Jaroslav Švelch 2013). As noted earlier then, there may have been a convergence between the practices of hobby gaming and home computer tinkering, which became manifest in the popularity of the computer game. However, this link also qualifies computer games along the lines of the existing hobby games and tinkering practices, as a skill and specialized leisure practices. At that time, the burgeoning qualified medium of computer games could still

develop in a range of directions. It did not take long to consolidate the links between this form of gaming and particularly male, serious and specialized leisure pursuits. This construction of computer games as a medium for young teenage boys is still prevalent, in particular in popular discourse, but is critically examined by an increasing number of scholars (Delamere and Shaw 2008; Grooten and Kowert 2015; Kirkpatrick 2016; 2017; Paaßen, Morgenroth, and Stratemeyer 2017; Shaw 2013), and it will be discussed in more detail at the end of this chapter.

Concerning the previously mentioned distinction between work and leisure, the computer occupies a curious position. While leisure and hobbies in general played a great role in the appropriation of the home computer, these machines still connoted 'serious work' through their association with the mainframe computers of research, the military, and business. Finn (2002) similarly observes two different industrial strategies in the design of early domestic computers: One focused on office computer/gaming console hybrids such as *Commodore* that combined office computer aesthetics with gaming specs, and another focused solely on dedicated gaming consoles. (such as Sega and Nintendo). As the latter disposed of the keyboard in favor of a joystick, it came to not only look very different to the office computer, also its human operation was quite different. We may see the development of the gaming console over the next decade as a continuation of this move away from the connotations of work in the origins of the computer. In the 90s, and with the emergence of consoles like Sony's PlayStation, we see a renewed interested in the hybrid machine, but this time it was not a hybrid between the modes of work and play, but rather between play and other forms of entertainment. The CD-ROM technology adopted by these consoles also allowed them to function as music players as well. But more notably, this technology allowed games themselves to adopt a broader range of representational practices from qualified media such as cinema and popular music. Therrien (2008) for example, describes the inclusion of full-motion video cut-scenes with computer-generated or live-action imagery and CD-quality background music.

In academic as well as popular discourse, the aspect of technology (screen as well as computer technologies) has played an important role in the qualification of games, and in particular in the qualification of so-called computer or video games as a distinct gaming medium. While Keogh (2014), as noted earlier, argues that the academic study of games is guilty of a fixating or even reduction of video games to the form of non-computerized games, I find the contrary much more obvious. Contemporary popular and academic discourse on games may indeed have focused too much on the technical aspects of computer games, to an extent where the many links to earlier or contemporary forms of games and play – as well as other leisure activities and artifacts – have been overlooked in favor of an understanding of computer games as a whole new medium, the birth of which is marked by Steve Russell's *Spacewar!* from 1962.

With respect to the terminology used to qualify this medium, we may also see different ways in which the aspect of technology is reflected in the labels describing games. Terms like 'computer game' or 'video game' obviously emphasize the technological aspects of games, but also somehow suggest that this particular aspect of games significantly distinguishes them from games that do not involve digital technology. Still, what counts as technology in this regard is not completely obvious. Whalen and Taylor (2008, vii) observe how the terms 'video games', 'digital games' and 'computer games' come with different shades of meaning. 'Video game' may highlight the visual aspect, whereas the notion of 'computer game' emphasizes the computational aspects. In addition to this, the term 'video game' may sometimes be thought of as a subset of 'computer games', where the parent group contains any kind of games that rely on computation and the subset 'video games' contains only those games that also have screen-based graphical interfaces. In another use, 'computer game' may be a subset of the larger group of 'video games', where the former refers to games played on a so-called home computer (e.g. a PC) whereas the latter parent group includes games played on a

variety of different platforms such as home computers, consoles connected to TVs or stand-alone handheld gaming consoles (Wolf 2008).

If we instead zoom in on the term 'video game', Wolf (2008) argues that the subtly different terms of 'video games' and 'videogames' consider the object through different frames. The term 'video game' emphasizes and qualifies the object as a *game* and thus as a member of a group that also includes 'board games' and 'card games' etc., whereas the term 'videogame' qualifies the object as a piece of 'video technology' and thus as a member of a group that contains other technologies such as the 'videocassette' or the 'videodisc'. It is also notable that the term 'video game' today appears quite retrospective. While the term initially referred to the use of Cathode Ray Tubes (CRT), Wolf (2008) argues that today it has become conceptual rather than pointing to a specific imaging technology. Nevertheless, today, technology still remains an important aspect of the ways in which we understand computer games as a medium. As such, technological fetishism is still evident in contemporary discourse on computer games, which will be discussed in more detail in the section on the operational and communicational qualifying aspect of games. Granted, technology plays an important role, not only in relation to the appearance and operation of games, but also to the ways in which we imagine what they are. Still, an overly narrow focus on the issue of technology runs the risk of oversimplifying the ways in which games emerged as a medium. As Kirkpatrick (2013, 51) notes: "The growth and spread of games as a cultural form was not determined by the rise of computer technology, but rather the two developments should be understood as interdependent". In addition to this, we should remember that even though computer games may be qualified as a technical artifact, they may also be conceived in their capacity of being games and thus members of a much larger group of objects and activities; and that games as such have been shaped by other social practices than those pertaining to computers and television.

Interim conclusions

This section has aimed to point to some important moments in the process of the qualification of games as a medium. The take-away from this discussion is that games were not born a medium, but rather that they became one through historic associations with various communicative forms and emerging mass media. This story is also very much a story of modernity and the role of leisure and media in this historical period. Different starting points could have been chosen, and by focusing more on the pre-modern forms of games and play, it would have been possible to paint a different picture.

This account focuses on the early connections with the print industry and the qualified medium of literature as well as with the qualified medium of cinema and television, through the technical artifact of the screen, as well as the much later interconnections with the technical medium of the computer. I have also focused on historic consumption practices, such as casual and serious leisure in the domestic and public spheres. We can also see how various qualified and technical media have been appropriated in different ways in these spheres. The account presented here of course involves significant reductions and simplifications as well as outright omissions. Most notably, this section has focused on a particular western (even British and North American) context. Games, however, are played all around the world, and the 'media culture' with which they are associated did not emerge in a western vacuum. Similarly, this section has highlighted historical exchanges with what became other qualified media, at the expense of a range of interesting play-like phenomena, such as the long history of sports and lawn games, to the range of primarily verbal games played in the domestic parlor, such as guessing and word games (Grier 2013). A variety of children's games and play practices, such as doll house (Flanagan 2009) tag and marbles (Denisoff 2008), were also not discussed

However, based on how I have told the story of games, at least four main trajectories of the play and media practices born out of modernity. In the domestic sphere, we have the feminized and family-friendly 'casual' leisure associated with many of the proprietary games of that time and various related print products, such as novels, magazines and periodicals. In terms of screen-based artifacts, the various optical toys belonged in the Victorian parlor, and more recently television, but we also have the more masculinized and 'serious' pursuits, associated with the whole practice of wargaming and other so-called hobby games, and more recently with hobby computer tinkering and computer game playing. In terms of public leisure, we can make roughly the same distinction between casual and serious leisure, where the former may be associated with a variety of theatrical entertainment forms such as variety shows, and the music hall of the 19th century, as well as with newer forms such as cinema, whereas the skill-based slot machines, pinball and later the computer arcade exemplify the more specialized forms of public leisure. Finally, compared to the domestic leisure practices, we may note that women and children historically have had only limited access to the sites of public leisure.

These categories are highly unstable and the practices and artifacts discussed have moved in and out of different contexts. Consider, for example, the pinball machine, that I have treated as a representative of the specialized and masculinized form of public gaming, and also as a predecessor to more recent forms of arcade gaming. It is interesting to note that this game actually derived from the highly domesticated (and female-friendly) Victorian parlor game of Bagatelle. But also, that Bagatelle itself was an appropriation, into the domestic sphere, of outdoor billiards, which was otherwise available mainly to men. Similarly, we can see the links between the domestic form of role-playing games, and the spectacle of the live-action role-playing game (LARP). In fact, as Morton (2007) describes, this is only half of the story. LARPs owe just as much to the public games of ancient Rome, their modern, though less bloody equivalents such as medieval jousting and renaissance fairs

and battle recreations, not to forget theme banquets in early modern Europe, carnival, commedia dell'arte, improvisational theater and the Prussian Kriegsspiel.

However, while I argue that the context in which proprietary games and, later, computer games emerged significantly impacted on the ways in which games have been qualified as a medium, we need to turn the focus to the operational qualifying aspects to see how this translates into a set of normative assumptions about contemporary games. This will be the focus of the next section of this chapter.

THE OPERATIONAL QUALIFICATION OF GAMES

As described earlier, the operational qualifying aspect of games focuses on the aesthetic and communicative practices associated with them. As we shall see, these conventions do not appear out of nowhere, but rather reflect the historic and cultural contexts discussed in the last section. As such, this section will revisit some of the themes introduced in the last section, but this time with an angle that focuses on the more normative assumptions about the form and content of games. Where the last section focused on games from the latter part of the 19th century and onwards, this section will focus more on contemporary games.

This section of the chapter rests upon Consalvo's and Paul's (2013) study of the discursive construction of games on websites such as Gamasutra and Kotaku as well as on talks at the Game Developers Conference. The authors found discourses according to which 'real games' are conceived as those made for platforms such as a dedicated gaming console or a PC and made by companies who had a history of developing to those platforms and by designers who "love games" (p. 4); they are conceived as games with mechanics requiring untrivial, complex and skill-based actions, sophisticated and polished graphics and an up-front payment model. On the other hand, 'fake games' are conceived to be those games that are made for social platforms such as Facebook and made by companies seen as 'intruders' in the game industry and only in it for the economic gain. Moreover,

'fake games' do not require any non-trivial skills, and are made with childish color book graphics, and importantly these games rely on the so-called 'freemium' business model.

As Consalvo's and Paul's (2013) study shows, that the qualification of games as a form of media on much more than simply the combination of the basic medial characteristics. According to this the discourses they observe , so-called 'real' games should not transgress certain normative boundaries that mark what is believed to be essential to games and therefore distinguish them from other media: the mechanics must be complex rather than trivial, interactions must be deep and meaningful to the player, and involvement must be long-term rather than short term. These characteristics will be discussed in more detail in the remaining parts of this chapter.

Textuality, narrative, the qualified medium of prose fiction

Unsurprisingly, given the historical association between the early proprietary games and the print industry, a certain connection to what we may call the qualified medium of prose fiction is evident. This connection includes some of its associated basic modalities of textuality and narrative accompanied by prevalent genre themes.

First of all, the basic modality of written or oral language is important. While this aspect is easily overlooked in contemporary computer games that often highlight the mode of spectacle (as will be discussed in the next section), the textual modalities associated with literature still play a significant role. This is obvious if we consider early text-based adventure games such as *Zork* (Infocom 1977), or *Colossal Cave Adventure* (Crowther and Woods 1977), but is, in fact, also a highly prevalent phenomenon in other types of games. Text is found in game titles and paratexts, rulebooks, narrative voice-overs, character dialogue, labels of various interface elements, names of in-game objects, places and characters, written or oral chat (online or face to face) and so on. In fact, as discussed in chapter four, it is often these labels and paratextual elements that allow us to construct a given game as a simulation of a target. The importance of text should will also be demonstrated in

the analysis of The Witcher 3: Wild Hunt, in the next chapter. In addition to this, we should also not forget the linguistic aspect of programming computer games, which is often done in high-level programming languages that contain a set of predefined terms borrowed from natural language.

However, games and the qualified medium of prose fiction are also connected in other ways. These connections pertain not so much to the question of whether games as such should be considered a medium for storytelling in line with prose fiction and cinema for example (Frasca 2003a; Murray 2005; Pearce 2005), but rather to the observation that games and stories (in the broadest sense) contain at least some of the same materials. Aarseth (2012) for example argues, that in both stories and some games, we may find characters, world, objects and events. However, the importance of each of these building blocks may vary from game to game and from one genre to the next (however arbitrary the notion of genre might be). At the most general level we may say that role-playing games and dating sims, for example, emphasizes the role of characters, whereas walking simulators privilege the role of game space or world (c.f. chapter three) and similarly, many puzzle games highlight object manipulation. This is, of course, a highly idealized categorization, and in reality, most games apply a broad range of elements.

The notion of an 'event' is of particular interest in comparisons between games and literature. The main reason for this is that the historic qualification of text has been constructed around the idea of the representation of temporal events as a unique or privileged mode (Mitchell 1987). According to Aarseth, one of the main features that distinguishes the representation of events in games from narrative media proper, is that in games, the sequence of events may be more or less open, whereas in literature and cinema for example, it is typically pre-decided and fully plotted.

While we may generally argue that the event is a crucial aspect of all games, given the processual nature of their play, in one particular category of games, the notion of event seems to take an even more significant role. To appreciate this, I will briefly introduce a particular literary genre,

that Dunae (1980) labels boys' literature. This label covers a genre primarily aimed at juvenile boys that emerged at the end of 19th century. Central to boys' literature was the adventure: exploring foreign territory, surviving shipwrecks, treasures hunting and so on. While not the creator of this genre, the author Robert Louis Stevenson played a pivotal role in its popularization, and not least in the refinement of its vocabulary and style (Dryden 2010). As such, his authorship provides a good benchmark for the aesthetic and communicative conventions of this boys' literature. According to Kiely (2005), Stevenson favored physical action over interior motivation, the extraordinary over realism and the everyday-like, and also stressed the importance of the narrative incident or event. Considered in the historical and cultural context in which this genre emerged, we may add, that it also reflected and rehearsed the logics of imperialism and capitalism by focusing on the mode commodity consumption (finding treasures, consuming land through spatial exploration), and constructed masculinity in terms of heroic feat, survival and courage (Dunae 1980; Kestner 2013).

It is not difficult to see the similarities between this literary genre and the loosely defined genre of so-called adventure games, which I would argue includes a diverse set of members such as *Zork* (Infocom 1977), the *Secrets of Monkey Island* (Lucasfilm games, 1990) and the *Tomb Raider* series (Eidos Interactive 1996 – 2009; Square Enix 2010 -), and perhaps also games such as the *Far Cry* series (Ubisoft 2004 – 2018) despite its also significant shooter mechanics. Such games often feature elements and themes similar to those found in boy's literature: the white (male) protagonist cast into a foreign and exotic land, which he consumes through spatial exploration and collecting loot. This is not to say that these games necessarily straightforwardly reproduce the ideological logics of boys' literature. Indeed, a game such as *Secrets of Monkey Island* is obviously a pastiche over this genre. Still, tropes and representational practices are drawn from adventure novels regardless of whether they are employed in humorous and subversive manner.

But there are other connections. The protagonist in both boys' literature and adventure games plays a significantly reactive role to the succession of narrative events, where he is thrown into incidents or circumstances that he must survive. In Aarseth's (1997, 112) terminology, adventure games cast the player – but also the narrative protagonist of the game – as an 'intriguee', an innocent (but voluntary) target of the circumstances of the intrigue. Furthermore, just like in boys' literature, the focus of adventure games is on the mode of 'doing'. In other words, physical action is favored over interior motivation. This is also reflected in the depiction of the protagonist (at least in modern, graphic adventure games), who typically appears as a muscular, fit and capable body. Moreover, this body also becomes a central reference point in the experience of the game world as meaningful. Drawing on phenomenology, Vella (2015) observes that meaning arises precisely from the playable figure's bodily capabilities for action, which allow the player to articulate an "I can". And while doing physical tasks may seem an almost given aspect of computer games, I would argue that the mode of doing is particularly privileged and emphasized in adventure and action games. This is evident in the early adventure games that are typically operated through various verbal commands such as 'inspect book', 'go north', 'open door' and so on. The player makes choices between a limited number of possible *verbs*, which he links to objects within the game. The overall events, descriptions (or depictions) of scenery, dialogue and inner monologue (which is typically not represented in the games) remain inoperable. As such, the amount of control that the player in fact has over the narrative is limited to a choice between different physical actions that the protagonist can perform. In my opinion it is necessary not to treat these observations as given, or as the 'nature of the medium of games'. When Galloway (2006) for example observes that computer games are about action, he is of course correct, in the sense that 'actions' have come to be a recognizable trait of computer games. But this does not prevent us from imagining that (computer) games had focused on entirely different modes (of representation as well as engagement).

The mode of doing, on a more general level, plays an important role in the demarcation of computer games from other media through the concept of interactivity, which will be discussed later in this section. Finally and more secondarily, we can note that this highlighting of the mode of doing also echoes the productive ideals of specialized leisure practices (Gelber 1999), and that in this respect, the adventure game reflects the underlying values of a whole system of consumption that has played a major role in the qualification of games.

Technological fetishization

In the aesthetic and communicative conventions of computer games, one can observe a degree of technological fetishization. In game criticism, for example, technology is often understood as something more than just the technical channel of a given media product. On the one hand, games and technological development have been intimately connected in the sense that games have prescribed ever better technologies and thus played an important role in pushing existing hardware and software limitations. As Therrien (2007) points out, *Quake* (id Software 1996), among other PC games with 3D graphics, became an incentive for gamers to upgrade their home computers with the first generation of 3D accelerator cards. Smith (2018) even describes Quake as the "killer app" that helped drive the economic interest in 3D graphics cards.

However, games have not only prescribed technological innovation, but also functioned as *mediators* of it. Giddings and Kennedy (2006, 129), for instance, argue that "(d)igital games are a paradigmatic new medium in that they offer experiences and pleasures based on the interactive and immersive possibilities of computer technologies". Whereas Mactavish (2002, 34) observes that "one of the pleasures of computer gaming has always been their technological mediation." On the other hand, Wolf (2001) notes that to some people, fast action and real-time may be considered defining qualities of so-called video games, to the point that it excludes from this category significant members such as point-and-click adventure, puzzle games, and turn-based adaptations of board and card games.

Examples from the popular discourse on computer games similarly testify to the importance of technology. In reviews of the game *Red Dead Redemption 2* (Rockstar Games 2018), the gaming website *Kotaku* praised it as a 'technologically stunning piece of digital entertainment' (Hamilton 2018) meanwhile on the gaming website *Polygon*, the game was characterized as the most convincing digital world ever seen. Finally, the newspaper *The Guardian*, celebrated the computer-generated imagery of the game as a new high water-mark for life-like representation (MacDonald 2018).

The fact that games are run on a computer is treated as a significant feature that also sets certain expectations for what these games should look like and how they should communicate. In other words, it is assumed that the computer endows games with a particular expressive power. While the whole idea of the computer having a distinct expressive power is highly questionable, as I discussed in the last chapter, it remains a factor in the ways that games are discussed today. What characterizes this expressive power is less obvious but it is often referred to in terms of the processing power of the computer and the graphic-rendering capabilities of games engines as well as with more vague terms such as immersion and smooth interaction.

As a testimony to the power of this techno-fetishist discourse, the notion of *independent style* (Juul 2019) can be seen as a reaction against it. According to Juul, the discourse of indie games addresses more than just the economic premises of game development, but also a particular aesthetic or style. This style is characterized by, among other things, graphics that draw upon the visuals of earlier, and technically 'inferior', computer games, or even non-digital materials such as paper and cardboard. Still, indie games rely heavily on modern computer technology. This reliance may even be addressed explicitly on the surface level of the game, where Juul notes that designers may add animations or particle effects that would not have been possible in the early days of computer games. This indie style thus represents a certain nostalgic construction of the history of games, in which old technologies, tangible materials and handcrafting are pitted against advanced technology, digital and

intangible materials and streamlined, factory-like game design and mass production: "Independent Style is a representation of a representation. It uses contemporary technology to emulate low-tech and usually 'cheap' graphical materials and visual styles, signaling that a game with this style is more immediate, authentic and honest than are big-budget titles with high-end 3-dimensional graphics." (Juul 2019, 38)

As such, this style brings to mind the discourse of the Avant-garde and modernist movements in the other representational arts discussed at the beginning of this dissertation. It is furthermore not surprising that this kind of discourse emerges at a time when game production has become a major industry. The mode of small-team and low-tech indie production also lends itself to comparison with the hobby practices discussed earlier, and thus adopts the same ambiguity between subversion and affirmation of industrialized production and capitalist consumption (Gelber 1999). Juul (2014), for example, observes how indie games may be seen as democratization of games production and part of a larger amateur crafting movement, but also that it represents a certain reification of games consumption that enables the connoisseur to distance herself from mainstream games culture. In that respect, the crafting aspect of the indie game discourse may be seen as a reaction against the alienation of industrialized work and mass production, whereas the connoisseur aspect can be seen as a form of affirmation of the logic of late modern capitalist consumption, in which the commodity comes to function as fetish.

The spectacular and the ambiguities of the screen

Games and spectacle have been closely linked since the public games of ancient Rome. Spectatorship has always been an integral aspect of both public and domestic game practices. As such, games are not only played, they are also viewed. This is equally true today, when the modern gaming arcade is a site of self-presentation (Lin and Sun 2011), when e-sports have emerged as a popular spectator sport and when video-sharing platforms overflow with game related content. The 'let's play', which

is a genre of recorded and edited videos of gameplay, emerged and became popular on YouTube, but today the platform Twitch, which allows for live streaming and commenting of gameplay stands as the most significant channel for spectating culture in games, at least in the context of live streaming (Perez 2019)

While spectacles, as such, have a long history, French critical theorist Guy Debord (2012) argued that in late capitalist society, spectacles came to totalize the entire organization of society. In this 'society of the spectacle, as he called it, all aspects of human life had become mediated, thus hindering any experience of an unmediated reality. While Debord's critique goes beyond so-called mass media, today, the screen, as a technical medium, may play an important role in this spectacularization of society. In an extension of Debord's analysis to contemporary society, we might say that life has been totalized by commodity consumption in which the value of the commodity itself is no longer defined by its use, but is reduced to mere appearance. In addition, these appearances are also circulated endlessly on the abundance of big and small screens of smart phones, television sets, billboards etc. This logic is also apparent in many contemporary computer games, where virtual cameras allow the player to take photographs of in-game moments. These cameras are typically not restricted to the perspective of the playable figure, but rather float freely, thus giving the player almost unrestricted power to compose from the material of the game, spectacular imagery that can then be saved and shared as a token of the in-game experience.

This goes hand in hand with the aforementioned push towards ever better and more immersive graphics rendering in the game industry. But this push is not prompted by the game industry alone, but as Grau (2003) argues, can be traced through the history of pictorial art from painted baroque church ceilings, over perspective painting, to recent advances in virtual reality environments. According to Grau, these images are characterized by their hermetic image space that encloses the spectator entirely and cuts her off from external visual stimuli. Thus, detached from her physical

surroundings, the spectator is transported into the virtual space of the image. The screen occupies an ambiguous role for these hermetic images. On the one hand, the work fundamentally depends on a canvas or screen on which the image space may be projected, but on the other hand, the whole effect of the work rests on achieving the illusion that this screen does not exist. This ambiguity is particularly significant in computer games that are often still played on relatively small screens.

In many games, the viewer is often presented with multiple nested layers of graphical interfaces. Jørgensen (2013) observes three different layers. Furthest down, we typically find the virtual world in which the gameplay takes place. On top of this layer we find a layer that provides the player with a variety of visual information, such as world maps, quest logs, inventory etc. (what Jørgensen calls the WIMP interface). Finally, there is the actual physical screen, on which all of this is projected. This adding of an intermediary layer between the screen and the image space projected on the screen not only makes this image space available for action, but also further separates the player from this space. This suggests a virtual space that is not so much *on* the screen, but rather *behind* multiple 'screens' (as if they were windows), and also gives the impression that this image space could somehow become accessible to the player if she could only shatter these screens and climb through the looking glass. Similarly, Jørgensen (2013), describes the *transparency fallacy* as the idea that an unmediated physical environment is the most intuitive informational system and relates it to Salen's and Zimmerman's (2004) concept of an *immersion fallacy*, which describes the idea that the pleasure of gaming is achieved through a sensual transportation of the player to an illusory game reality. The ambivalence towards the screen is most clearly found in first-person games, which present the interface layer as if projected on a helmet screen (so-called head-up display or simply HUD). This moves the interface from a separate information 'layer' and into the assumed virtual image space and as if present in the game world itself (Jørgensen 2013). This 'in-game helmet'

not only connotes ideas of virtual reality and immersion, but also seemingly reduces the number of interface 'layers' that separate the player from the diegetic image space of the game.

Halo 4 (Bungee 2012) offers a neat illustration of this. Throughout the game, the screen is a significant trope. Not only is the entire diegetic world seen through a helmet screen worn by the playable figure, the player also interacts with a variety of other diegetic screens: semi-transparent light-emitting shields, holographic displays and computer monitors. In addition to this, the virtual world is filled with an abundance of screens, for example, hanging on interior hallways, which seem to have no other function than decoration and connotation of a high-tech, futuristic environment. Even Cortana, the artificial intelligence and female sidekick helper, who appears in the form of a hologram, looks flickering and semi-transparent. In close-up scenes Cortana is even represented with horizontal faded lines, as we know them from video recording of screens in which the frame rate of the recording camera is out of sync with the recorded display. As such, Cortana herself is portrayed as a second-order representation: not only a hologram, but a hologram that is video recorded and represented on a screen. As such *Halo 4* may be read as a self-conscious meta-representation of the ambiguous relationship towards its own representational technology (c.f. Backe 2018).

Two forms of realism

In many games, the push for immersion is accompanied by a push for pictorial realism. The idea of pictorial realism is, in itself, a relatively modern idea that emerged in the Renaissance with the invention of perspective painting. What characterizes this mimetic realism is a form of timelessness and immobility in which objects and bodies are eternally frozen in space in front of the gaze of the spectator. It is therefore not surprising that in computer games, this aesthetics ideal is most clearly visible in the design of spatial environments and objects. However, we may also observe a second form of realism that pertains more to the design of the bodies of agents placed within this spatial environment. Majkowski (2015) argues that in many AAA games we may find a particular

convention of what he – drawing on Bakhtin – calls grotesque realism. What characterizes this form of realism in games is the representation of carnal themes: Characters with overdeveloped musculature, and – for female characters – exaggerated breasts, but also the fragmentation of the body seen particularly in first-person games, where the body of the protagonist, for instance, is reduced to a pair of hands floating in front of the in-game camera through which the game space becomes accessible to the player. In addition to this, the "monstrualization" (Majkowski 2015) of antagonist characters and the dominance of acts of violence in many games are examples of this grotesque realism.

We also see these two forms of realism as associated with two forms of escapism. On the one hand, it may not be completely coincidental that Grau observes a connection between the religious imagery of baroque churches and modern virtual reality spectacles. These spectacles may offer an escape to an eternal space of detached consumption in which the spectator is 'alleviated' from her bodily existence and elevated to a mere point of perspective. On the other hand, Majkowski argues that grotesque realism offers an escape from the sanitized world of ideology and into a space that, because of its cyclical time (rather than complete timelessness, I would add), affords a form of controlled and temporary excess. This may be seen as an internal ambiguity of games as reflecting both modern, ideologically affirmative, as well as pre-modern, subversive forms of play. Both forms are spectacular, but in different ways. This ambiguity is also evident in the discourse of games as, in one sense a form of family-friendly entertainment or practice and training on 'real life' tasks (not least, the task of constant commodity consumption), and in another, a form representing subversion of the logics and values of dominant ideology. While games may be a prominent example of this, we may find similar ambiguities in other qualified media such as television, or in genres such as horror. Still, some parts of the computer games industry may have an interest in mobilizing these collective anxieties or media panics as a way of promoting games as a counterculture, and thus attracting a

young audience in particular. Flynn (2003), for example, notes how in advertisements for video game consoles, video games are pitted against television, which in turn are made a representative of suburban coziness and domesticity. Flynn observes how video games as situated in the same space as the 'domestic heart' – the television set and are even physically connected to this heart, thus becoming a sort of extension of it. But at the same time, the games, which are filled with spectacular imagery of excessive violence, also transgress the moral values associated, at least partly, with the living room TV, and disrupts the domestic tranquility of the family room. More recently however, we may also observe the opposite trend. Now, the members of the game industry promote themselves as manufacturers of serious experiences that may deal with complex topics such as mental illness, parenthood, death and so on.

This ambiguous self-conception of the games industry may also be reflected in the relationship to the qualified media of cinema. King and Krzywinska (2002) observes how games may draw on the aesthetic and communicative conventions of cinema on multiple levels, from game adaptations of movies, over the evocation of cinematic genres, such as sci-fi and horror, to the use of cinematic iconography in games, e.g. the so-called 'bullet time mode' in Max Payne. As such, associations with the qualified medim of cinema may be seen as a form of praise. But it may also be seen as a way of piggybacking on the prestige associated with this – by now – mature artistic medium in order to qualify games as a serious medium. On the other hand, the associations with cinema may also be met with hostility (King and Krzywinska 2002). This is particularly the case with the cut-scene – a sequence of (pre-rendered) moving imagery found in many games. Cutscenes are perhaps the game element most obviously comparable to cinema. While the cutscene originally emerged in computer games as a way to demonstrate technological advances towards the reproduction of 'mimetic' space, with the advent of real time 3D navigation, the cutscene appeared rigid and fixed (Therrien 2008), maybe because the fixed point of view draws too much attention to the technical

channel itself. Rouse (2009, 23) for example, calls cutscenes the most jarring immersion breaker whereas Pearce (2004) argues that many players finds them egregiously interruptive to their play experience. Juul (2004) observes an interesting demarcation between the game and cinematic content within games: while play sequences in games often utilize the whole screen, cut-scenes are sometimes presented with black bars at the top and bottom, as though to simulate the letterbox format often used to fit the wide aspect ratio of cinematic films onto a standard television (and later computer) screen. This may be understood as an act of remediation (Bolter and Grusin 2000), where the game represents the content as if mediated by the technical media of cinema (film projector and wide screen canvas). By doing this, the game also establishes this piece of content as an 'other' that may be colonized by the game: the cutscene becomes part of the particular game title, but an effort is made to still represent it as non-native to the qualified medium of games as such.

It is also worth looking into the conventions of realism in board games. If we compare the two main types of hobby games, namely American-style hobby games, and so-called Eurogames, we can see two very different representational strategies. In general, the American-style hobby games include more representational elements such as detailed figures, mimetic artworks on boards and cards, but also more textual description of characters, environments and events. Conversely, Eurogames typically apply a more abstract style, often using minimalistic tokens, symbolic spatial representation and a minimum of narrative textual description. Consequently, this is also an abstraction of the themes addressed in these games. Robinson (2014) argues how the Eurogame *Vasco da Gama* (What's Your Game?, 2009) abstracts the violence of colonial trade in a way that de facto "whitewashes" (np.) a violent history in order to turn it into an "ideological fairy-tale"(np.) that comes in the form of a family-friendly game of resource management and token placement.

In continuation of this, it is also unsurprising that American-style board games most easily lend themselves to adaptations of computer games, movies, novels and television shows. Notable

examples of this include titles such as *Battlestar Galactica: The Board Game* (Fantasy Flight Games 2008), which is an adaptation of the television show of the same name, *Dune* (Avalon Hill 1979), which is an adaptation of Frank Herbert's novel of the same name, whereas *StarCraft: The Board Game* (Fantasy Flight Games 2007), as the name suggests, is an adaptation of the computer game *StarCraft* (Blizzard Entertainment 1998).

Interactivity

When, in popular discourse, games are defined against other qualified media, interactivity appears as the buzzword most prominently used to describe the so-called unique characteristic of games. This applies to computer games in particular. The seductive rhetoric of interactivity is, for example, evident in the ways in which the term is used in many major company names in the game industry, such as IO Interactive and Eidos Interactive (Garite 2003). Interactivity also appears as a key concept which is widely used even in game studies. However, as Aarseth (1997, 48) observes, the notion of interactivity is often used to signify radical improvements of new technologies compared to older ones and furthermore connotes various "vague ideas of computer screens, user freedom and personalized media". The notion of interactivity can then be linked to the technical medium of the computer, and describes the ways in which the computer responds to human input.

However, regarding games, it seems that not all responses from the computer are equally celebrated. Laurel (2013, 29) for example, characterizes interactivity in terms of the frequency of the allowed interactions, the range of choices given to the player and finally, the significance of the choices. But if this idea of interactivity is considered a central qualifier of games, a range of games are then marginalized, as their operation may not be characterized as very frequent, wide-ranged or significant. So-called walking simulators typically only allow the player to perform a very limited set of actions (traversing virtual game space), which typically does not significantly affect the game events, but only grants the player spatial access to the game space (which can, of course, be very

significant to the player). However, Laurel's definition of interactivity also leaves out many games of chance, in which the course of events in the game is unaffected by the player's input (other than merely pulling a lever or clicking a button). As such, it seems that the notion of interactivity, at least as described by Laurel, is biased towards certain types of games, which may generally be characterized as favoring 'doing', and action (see earlier in this chapter), and requiring a player who is skilled, capable and highly focused on the events taking place on the screen. As such, we may add to Aarseth's (1997) list of connotations of the term 'interactive', undertones such as challenge, fast-paced action and difficulty.

Laurel, however, adds another aspect to the idea of interactivity that is less focused on choices. According to her, interactivity is also about making players feel as if they are participating in the ongoing action of the representation. There are at least two notable aspects of this description. First, it is remarkable that Laurel frames this as participation, which implies events that somehow take place independently of the player and in which the player can choose to take part or not. Second, Laurel interestingly emphasizes this interaction as taking place *within* a representation: "Optimizing frequency, range, and significance in human choice-making will remain inadequate as long as we conceive of the human as sitting on the other side of some barrier, poking at the representation with a joystick or a mouse or a virtual hand" (p. 29). Underlying this description then is a coupling of interactivity with ideas of being transported beyond the screen and into a meaningful, fictional universe that the player was not originally a part of, but qua playing, may come to inhabit and thus participate within. This description then favors as interactive, games that represent some kind of virtual image space that the player can inhabit. It also rules out games that do not fit this criterion. For instance, I find it difficult to think of the two-dimensional game space in a game such as Dots (Playdots Inc., 2013), as a *world* in which I can participate.

As this discussion suggests, the various terms used to describe the idea of interaction come with their own implied assumptions. Terms such as operation, participation, intervention, performance, manipulation, and choice making are not indistinguishable. As noted earlier, performance implies an activity taking place that the player can participate in on an (almost) equal basis as other participants. Whereas intervention implies some sort of interruption or even obstruction of the course of events, performance may imply acting according to a set script. Making choices may be described as a retrospective framing of particular activities as being determinant for the trajectory of following events. Manipulating implies a level of control over the entities that are manipulated whereas finally, operation does not necessarily imply control, but rather describes an activity that sets into motion or is the cause of following events. These more or less nuanced differences in meaning are highly important to the ways in which we understand the role of the player(s) and the machine, respectively, as well as the status of the content, and the amount of power or control the player and machine are given over this content. Participation, for example, implies an even level of agency among participants. In games such as *Overwatch* (Blizzard Entertainment 2016), individual players participate in the game on the same level as other players. However, understanding the operation of a single-player game such as *Bioshock Infinite* (Irrational Games 2013), as an act of participation, this would be 'participation' in a very different sense. We don't usually say that we participate in the game together with the computer. But one could for instance say that the player, *through* the playable figure (Vella 2015), participates in the battle being waged by the fictive resistance group Vox Populi. But in this sense, it is not participation in the game, but participation in the fictive events modelled by the game.

Conversely, terms such as operation or manipulation imply not only a distance between the player and fictional events, but also a total or partial lack of creative agency in the entities that are manipulated or operated. However, whereas the term manipulation may delegate some agency to the

player, the notion of operation has slightly different connotations through its association with machines and mechanics. As such, the player as an operator is not framed as on the same 'level' as the fictional events and characters, but rather on the 'level' of the game mechanics, where some mechanical functions of the game are operated by the machine and a limited set of functions are delegated to the player. In comparison with the notion of participation however, the operator is not as such framed as having agency. The latter is important to stress, as it has implications for who is thought to have control over the game. Concerning the notion of operation, no one has particular authorial control, as the text (not the machine) is best understood as an autonomous entity that proceeds not according to some script or to some intrinsic motive, but rather by incident (c.f. Aarseth 1997, p. 28). Nevertheless, the notion of operation also comes with its own problems. It may connote a labor-like, skilled activity that does not easily describe the more casual engagements we find in many mass-market board games such as *Ludo* (Parchisi) (n/a 1896) *Scrabble* (Brunot 1948) or *Cluedo* (Pratt 1943), as well as so-called casual games played on smart phones or through Facebook, such as *Candy Crush* (King 2012) and *FarmVille* (Zynga, 2009)

Regardless of how we frame the notion of interaction, it describes only aspects of games, and as such, it may become a problematic qualifier, as it marginalizes a range of other possible experiences in, and modes or engagement with, games. For instance, Newman (2002) observes that "(…) video games do not present a singularly ergodic experience. They are highly structured and comprise episodes of intense ergodic engagement. However, these sequences are punctuated and usually framed by periods of far more limited ergodicity, and very often apparently none at all". And while interaction remains a central concept in game studies, certain scholars (Leino 2018; Möring 2014; Kücklich 2005) have explored the many ways in which gameplay triggers boredom, idleness and disinterest.

Despite this, games are often treated as almost synonymous with interaction, and Mäyrä (2008, 6) even argue that the expression of 'interactive games' is in fact a tautology. And although interactivity may be given too much focus considering the fact that games also offer non-interactive forms of engagement, most people would probably immediately agree with Mäyrä that it is difficult to think of games that are not interactive – in particular if we keep the wide range of values associated with this concept in mind. As such, one might argue that interactivity is the single most significant *discursive* qualifier of games as a unique medium among other media.

Therefore, it also comes as no surprise that the notion of interactivity is also often used in relation to other qualified media, particularly in attempts to transgress the established conventions of these media. Most notably this is the case with cinema, where interaction typically means that the audience may decide among a limited set of pre-produced scenes. *Kinoautomat* (Cinecera, Rohác and Svitácek, 1967) is an interesting example, as it was shown on the big screen of a theater house, therefore not only affording communal viewing (Huhtamo 2006a), but also communal interaction, in the form of choice making decided by the audience by majority vote. In contrast, the more recent example of *Bandersnatch* (Slade 2018) was released for streaming on computers, which are devices characterized not only by small screens but also by a more private viewing context. This then affects the number of individuals involved in making the choices that constitute the interactive aspect of the movie. The technical medium of the traditional television set has also been applied in what may then be called interactive television. The Danish television movie *D-dag* (Trier, Levring, Kragh-Jacobsen, and Vinterberg, 2000) is an obvious example. The four directors each followed a team of actors, who they directed via headsets in 'real time' on the streets of Copenhagen on New Year's Eve in 1999. The day after, four un-edited streams of footage were shown on four different television channels simultaneously, allowing the spectator to switch channels and thus make her own final 'cut' of the film.

The motivations for including these so-called interactive elements in the above-mentioned movies differ. The limited interaction of Kinoautomat has been read as a response to the repression of the Czechoslovakian regime (Carpentier 2011; Hales 2005), whereas the production and screening of *D-Dag* is heavily influenced by the ideas related to the Dogme95 so-called 'wow of chastity', which embraced, among other things, the rejection of the 'individual' auteur film, as well as the use of technical aids in film production[20]. Of the three examples, only the movie *Bandersnatch* seems to explicitly engage with the qualified medium of games. Not only does the story revolve around a game designer; the nostalgic retro-aesthetics of the film as well as the limited and ultimately disappointing choices available in the movie seem to reflect upon the qualifications of games as a medium of communication with its (unfulfilled) hopes and aspirations of immersion and personalized experience.

Based on this, what may at first have appeared as a tautology, is clearly not, as interaction and games are far from synonymous terms. Interaction is a vague term that comes with highly different meanings. It is also not restricted merely to the sphere of games. Moreover, due to its technological connotations, it seems to describe only a subset of games, namely computer games. The term is seldom applied to board and card games – at least in an academic context. And when it is, it is predominantly in the sense of social interaction. Of course, there are exceptions. For example, Booth (2015) discusses so-called interactive elements in two board games based on the *Dr. Who* franchise. In Booth's analysis, however, the board game is not interactive per se, but contains interactive elements that use "battery power and electronics to automatically move the board or create random elements without player involvement" (p. 177). As such, Booth frames interactivity as related to

[20] Given the ideas of Dogme95, it is, of course, an ironic act to cast *D-Dag* as an 'interactive movie', in light of how the notion of interaction connotes ideas such as democratization, personalized media and new technologies that the Dogme movement may be seen as a reaction against.

technology rather than player involvement. In fact, it is significant that these devices seemingly operate automatically, and without player involvement.

Interim conclusions

This section has discussed some of the aesthetic and communicative conventions associated with different forms of games. Whereas the previous section argued that the emergence of games as a medium/or media was deeply entwined with other emerging qualified and technical media, this section has made similar observations about normative assumptions concerning what games ought to look like. As we have seen, games are often qualified in parallel or in opposition to other qualified media, and the values and aesthetic ideas that are associated with them. And even though games may share a number of basic modalities with other qualified media, or rehearse the same themes as specific artistic genres, for example, in the self-conception of the games industry and the community of consumers, games are, and should remain, a distinct medium.

The ways in which media are qualified effectively creates an inside and an outside of a media category. As such, the discourses above describe both what various groups of games are imagined to be and how they are seen as different from other qualified media as much as they describe what games are not supposed to be. This may be connected to the ways in which the engagement with computer games, in particular, is often seen as an activity that is characterized by more than 'just' casual leisure. Similar to the ways in which hobby gamers – or 'specialist gamers' as Parlett (1999) labels them – may have a self-conception of being more 'serious' and dedicated about playing (Rogerson and Gibbs 2018) than casual leisure gamers, the gamer identity is often understood to reflect a certain commitment to playing computer games. Kirkpatrick (2017) argues that in the mid-1980s, when the game industry began to consolidate and become dominated by large software companies, this effectively led to a regimentation of the games that were produced, but also to a narrower conception of their target audience. As Kirkpatrick (2017, 460) puts it : "(…) good games were no longer only

those that had been 'well-programmed'. Rather, they were the ones that were appreciated by a new kind of player, namely the 'gamer'. This growing autonomy reflects the emergence of a distinctive gaming culture with its own values and rules of participation". Similarly, Kline, Dyer-Witheford and De Peuter (2003) describe how Nintendo successfully entered the domestic console market with the help of marketing research that produced the idea of a *core audience* for games which consisted of young boys who were predominantly interested in action-adventure, sports, racing, fighting and shooting games. The authors also observe how, as this core audience grows older, the industry introduced more mature content, often by coupling graphic or excessive violence with the sexualized female characters

Therefore, the qualification of a media product pertains both to the artifact itself, but also to the cultural practices surrounding it. If we return to Consalvo's and Paul's (2013) study mentioned at the beginning of this section, we can see that many of the observations they make about what constitutes a 'real game' also suggest a set of requirements related to the people who are engaging with these artifacts – what we may then call the 'real gamers'. As 'real games' are believed to be those played on a console or PC and that have sophisticated graphics and complex mechanics, this, in turn, means that 'real gamers' should be those who have invested in either a dedicated gaming console or a 'gaming' PC with high enough technical specifications to allow it to run these 'real games'. 'Real gamers' should also be ready to invest hundreds of hours in playing a game with a particular title and be able to acquire very specialized gaming skills. This echoes the values surrounding the hobby, in which these forms of leisure activities are understood as almost *work-like* in their nature, but also as activities requiring an intensified practice of consumption.

Drawing on the notion of subcultural capital (Thornton 1995), Shaw (2013) describes how the gamer identity is constructed and performed by players. This gamer subcultural capital is constituted by the consumption of certain games, the continuous investment in material objects of

play, a general willingness to sacrifice time to play games, and the acquisition of knowledge of games and the game industry. The various ways that the gamers invest in becoming 'real gamers' can then be met with expectations of a certain 'turnover' in terms of cultural capital. However, Shaw also notes how the cultural practices surrounding the gamer subculture effectively exclude players from becoming 'gamers' as they may feel uncomfortable or even unworthy of performing the gamer identity if they are not sure they can meet the assumed requirements.

Furthermore, not all play practices contribute to the gamers' subcultural capital. This especially applies to the so-called casual games, which Juul (2012) describes as the antithesis of the typical (at that time) 'hardcore' video games. According to Juul, casual games distinguish themselves by not employing the photorealistic 'immersive' graphics of 'hardcore' games and by employing a more 'mimetic' control interface than the often highly symbolic scheme of 'hardcore' games. Still, Juul argues that the casual player's engagement with games may actually be far from casual, but ultimately requires just as much time and effort as so-called hardcore games. That this might be the case is also reflected Zynga's – the company behind the highly successful casual game *Farmville* –2011 announcement that they considered the new hardcore gamer 40 years old and woman.

CONCLUSIONS

This chapter set out to describe games as a qualified medium, and this qualification has shaped the assumptions we make about the workings of this medium of games. Games have a much older history, however, and may indeed have played many mediating functions. Consider, for example, Huizinga's main thesis that play is much older than culture, and that the latter ideed arose in the form (or medium) of play.

The qualification of games as a medium hinges on a modern concept of communications media, which emerged side by side with the invention of technical communication channels in the

19th century. The qualified medium of games obviously did not emerge out of nothing. Rather, I argue that the 'long history' of games as qualified medium is a history of the ways in which games have interacted and intersected with other existing or emerging media. Games have intersected with media technologies such as printing technologies, optical technologies such as screens, as well as with various computer technologies. But games have also intersected with media institutions, for instance the print press, as well as with media content in the form of characters, settings and backstories of popular television shows, cinema or literary sources that have become adapted to digital and non-computerized games alike. Moreover, we can see the relation between games and other media in their use of common communicative modes such as visual and temporal representation, pictures and text as well as space and events as motifs. Finally, we may observe interaction in terms of common forms of consumption, such as specialized leisure practices and even 'non-trivial' engagement, along with the more casual modes of use.

Since modernity, games have been and continue to be qualified first and foremost as a leisure commodity, although this has also been accompanied by attempts to constrain and operationalize this leisure practice for serious purposes. As leisure, games may come in the form of casual pastimes, such as pulling a lever on a slot machine, or playing a game of parcheesi around the dining table, or as a serious hobby practice such as the playing of *Dungeons & Dragons* (Gygax and Arneson 1974) or *Destiny* (Bungee 2014). This dualism of seriousness and casual entertainment is significant in contemporary understandings of games. On the one hand, they are brushed off as an unproductive waste of time that we ought not to spend too much energy on. On the other hand, they are regarded as a serious vice that corrupts and lures us into seductive, but fundamentally unreal, virtual worlds.

This duality towards games is also reflected in the construction of the game consumer. We may follow a long line of public play practices primarily available to men, whereas women and children have had to be satisfied with the casual leisure of the domestic sphere. We can also observe

that the ways in which these leisure practices have been constrained and operationalized have differed between these two trajectories. The public, masculinized play practices have historically been susceptible to hard legislation (gambling laws), whereas the domestic and more feminized play practices continue to be subject to the softer power of the ideological state apparatus (Althusser 2006 [1970]), according to which games should not only entertain but also instruct. The emergence of video games initially blurred such lines, as they introduced games associated with the public arcade hall into the center of domesticity and even as a physical extension (in the case of the console) into the heart of the living room – the TV (Flynn 2003). However, soon video games conformed to the already established and highly gendered category of male serious leisure, where hobby gaming already belonged.

In this primarily masculinized form of serious leisure, it is then hardly surprising that technological innovation became an important aspect of the cultural conventions of computer game aesthetics. In terms of technology, a trajectory is apparent, spanning from the often screen-based slot machines to contemporary computer game technology. This trajectory of play practices has also highlighted what I call the mode 'of doing', from the physical action of pulling a lever, or pressing buttons on a gamepad, through the bodily acts of traversing and fighting that are represented on the screen, to the more normative ideas of inter*action* as the distinct operational mode par excellence of video games, in particular.

Similarly, screen-based spectacular representations have played an important role in this line of play practices. Even though some of these games have involved text-based representation, the screen has still been the dominant physical interface of play. It is important to stress that there is nothing given about the screen-based and spectacular nature of these games. If we consider the wider spectrum of play practices, for example, we see a range of other modalities in play. Specifically, oral language and the physical body have, for historically obvious reasons, long dominated. Huizinga

(1949) describes a range of 'verbal battles' and riddles in pre-modern societies, whereas Illinx, or vertigo play, is one of four basic forms of play described by Caillois (2001 [1961]). Furthermore, before the invention of effective techniques for storing optics, printed text remained the most effective way of documenting the rules of game. Screens, in themselves, have also been associated with a certain representational power that has affected the conventions of computer games along other screen media. In particular, the idea that images are capable of enclosing and even transporting the spectator into another space, has had a great impact on conceptions of images in modernity, as described by Grau (2003). In this chapter, I have linked this idea of the representational capacity of images to a mode of consumption that emerged out of industrialism and – building on Debord (2012) – to a fetishization of images as commodities by which they become reduced to mere appearance. However, this is not the whole story. Games also seem to promote a different form of spectacle that does not rely purely on 'cool' photorealism but rather on grotesque imagery of violence and deformed bodies. This form of spectacle is not rooted in modernity, but may be seen as a residue (c.f. Acland 2007 and his idea of residual media) of the pre-modern roots of games, as Majkowski suggests (2015).

I will conclude this chapter by returning to the original problem of how games could be considered a medium (or media) in the first place, and what representational capacity this medium (or media) might then have. This chapter has sketched out an answer built on the premise that games are not intrinsically a form of media, but that they may be – and in fact have been – entangled with technical artifacts, industries and practices that we associate with media. It is important to stress that the idea of games as a qualified medium does not imply the view that games then are content that is mediated (or remediated). Rather, games are qualified as a medium through their association with practices of media production and consumption, as well as through the application of media content along with the various representational modalities and technical artifacts also used in other qualified media.

CHAPTER 7

The Witcher 3 as a model of gender

INTRODUCTION

To illustrate a practical application of the analysis framework of representation presented in this dissertation, I will analyze *The Witcher 3: Wild Hunt* (CD Projekt Red 2015; 2019). For the purpose of the analysis of this dissertation, I played the 'Complete Edition', which *Hearts of Stone* and *Blood and Wine* expansions, which was released in 2019 for the Nintendo Switch. The game was played the 'Story and Sword' gameplay mode. I followed the game's main quest line (along with several optional quests as well) through once, during which I would replay certain parts of the game. For example, by playing through some different choices granted by the game. In this playthrough, I did not engage with the main quests associated with the *Hearts of Stone* and *Blood and Wine* expansions, although my analysis might mention characters of settings from this expansion. Within the limits afforded by the game's software, I kept saved files from what I expected to be crucial parts of the game, so that I

could revisit them later when writing up this analysis. In addition to my playing of the game, the analysis draws on documentations of quests, characters, monsters etc. offered by the game's glossary as well as by independent knowledge bases for the game, such as the official Witcher Wiki on fandom.com. I also watched selected playthroughs as a means of analyzing cut scenes of alternative endings than those which evolved from my gameplay. My playthrough of the game focused on documenting how the game represents gender. These were analyzed with the use of the models I have proposed in this dissertation: my model of representation-as in games (***FIGURE 8***), my intermedial framework (***FIGURE 15***) and the situated cybermedia communication model (***FIGURE 16***). Therefore, focus of the analysis was how the game modelled and mediated gender, rather than on the feelings the game evoked in me or how it was experienced by other players. In the latter part of the chapter, I discuss how the construction of gender in the specific game relates to issues pertaining to what I have called the qualified medium of games. In this part of the chapter, I will also draw on materials from the game's promotional website, previous games in the series as well as player-made modifications.

The analysis will focus on how the game represents gender. As argued, throughout this chapter, representation is ultimately not something that is inherent in the object itself but remains relative to a description of the simulation. In other words, *The Witcher 3*, is not a game about gender per se, but it is certainly possible, interesting and relevant to consider the game through the lens of gender representation. The game follows the adventures of protagonist and playable character Geralt of Rivia, who also goes by the name of 'The Butcher of Blaviken', in his quest for the young aspiring witcher-to-be Ciri, to whom he is a sort of adoptive father. This quest takes him to many different spatial locations and through numerous dealings with non-playable characters in the game. In the majority of the game, Geralt travels in the footsteps of Ciri, trying to piece together what have happened. In the final third of the game, Geralt finds Ciri, and together they prepare to fight the main

antagonists in the game, the so-called Wild Hunt lead by the elf Eredin. The game takes place in a Medieval-inspired fantasy world that references a variety of (mostly, but not entirely) European folkloric elements. In addition to human inhabitants and a variety of domestic and wild non-human animals, the world is populated by fantastic beings such as griffins, basilisks and dragons along with trolls, ghouls, and golems. But there are also references to particular fairy tales. For example, one quests involves a 'trail of treats', which evokes the Grimm brothers' Hansel and Gretel. Another, the "Land of a Thousand Fables" which is described in the game as an artificial illusionary sphere inhabited with a list of well-known fairy tale characters, such as the three little piglets, jack from 'Jack and the Beanstalk', Goldilocks and Little Red Riding hood.

The Witcher 3 lends itself easily to the intermedial model proposed in chapter five for several reasons. First, the game is the third installment of *The Witcher* game series, which also contains *The Witcher* (CD Projekt Red 2007) and *The Witcher 2: Assassins of Kings* (CD Projekt Red 2011). The series is an adaptation of Polish author Andrzej Sapkowski's series of fantasy novels. This series has also spawned a Polish produced film from 2001 and a subsequent TV-series which first aired in 2002 (both the film and the TV-series was originally entitled *Wiedźmin,* but is also known under its English title *The Hexer)*, alongside three comic book series, one of which is published by Dark Horse, has been running since 2014 and is based on CD Project Red's *The Witcher* game series. As such, the game does not only draw on, and differentiate itself from, established representational conventions, themes, characters of other media artifacts, but is an explicit adaptation of the book-series. Furthermore, with development costs at around 81 US$ and sales of over 40 million copies worldwide before its release on the Nintendo Switch platform (Wikipedia 2019), the game belongs to a group of games that we might call mid- or top-tier games in terms of production and consumption budgets, and is thus firmly rooted in the loose category of commercial games described in the previous chapter.

Connection with existing scholarship

The aim of this analysis is to show by example, how the framework of representation proposed in this dissertation can be employed in an actual analysis. However, secondarily, this might contribute to the body of academic scholarship on *The Witcher 3* and the representation of gender. It is important for me to stress, that in this dissertation, I treat gender primarily as an example of something that can be represented. I do this knowing that this might provoke scholars who have worked seriously with feminist research on games. I do not mean to be ignorant of the extensive and important body of feminist methods and analyses of games. But as gender is merely a theme for a case study whose purpose it is to demonstrate the approach to representation proposed in this dissertation, and due to the limited scope of this work, existing scholarship on gender, and more specifically on *The Witcher 3*, will be discussed only in a very brief and superficial review.

Studies on gender representation and games can be divided into three rough categories. First, we have studies that addresses gender representation in the games industry and the working conditions of women and other marginalized members of the industry. In the second category we find studies concerned with gender in the culture surrounding games and play. Finally, there are studies of how games construct gender, for example through their visual imagery of female characters. This is not to suggest that these three categories should be treated as distinct. On the contrary, there are many commonalities and connections between studies across the three categories.

A number of studies has analyzed the representation of gender in the games. Some studies (e.g. Provenzo 1991; Dietz 1998; D. Williams et al. 2009a; Lynch et al. 2016; Bailey, Miyata, and Yoshida 2019) has been concerned with the quantity of female characters to male characters. All of these studies has confirmed a significant unbalance in the ratio between male and female characters. Some studies (e.g. Provenzo 1991; Beasley and Collins Standley 2002; Jansz and Martis 2007; Lynch et al. 2016; Mejia and LeSavoy 2018) observe a consistent sexualization of female characters, and

Mejia and LeSavoy links this with technological developments and a socio-cultural fetishizing of particular regimes of representation. A few studies has addressed sonic representation, for example Droumeva's (2018) analysis of the gender politics of voice acting, and Austin's (2018) discussion of gender cues in game soundtracks. The construction of gender roles has also been addressed in discussions of how female character are represented as victims, supporters or strong heroes, whereas male characters often occupy roles such as the hero, protector or father, but also the emasculated man. (Provenzo 1991; Dietz 1998; Jansz and Martis 2007; Cox et al. 2018; Cruea 2018; Waldie 2018). Studies have also engaged with the representation of sex, not only through the visual depiction of characters, but also through a mechanization of romantic encounters in especially role-playing games (Trammell 2018; Brown and Stenros 2018; Østby 2016).

Other studies have been more concerned with play as a practice and players' perspective on games. Kline, Dyer-Witheford and De Peuter (2003) describe how Nintendo successfully entered the domestic console market with the help of marketing research, which propmoted the idea of a core audience for games that consisted of young boys. Shaw (2013) discusses how this target audience may be performed as a particular identity, through specific consumption habits. In continuation of this, scholars have analyzed the motivations of female players for engaging with online games. Taylor (2003) for example explores the multiple pleasures of female players who engage with online multiplayer games, whereas Sihvonen (2009) and Wirman (2011) explores crafting practices of female players of *The Sims* (Maxis 2000) and *The Sims 2* (Maxis 2004) respectively. While Sihvonen discusses modding as a practice of negotiation of the ideological propositions of the unmodified game, Wirman argues that we should understand modding, not only as a political intervention that aim to challenge the general ideological underpinnings of the game, but also as a leisure practice, that is valuable to players as creative work within a participatory culture. Shaw (2015a) studies identification with game content, and stresses that identification is not necessarily something that is

sought out by players. She also questions the idea that character customization is necessarily the best answer to the lack of diversity in games, as it runs the risk of reducing representation to a matter of character aesthetics. Finally, a number of scholars (Fortim and de Moura Grando 2013; Braithwaite 2014; Shaw 2013) have inquired into the exclusionary practices that players (who do not conform to the assumed target audience of games) may experience when they in different ways engage in gaming communities. Finally, Mortensen (2018) contributes with an analysis of what she calls the long event of gamergate, and points out that this event not only took place within an isolated gaming community, but emerged out a range of intersecting cultures and practices.

In regards to *The Witcher 3*, I would like to highlight the following studies. Švelch (2018) discusses the monsters of the game, and interestingly observes how these monsters does not appear as sublime others, but rather as knowable and predictable antagonists to be defeated. As such they are encoded in the game system, defined by a set of mechanics and documented for the convenience of the player in a dedicated *Bestiary*. This is not unique to *The Witcher 3,* but is rather a convention he associated with the role-playing tradition from *D&D* (Gygax and Arneson 1974) and onwards. Related to this, Furthermore, Lucat (2017) analyzes representations of fatherhood in the game, and observes a close connection between fatherhood and violence. Violence, she argues, is represented as a means for obtaining the lost 'daughter' Ciri, but also as a point of re-connection between father and daughter. Matuszek (2017), in an analysis inspired by the french psychoanalysis Jaques Lacan, argues that the game challenges hegemonic masculinity. He interprets Geralt as a feminine figure, a nomad who is never at home but always alienated, and as a sex toy who is symbolically castrated by his lover Yennefer but desperately tries to project himself as a "real man" (p. 142). Matuszek's analysis – while it yields interesting insights into the ambiguities of the game's construction of masculinity that are also confirmed by my own analysis – does not really take into account that Geralt is not only constituted by the narrative of the game, but rather is a result of the interplay between the

materiality of the game, the structure and sign-system, but also the player, who, through operational and interpretive efforts, constructs a certain perspective on the game. Finally, Majkowski (2018) offers a post-colonial analysis of *The Witcher 3*, that grounds the game in the context in which it was developed as well as received. As the game is a successful product of a Polish game company but an international commercial success, its release spawned discussions about how the character roster lacks racial diversity, and whether or not this could be justified by treating the game as a Polish cultural product. Treated as such, the game represents the particular cultural- and political histories of Poland, as it has been subjected to colonization from the East as well as the West. In continuation of this, Majkowski interprets Geralt as a modernizer who is associated with a scientific and rational epistemology that is pitted against the pagan folk culture.

The following analysis will focus on how gender is constructed in The *Witcher 3*. This analysis will be structured around the idea of game models that I proposed in chapter four as well as the intermedial analysis framework discussed in chapter five. As a simulation, the game can be analyzed through the four basic modalities, as well as the technical and qualifying aspects. Furthermore, in this analysis I assume that *The Witcher 3,* can be considered to model gender, and in particular masculinity and femininity, which remain the main interest in this analysis.

THE WITCHER 3 AS A MODEL OF GENDER

In a central scene in *The Witcher 3*, the protagonist and playable character Geralt meets king Radovid, who rules over Redania, one of the kingdoms of the game. As Geralt enters the king's chambers, Radovid is pondering over a game of chess. "Both sides have identical pieces, the rules stay invariably the same. How does this mirror real life?" He asks and continues: "Blood thumbs inside these chessmen. You need only listen and you will hear. (…) I take a pawn – and I hear flesh being rent, I win a piece and I hear screams from the depths of its bowels. I want to break the chessmen open, squeeze the truth form them" (see ***FIGURE 17***). In this analysis I will ask a similar question, although

it will be slightly rephrased. I will not ask how ask the game mirrors real life, but rather how it models gender. To answer this question, I will revisit the analytical questions I proposed in chapter four whereas my analysis of the game as a model of gender will be based on the four basic modalities, discussed in chapter chapter.



FIGURE 17: King Radovid ponders over a game of chess
Screenshot from The Witcher 3 (CD Projekt Red 2019)

First it is important to consider to what extent we can treat *The Witcher 3* as a model of gender in the first place. This is not completely trivial, as there is not, at first sight, anything about the game that warrants such an interpretation. As noted in chapter four, models only represent a target relative to a description. But *The Witcher 3* does not immediately provide such a description. There is nothing obvious in the game's title, for example, that suggests this reading. A game such as *Euro Truck Simulator* (SCS Software 2008) can obviously be said to be a simulation of truck driving in Europe, as this is given by the title itself. This is not the case with *The Witcher 3*. If anything, the title suggests

that it models the book-series. Still, as I argued in chapter four, there is also nothing inherent in models that makes them represent a target. Therefore, there is no reason why we should limit ourselves to the interpretations that game designers intend and express through titles or accompanying promotional materials. Furthermore, while we may not say that the game, in its entirety, is a model of gender, it most certainly contains a model of gender. The game contains characters that are encoded as masculine and feminine (as I will discuss in more detail in the following analysis) and it also structures their interaction with each other and their relationship to the environment (including the objects contained in it) in which they are situated. For this reason, while *The Witcher 3* may not be a game about gender per see, it is still perfectly fair to analyze how it models gender. Taking *The Witcher 3* as a model of gender does not prevent us from using it as a model of other phenomena as well. We may, for example, frame it as a model of the politics of medieval Europe (c.f. T. Majkowski 2018), of 'witchers' or of horse-back riding However, even though the game may model a great number of phenomena, it does not follow that this necessarily yields interesting insights. As a model of horse-back riding, for example, *The Witcher 3* probably comes across as a relatively trivial model.

What kind of model-target is gender then? For the purpose of this analysis I take gender to be a concept or label that we may impose on beings (ourselves or other), for a variety of different reasons, such as control, categorization, knowledge- or identity building (c.f. Foucault 1990 [1978]; Butler 2002 [1990]). To say that gender is itself a label with varying and shifting meanings does not pose a problem for the current analysis. As I observed in chapter four, models in fact often have as their targets theoretical or even hypothetical constructs. This raises the question of what kind of 'theory' of gender the game offers. In this analysis, gender remains a relatively generic target. But it does not have to be. I could also have asked the how the game models a specific target, such as the masculinity of Geralt of the book series, or even of a specific title, such as *Blood of Elves* (Sapkowski 2008). This is not a trivial difference, as such specifications of the target of the model influences which kinds of

critiques the model affords. In the case of a specific target, such as Geralt of the novel *Blood of Elves*, we could for example make comparisons between the properties of Geralt of novel and Geralt of the game, and we might be interested in discussing the ways in which properties of the novel was translated into properties of the game. In the current analysis I take the game as a model of a generic and culturally constructed target, and this yields other questions. Issues of fidelity between original and adaptation for example, is not relevant for the current analysis. Rather I am interested in what we can know about a concept of gender, based on the way it is constructed in the model. In other words, what are the properties of the model (the game), and how are they communicated to us as properties of the target (gender)? To answer this question, I will analyze the game in terms of the four basic modalities, proposed in chapter five, but my main focus will be on the communicational modality, as it in through this modality that the properties of the game are given meaning. While, I want to stress, that we must account for properties of all the four modalities, it is only through the communicational modality that they are translated into meaningful target-properties that we may impute on the target of 'gender'. This is not to say, that they are explicitly offered as properties of the generic target gender. On the contrary, many of the observations I will discuss shortly are rather communicated as properties of specific characters in the game. Still, as these character as encoded as men and women, it is possible to take them as more general properties of gender, for the purpose of this analysis.

In the following analysis I will first discuss the structural and material aspects of the model, that is formal elements (including the player position) of the game and the relations that hold between them. It is important to disassociate these aspects with the ways in which they are communicated to the player through concepts such as trade, killing, romancing, as well as through characters such as Geralt, Triss and Ciri, or more generic type of beings such as merchants, monsters, farmers, townsfolk and so on. I also include among these properties how agency is distributed between the player and the game materiality. The reason why it is so important to make the distinction between these

modalities is, that there is nothing given about their combination and about the concepts that is imposed on the game's formal elements.

THE MATERIAL MODALITY

With the respect to the material modality of the game, the following observations can be made. First of all, the game, regardless on the technical medium on which it is played, employs a flat surface with moving imagery (the screen), along with soundwaves. Furthermore, we must include a tangible input interface that may come in the form of a keyboard or a game controller. However, as we will see in the following section – and as it is the standard in many computer game – the player to some extent, controls the combination of these materials by the input commands she gives the game by manipulating the game controllers. Moreover, we should also include among the material modality the bodily interface of the player. In regards to the technical medium of the Nintendo Switch specifically, we can make a few additional observations. First of all, it should be noted that *The Witcher 3*, for the Nintendo Switch, is a hardware port of the PC version of the game (Grabarczyk and Aarseth 2019). This means, that the game has been remade for the Nintendo Switch version. The most significant changes of this remake involve making it fit onto a 32 GB cartridge. This has been done by lowering the quality of the imagery, for example through changing textures and rendering of game assets. In addition to this, the screen size of the Nintendo Switch is of course relatively small, compared to what is often used for PC, PlayStation of Xbox consoles. In terms of the relation between player and technical medium it should be noted how the Nintendo Switch version, when played in a handheld mode, requires closer physical proximity between player and console, and as such affords what, drawing on Huhtamo (2006b) could be described as an intimate playing practice, somewhat comparable to the practices of peep-show boxes, also briefly discussed in the last chapter. Therefore, the game allows the player to have relatively private play sessions, even when the player is physically situated among other people.

THE FORMAL STRUCTURE

For the purpose of structuring the following analysis of the structural modality of *The Witcher 3*, I will use Debus' (2019) *Unified Game Ontology.* Debus has developed a classification scheme that describes the formal aspects of game elements. He identifies seven facets, namely (1) **mechanics**, (2) **time**, (3) **goals**, (4) **space**, (5) **randomness**, (6) **entities**, as well as a category he calls (7) **unattached facets**, which describes *how* the other facets are, for example, if they are static or dynamic. An in-depth discussion of Debus' classification scheme is beyond the scope of this analysis, and other ontologies could also have been used. Furthermore, the ontology will not be used to provide an exhaustive discussion of all facets, but rather for a practical description of only those aspects that are relevant to this particular analysis. In continuation of the conventionalist approach proposed in this dissertation, it is important to identify the mechanics of the game, and first describe them in a formal language, to be able to subsequently demonstrate how these formal mechanics are the encoded as cultural actions, events, identities etc.

The Witcher 3 consists of a large number of game **entities**, some of which are 'objects' and others 'agents.' Among the game's objects are a variety of items, wearables, substances, raw materials, and body parts, spread throughout the game world, as well as dropped by non-playable characters, when they are killed. All of these have mechanics attached to them, such as the ability to enhance other objects, create new health points, or as components in the creation of armor or weapons. In addition, there are types of vehicles, such as horses and boats, as well as in-game money and a variety of books and other documents. Finally, among these are also certain types of non-playable characters that only react to the player's input. Most of the human characters in the game for example only react when the player activates them by pressing a button on the controller to talk or otherwise engage with them. Other non-playable characters are better described as what Debus calls non-operator agents, because they are actually capable of acting without prior activation from the player.

These include the variety of antagonist characters that may attack the player character, for example, but also characters that support him or her in combat. The game also has two operators in the form of two playable characters, Geralt and Ciri, both of which are controlled by the same player, but only available at prescribed moments in the game, and never at the same time. Also, it should be noted that Ciri not only comes in the form of an operator, but also as a non-operator agent (when she is present, but not playable), as well as an object (as the object to be found throughout most of the game).

In terms of **mechanics**, I will mostly limit myself to a description of a subset of the mechanics attached to the two operators. The first operator, Geralt, is capable of *navigatin*g, both in the form of *relocation* and *movement*. The former describes a transition through adjacent locations, whereas the latter describes a transition between discrete locations (Debus 2019), such as what is called "fast travel" in the game. This is the only way the game allows movement between the different regions. Geralt is also capable of *exchanging* elements – 'change of possession' – (such as organizing the inventory, trading, dropping and picking up objects), he can *activate* other mechanics, or items, such as by opening doors, equipping an item in his inventory, activating his 'witcher sense' and so on. He can also *remove* elements, such as when he kills a monster or consumes food and *create* elements, in the form of potions or oils he can brew. He can also *choose* elements, which frequently takes place when the player chooses dialog lines, female characters to romance, or objects to pick up. The other operator, Ciri has more limited mechanics attached to her. She can also navigate, but only in the form of relocation. The player cannot fast-travel between travel points and regions in the game. The mechanic 'change of possession' is limited to picking up items in the game world. She can neither access her inventory nor sell and buy objects. Similarly, it is not possible to activate or create elements with Ciri. However, she can remove elements, for example, by killing monsters, and choose elements when the player selects a dialog line, for example.

The **spaces** of the game can be characterized as follows. What would commonly be described as the represented game 'world' (c.f. chapter three), is a single three-dimensional space consisting of a number of discrete locations of varying sizes, some of which comprise entire 'regions' in the game. Others are smaller spaces, such as palaces and houses palaces. Within these spaces, the operator navigates in a continuous, uninterrupted mode, whereas, movement between the discrete locations can only take place through certain entryways, such as so-called fast-travel points or simply through doors. In addition to this, I also consider inventories as game spaces, but here they are not represented as three-dimensional worlds, but rather as an abstract two-dimensional grid. As mentioned earlier, as an operator, Ciri can only navigate within a discrete location. Also, it should be noted that for Ciri, particular locations within the game space are seemingly constructed as linear corridors. However, it is probably more correct to say that the mechanics attached to Ciri are actually what limit her navigation of the space, which still exists as an open space. We also have the represented space of cut scenes and dialog sequences. The former is not navigable at all, whereas the latter represents a three-dimensional space that also contains the dialog options, although these are separated from the represented world which function instead primarily as a backdrop.

In terms of **time,** the game is structured around a number of finite events (quests), some of which are connected so that the completion of one quest may initiate another. While the player can shift between different quests without completing the first, this is not true to all of the quests. In particular, those in which the player operates Ciri must be completed before the player can engage in a new quest. In terms of the game as a whole, time is in principle infinite, while the main quest line is finite and, upon completion, is evaluated by the game system. The game world remains accessible for the player to navigate without having to start the game over (and while keeping the operator in the state in which the main quest line was completed). Finally, with respect to the ability to save games, the player can save provided the operator is not engaged in combat or in a cut-scene dialog

sequence. The game also automatically saves progress within the same file at regular intervals. There are eight slots for the saved files in total, and when those are exhausted, the game overwrites older saved files.

Concerning the facet of **goals**, the game's main quest line is finite and concludes with the removal of the game's main antagonist. When this is done, the game will evaluate particular choices that the player has made at pre-defined moments in the game. Based on this, the game will offer an ending that combines the evaluation of these choices. This is presented to the player in a partly playable epilogue. In addition to the main quest line, the game also contains a great number of secondary quests that the player is free to ignore.

COMMUNICATIONAL MODALITY

It is through the communicational modality that the properties of game's structure are encoded with cultural meanings. With respect to the communicational modality, I will initially make the observation that the game communicates through a combination of moving images, text and sound. The moving images can be non-configurational, in the form of prescribed 'cut scenes', but also configurational, in the form of dialog sequences, inventory sequences, and menu sequences (including game maps) as well as the main game space, which is represented as a 'world'. Text appears throughout the game. It can come in the form of labels attached to particular elements of the imagery, when, for example, labels such as 'poor townsman' or 'shady individual' float above the heads of non-playable characters, or when particular locations on the game map are named, or when labels are attached to objects in the inventory. It can also come in the form of subtitles in the various cut scenes, as passages of texts in the books and manuscripts that the player can find throughout the game world, and in the text passages that are part of the game's glossary that the player can access through a menu. The dialog lines that the player can choose from are also represented in written text. In terms of sound, the game characters are given audible voices in the game and cut scenes also

include voiceovers. Finally, there are a large number of non-linguistic sounds in the game. These include background music accompanying the events of the game, sounds that are associated with particular mechanics, such as when the player picks up objects in the world, navigates the game space, whereas other as attached to objects, or agents within the game world. These three elements will be considered in the following analysis of how gender representation in *The Witcher 3*.

Geralt the traveler, the scavenger, the womanizer and the slayer

A lengthy opening cut scene offers a basic introduction to the protagonist and the world in which he operates. The cut scene consists of a voiceover narrative paired with a simplistic animation of a series of drawings that lend their visual aesthetics from the Dark Horse comic book series. The narrator tells of an invasion by a certain Emperor Emhyr, and of the wars raging in the North, which he claims are a punishment from the gods. He also tells of a long past event called the 'Conjunction of the spheres', in which the world intertwined with another world, which implanted into it magic and various monsters, such as trolls, corpse eaters and werewolves. From this cut scene, the player also learns that these monsters are fought by so-called witchers, which the voiceover describes as "(…) stray children taught the ways of foul sorcery, their bodies mutated through blasphemous ritual. Sent to fight monsters though they could not distinguish good from evil. The flicker of humanity long extinguished within them". Finally, the player is told of a second scourge "from beyond our world", the so-called *Wild Hunt*, depicted as a pack of horse-riding armor-clad skeletons.

After having introduced the diegetic world in the first cut-scene, a second 3D full-motion cut scene sets the scene in more detail. The player is informed that the following sequence takes place in 'Temeria', 1272. A cinematic montage cross-cuts between a number of short scenes depicting a battleground during and immediately after a bloody encounter, respectively. The player is introduced to the woman Yennefer (who is also shown to have magic abilities) in her effort to escape from the

battle, as well as to the witcher Geralt who is looking for traces of her on the now deserted battleground.

The first playable part of the game opens with a shot of Geralt lying naked in a bathtub (***FIGURE 18***). The in-game 'camera' captures him in a close up shot, his feet resting on the side of the tub. From between his legs, the player can see Geralt's upper torso and head, while his lower torso and groin remain hidden under the water. His muscular arms are stretched out along the sides of the tub, and his head is leaning backwards in a relaxed position. His body is glistening with water, and covered with scars. A woman – Yennefer – is depicted curled up naked in a chair in front of a fireplace. Her hair is wrapped in a towel, suggesting she also recently took a bath. These two naked bodies, and in particular Geralt's pose in the bathtub, strongly suggest a recently concluded sexual encounter between the two.



FIGURE 18: The Witcher in a bath tub
Screenshot from The Witcher 3 (CD Projekt Red 2019)

But Geralt is, of course, not only represented visually, but also in a verbal entry in the game's glossary. This entry describes him in a somewhat comical tone as more than your average "monster-catcher" and "rough-and-tumble practitioner of a dirty trade". While the entry states that his outer appearance might render him "introverted, tight-lipped (…) gruff", he is actually a "man of unplumbed depths, (…) good humor and an honest readiness to help his friends". Geralt's voice, however, seems to support his initial gruff image. He speaks with a monotone and low-pitched voice with an assertive, slightly aggressive and even snarling tone to it. The laconic and dispassionate character of his voice remains mostly the same whether he is disciplining a local gang leader or declaring his love to Yennefer. Furthermore, it is interesting to note that Geralt speaks with a clear American accent, whereas many other (but certainly not all) of the characters he interacts with speak with a variety of Northern European accents, most notably British, Scottish and Irish but also French and Swedish.

The two cut scenes, the intimate opening shot of Geralt and the glossary entry establish the initial cues of the construction of Geralt's masculinity. This is a masculinity associated with an exaggerated, muscular and clearly sexualized body, which is often rearticulated at other points in the game, most notably when Geralt is shown as having sex with non-playable characters. These encounters are depicted through highly standardized and repetitive cut scenes, not accounting for a few bizarre and campy exceptions – one of which takes place on the back of a unicorn, and the other floating in free air in a weightless, cloudy setting. However, most cut scenes consist of a series of close-up shots that linger on Geralt's mutilated upper body as well as the woman's face, breasts, and lower back and hip area (see ***FIGURE 19*** for an example). Geralt's masculinity is in a way both excessive and bordering on (but never transgressing) the offensive. While the voiceover of the first cut scene articulates this through a derogatory description of witchers as morally corrupt inhuman mutants, the visual imagery conveys it through a fixation on the exaggerated musculature, and

grotesque mutilation of Geralt's upper body. Still, both the voiceover, the visual imagery of Geralt and his relation to the game world and its inhabitants represent him as an accepted member of this world. This acceptance, however, is conditioned by the "bloody work" (CD Projekt Red 2019) he performs as a monster slayer and as a sexualized object for the delight of his, at first sight at least, often strong, female love interests. Geralt's masculinity thus ultimately rests on his purpose in the game, be it as the hero who saves Ciri, as the errand boy of the many human non-playable characters in the game or as a bodily object of desire. Therfore, while I would not, as Matuszek (2017) do, describe Geralt as a feminine figure, his masculinity is at least highly conditioned and precarious.



FIGURE 19: Geralt at a brothel.
The scene is captured immediately after the completion of sex
Screenshot from (CD Projekt Red 2019)

But there is, of course, more to Geralt than merely his surface expression. He is also a functional character and through the player's operation can act in the world of the game. His functionality is in part defined by his attire. Armor is categorized as light, medium or heavy armor, and can include wearables such as boots, trousers, chest armor and gauntlets. These items can have a variety of

functions such as resisting slashing damage, adding vitality and so on. The functionality of his attire is not only depicted in the game's imagery. It is also defined formally in the game structure and communicated as for example "87 Armor +3" "40% Resistance to piercing damage" and so on (***FIGURE 20***). It is notable, that all the properties that these different items of clothing are represented as possessing relates to combat. Geralt it seems only dresses for one purpose (and his clothes is never shown to be too hot or too cold). This limited purpose of Geralt's attire, is also commented several times during the game, for example in a scene, where Geralt has to dress up before meeting with the Nilfgaardian Empire, and at another point where he is asked to change clothes before going to fancy party. The functionality, however, is relative to the player's level. Geralt is the only character in the game whose clothes have a functional aspect, even though the game, as mentioned, features two operator agents.



FIGURE 20: The functionality of Geralt's attire
Screenshot from The Witcher 3 (CD Projekt Red 2019)

In many ways, Geralt can be described as a precarious worker. He works on a freelance basis, scraping by with whatever coins he can make from the variety of odd contracts he comes across. Luckily, there are many in need of a witcher and his sword, and if this is not enough, he can always go out to do some routine slaughtering of a monster or two, in order to loot whatever parts they drop, which can then be sold at a modest profit. Even though, as described above, witchers are only conditionally accepted in the world of the game, and despite having to tolerate a number of slurs and insults here and there, structurally, the game world is largely accessible and at Geralt's disposal. As such, he can more or less go anywhere he wants. For example, he can walk into the houses of non-playable characters and take their belongings without them seeming to mind. Traversal makes up an important point of contact between Geralt and the game word. In order to progress in the game, the player needs to navigate Geralt through numerous locations. Navigation is supported by a set of game maps. The maps, together with the perspectival imagery, represent a world that centers on what the player can make Geralt do in the game. The roads and tracks designate the easiest and most convenient routes of traversal on horseback. And by following those, the player will avoid encounters with 'low-level' wildlife such as wild dogs, while instead taking her to the 'higher-level' monsters, who may generate more experience points when killed. Through icons and descriptions, the maps also represent the many different things that can be found in the game world. The player can see where to find shops, barbers, in-keeps, brothels and blacksmiths, for example, as well as monster's nests, dungeon entrances, fast-travel points and noticeboards. These are all sites where Geralt can either sell or buy items, get experience points, get his equipment fixed etc. As such, the maps construct the game world as a space that is from the start known by the player, and their purpose is already defined (see ***FIGURE 21***). In addition to this, some locations in the games can only be 'unlocked' if the player completes certain quests. In this way, the game space becomes at the same time a reward

for the player's effort, and a way to ensure continuous employment for Geralt. Geralt's travels are thus not those of an explorer of unknown lands. Instead he is in an odd limbo between the precarious *journeyman* and the tourist, engaging with a predefined and neatly categorized space of both labor and consumption.



FIGURE 21: The mini map defines the purpose of game space
Left: The location of sex workers to buy sex from. Right: the location of herbs to collect. Screenshot from The Witcher 3 (CD Projekt Red 2019)

In continuation of this, the entire world, in terms of the items that it contains, seems to revolve around ceaseless accumulation. The items that Geralt collects are stored in his inventory but must eventually be sold or consumed in order to generate space for even more things. While some of these objects are labelled 'junk', all of them will have some function within the game. These functions can be specifically linked to a particular quest, but they may have a more general character, for example, as components needed to craft new weapons and armor or brew potions and oils. Therefore, Geralt is not the aesthete whose collection is one of pleasure, but rather the 'prepper' who hoards for 'serious', live-sustaining purposes. Still, this seeming functionality of items is to some extent contradicted by

their sheer abundance, which also transforms Geralt's collecting and looting practices, from a mechanism of survival to purely a matter of materialist consumption. Generally, objects in the game are easily obtainable. Many are simply free to take, whereas others, as mentioned above, are offered as a reward for killing. Sometimes, however, looting comes with a consequence. If Geralt steals something in front of a guard, he is severely punished, as the guards will attack him and eventually kill him if the player does not make him defend himself. Such is the punishment even for items labeled by the game as 'junk'.

Another way in which Geralt's relation to the game world is structured is through engagements with the non-playable characters. These can be peaceful engagements such as conversations and trading, or they can be violent, in the form of assaults and more often murder. In terms of the former, some of these interactions will be prompted automatically by the game, but often they need to be activated by the player, by pressing a button to start a conversation, for example. In such cases, the characters are indistinguishable, on a purely structural level, to other objects in the game to which various mechanics are attached. This also significantly affects Geralt's existence in the game world. To the majority of the non-playable characters, he is almost invisible to them, and they remain largely indifferent to him, unless, he bumps into them on the street, for example, whereby they treat him as a momentary but insignificant nuisance. As such, unless the player makes Geralt's presence manifest by prompting some mechanical relation to the game world, the witcher will remain a superfluous, unneeded man. This seems in stark contrast with the first cut scene in the game, that presents a helpless world that has chosen largely to depend on the witchers for salvation. Moreover, it should be observed, that once the player actually decides to engage Geralt in conversations, it turns out that many of the non-playable characters are suddenly in desperate need for him to kill some monsters, break down doors and deliver parcels.

Conversing can have different functions in the game. Some conversations appear in fully scripted cut scenes and can be skipped. Others are mandatory and involve the player choosing between two or more dialog options. Some of the options affect the state of the game, and these are written in orange text. Options that do not affect the game state, but rather offer additional information about the subject, context and background story and so forth, are written in white. In addition to this, there are conversations initiated by the player, for example, when Geralt approaches a merchant to do some trading or a villager to get a new contracted job. These conversations provide the player with the option to exit the dialog without making a choice that will cause a change in the game state. By contrast, in many of the mandatory conversations, the player is forced to choose between a limited number of dialog lines before the game proceeds any further. In many cases, it is through these conversations that the player will have new main or secondary quests available, although this does not mean that the player will have to complete them. Other conversations do not seem to generate any immediate explicit result to the game state. Still, these may still affect what happens much later in the game. This is the case with a number of conversations with or about the other playable character, Ciri, which will be discussed in more detail later. Therefore, for now, we may observe that Geralt's engagement with the non-player characters in the game predominantly serves a purpose that is either clearly defined by the game before it is initiated (by the player or by the game), or after, when a new quest becomes available. This reinforces the representation of him as an active and functioning man whose engagement with the world and its inhabitants must serve an extrinsic meaning – that is a meaning for the game itself. On the other hand, while many conversations are initiated by Geralt himself, through the player's control, this renders him a man in charge – and responsible for his own future.

Geralt can also perform other non-violent interactions with non-playable characters. For example, he can enjoy sexual relations with a number of women. These are of two main kinds. Either

they are associated with a quest and involve Geralt doing various errands for a woman until finally being rewarded with the option of intercourse. If the player has Geralt agree to this, the two will have sex, which in the majority of the cases remains completely casual and uncommitted and always pleasurable for the woman (***FIGURE 22***). After sex, the two part ways in a friendly manner without any complication, it seems, of their future interactions in the game. If the player has Geralt refuse the offer of sex, this is similarly acknowledged in a highly jovial manner. Consequently, while Geralt's masculinity might hinge on him being the hero and provider for many of the game's non-playable characters, and sex is represented as a reward that he can earn from this hardship, most of his female sex partners, expect for two, namely Triss and the beforementioned Yennefer, have no interest in a committed relationship with him, nor does he with them Thus, sexual intercourse has no consequences for the story as well as for gameplay.



FIGURE 22: Geralt knows how to please his female lovers (here Keira Metz)
Screenshot from The Witcher 3 (CD Projekt Red 2019)

The player can also have Geralt visit a brothel and have intercourse with the sex workers there. In contrast to the other sexual encounters, Geralt pays for this with in-game money. Furthermore, unlike the other sex options in the game, where the main initiative is taken by the female non-playable character, at the brothels, the player can also pick and choose between a limited number of women. Interestingly, while there are male sex workers at the brothels, these cannot be picked. So, while the game seemingly offers the player a limited selection of paid companions, it enforces upon the player a heterosexual relation between Geralt and his sex partners that is visualized in highly standardized imagery, where both the editing of the cut scene, as well as the model of the female character's body (except her head) remains identical in all encounters.

Finally, the player can make Geralt engage in more hostile interactions with non-playable characters. This is also somewhat restricted, as not all characters can be attacked. In general, it is mostly guards, bandits, monsters, wildlife and, of course, the warriors of the Wild Hunt that Geralt can fight. Geralt can fight with different weapons, such as a number of swords, crossbows, axes and maces. In addition to this, he can employ a kind of magic called signs. There are five signs altogether that can all be upgraded as the player levels up. 'Aard' is a telekinetic blast, 'Igni' is a fire blast, 'Yrden' places the opponent in a magic trap that slows them down or otherwise influences their abilities in combat, a 'Quen' is a protective shield that the player can activate around Geralt. Finally, 'Axii' influences the opponents mind, so they momentarily stop fighting, but can also be used outside a battlefield to persuade non-playable characters to do Geralt a favor.

In the beginning of the game, one may find a significant discrepancy between how Geralt is communicated through text and imagery, and his more functional qualities, especially during combat. In the early game, Geralt will be at a level 1 and thus lower than even the wolves that he may encounter at this stage, which are at a level 5. Therefore, before Geralt's level has significantly increased, the supposedly famous monster-slayer is in fact much weaker than many of the creatures

he may be confronted with, granted that he does not follow the route designated by the main quest line. In order to level up, the player needs experience points, which are given as a reward for performing certain actions. However, not all actions result in experience points. Spatial traversal or herb collection, for example, are not rewarded, whereas completing the various game quests, killing monsters (of the same or higher level as Geralt), destroying monsters' nests, conversing or having sex with certain non-playable characters, or playing the in-game card game 'Gwent', earns the player XP, which she can use to level up and increase Geralt's abilities and skills. This way the game provides a model for character development in which only some activities are represented as worthy whereas, others are considered too trivial to count.

Wives, lovers and daughters

In terms of gender construction in *The Witcher 3,* it is also necessary to look at the games female characters. One of the most prominent female characters in the game is Ciri. In the game's prologue, Ciri is still a child and an aspiring witcher-to-be, whereas in the rest of the game she is an adult and appears as a playable character. Visually, she is represented as Geralt's female alter ego. Like Geralt, she has white, blond hair and a scar over her right eye and cheek (see ***FIGURE 23***). Per default she wears a loose white shirt with a deep slit in the front, so it offers a glimpse of her brassiere, a pair of brown leather pants, high-heeled, knee-high boots, a leather corset, and elbow-long gloves. When she appears as a playable character, the player cannot change the clothes Ciri wears, nor dress her in an armor, as the player can when operating Geralt. In addition to this, unlike Geralt's costume, Ciri's clothes are not represented as having any functionality relative to the game's mechanics.

The game's publishers have released a free alternative outfit (***FIGURE 24)*** for Ciri that can be downloaded and enabled through the game's main menu (not available on the Nintendo Switch port). Thus enabled, Ciri now appears in a long-sleeved crop top and a similarly cropped chain mail armor covering only her breasts, shoulders and back, but leaving her midriff and cleavage exposed.

But there are other differences between operating Geralt and operating Ciri in the game. Most notably, while Ciri – like Geralt – can collect valuable items in the world and loot the corpses of the non-playable characters she kills, there is no inventory associated with Ciri, and therefore none of the collected objects have any purpose other than what is predefined by the game's quest.



FIGURE 23: Ciri as Geralt's female alter-ego
A side-by-side comparison of the two characters. Same hair, same scar, same facial expression. Screenshot from The Witcher 3 (CD Projekt Red 2019)

While Geralt's masculinity was represented around the ambiguities of the muscular hero and monster slayer, the precarious journeyman, scavenger and architect of his own fortune, Ciri's story is much more bound to ideas of destiny, heritage and blood lines. The game's glossary entirely ignores Ciri's personality traits, which were in focus during Geralt's entry. Rather, she is first described by her visual appearance and second by her heritage: "For Cirilla[22] is also a highly-skilled witcher,

[22] Her birth name is Cirilla, but this is only seldomly used in the game that mostly names her simply Ciri.

heiress to several thrones, the last bearer of the Elder Blood, a powerful Source endowed with exceptional magic talent and the Lady of Time and Space."(CD Projekt Red 2019) Finally, this is followed by a relatively enumerative summary of what has happened so far over the course of the game. As such, unlike Geralt, who is represented largely as a 'self-made man', Ciri's story is one of fate and destiny. She first flees because the Wild Hunt is after her so-called Elder Blood powers, which can make her travel in time and space. Similarly, it is because she is the biological daughter of the beforementioned Emperor Emphyr that she is tracked down so she can become heir to the throne of the Nilfgaardian Empire.

Moreover, also in terms of the player's operation of the game, the main influence on Ciri's story takes place when the player controls Geralt rather than Ciri. The majority of the sequences in which the player can control Ciri are 'playable flashbacks' generated by the recollections of several minor characters that Ciri has been in contact with while fleeing from The Wild Hunt. As such, the player's operation of Ciri in these sequences has little to no influence on what happens to her later in the game but remains as playable illustrations of an already settled storyline. Instead, decisions that the player takes when controlling Geralt will have major consequences for what happens to Ciri later in the game. These decisions can be as seemingly trivial as whether the player makes Geralt calm down Ciri when she is upset or encourage her rage. Other decisions, such as whether Geralt should accept a reward from the emperor when delivering Ciri to him, may be more obviously consequential. Depending on these choices, Ciri might either die, join her father in Nilfgaard as heir to the throne, or become a witcher and travel alongside Geralt. The point is that these endings are outcomes of the decisions that the player makes Geralt take in the game. Even though at least of the two endings in which Ciri does not die are represented as the decisions of a strong-willed and independent woman, they are ultimately reactions to the ways in which the player has controlled Geralt, and not Ciri.

The game contains similar stories of strong women trying to circumvent the fate that a patriarchal society has granted them. At the beginning of the game for example, a baron commissions Geralt to track down his wife and daughter, who have recently disappeared. When Geralt finally finds them, he learns that the two were not kidnapped but willingly fled from their home because of the alcoholic and abusive husband and father. Later in the game, Geralt meets the young woman Cerys, who, to the displeasure and ridicule of her family, aspires to become ruler of the island kingdom of Skellige. Common to these and other female characters is that they inhabit a patriarchal society in which women are generally subject to men, and their futures and paths in life remain defined by their gender as wives, daughters and heirs. Admittedly, there are certain women who seem to make a living of their own. Sex workers – called strumpets if they work in poor neighborhoods, and courtesans if they are affiliated with more 'decent' establishments – are rare examples of working women (c.f. Ruberg 2019). However, unlike other merchants in the game, these women do not sell food, drink or herbs, but their bodies. In fact, given that there are male sex workers in the brothels (although Geralt cannot buy sexual services from them), it is particularly remarkable that there are no women merchants at all in the game, save those who are trading bodily pleasures. In one of the brothels, the player can make Geralt engage in the following rather patronizing exchange. He asks a sex worker called Bertha why she works at the brothel to which she replies "Why? There is nothing wrong with it". Geralt then continues "Ever thought about where you might be fifteen years down the line?" thus implying that her line of work will lead to her downfall. Bertha replies "Runnin' my own brothel, I wager. Puttin' coin away towards it as we speak". The issue with this conversation is not only that it can occur regardless of whether Geralt himself has taken part in this commercialization of the female body as a paying customer, but also that it comes from someone who is basically a hitman in the business of selling dead bodies, although this line of work is represented in part as heroic.

The most successful female characters in the game are sorceresses. In addition to Ciri, the most important women in the game are the two non-playable sorceresses, Yennefer and Triss. Both are designed to be Geralt' main love interests, but also at different stages of the game help Geralt in his search for Ciri. Beyond this, they are very much represented as each other's opposites, both in appearance and personality. Although the game makes it possible for Geralt to romance both characters, this will lead to both of them abandoning him by the end of the game. As such, romancing Triss or Yennefer is presented as a choice between two mutually exclusive options, at least if the player wants this to be more than casual sex, but a long-lasting relationship.



FIGURE 24: Alternative outfits for Ciri, Yennefer and Triss
Image courtesy store.steampowered.com

The glossary entry on Yennefer focuses mostly on her capacity as Geralt's lover. Thus, not a lot of information is given about who she is apart from her history of romantic encounters with Geralt. This minimal background characterization of her is also evident from a short sequence in the game's

prologue. While Geralt is searching for Yennefer, he describes her to a merchant at an inn as, "(…) not just any woman. Mine smells of lilac and gooseberries, dresses in black and white". To which, the merchant surprisingly immediately replies, "Yennefer of Vengerberg (…) you described her perfectly". In this game, a perfect description of a complicated woman is apparently an incredibly spare description of her smell and attire. Yennefer appears dressed mainly in black. In her standard attire, she wears black high-heeled, knee-high boots, tight black pants, a black brocade jacket over a white shirt and black leather gloves and finally a black fur collar. However, the publishers have also released a free and more suggestive alternative look for Yennefer (see ***FIGURE 23***). In this, she wears high-heeled, knee-high boots over a pair of black lace-topped thigh-high stockings, a black mini-skirt under what looks like a long loin cloth. On her upper body she wears a black off-the-shoulder shirt with a feather collar and a black leather corset. Throughout the game, Yennefer is represented mostly as a clever, nagging, sarcastic, dominating and very serious women who goes out of her way to get her way. Indeed, with respect to this character, her properties of being strong and independent is. constantly communicated as being unreasonable and difficult (see ***FIGURE 25*** for example), thus effectively conflating these different attributes.

Triss, on the other hand, appears in more colorful attire. Her hair is styled in youthful double-bun hairstyle, and she wears a brown tight-fitted leather bodice with a plunging neckline, a green, bolero jacket in silk with a high collar, and red, embroidered arm warmers, tight black pants, and high-heeled, ankle boots. Like with Ciri and Yennefer, there is also a free alternative look for Triss, in which she wears a revealing green gown with an open back and a neckline that plunges all the way to her belly button and only barely covers her breasts (see ***FIGURE 24***). The game's glossary describes Triss as an "(…) exceptionally talented sorceress" whose "(…) deft mind, warm smile and considerable personal charm had always won over even the hardest of hearts".



FIGURE 25: Vesimir complains about Yennefer

The entry also tells of a past romantic relationship between Geralt and Triss, and that upon their encounter in the game, "both of them handled the situation quite awkwardly". Also, in their relationships with Ciri, the two female characters differ. The prologue of the game represents Geralt and Yennefer as sort of parental figures to Ciri, which is restated throughout the game by the collaborative efforts of the two to find the young woman. In contrast, Triss is represented more akin to an older sister of Ciri's, which is clear from the way the former greets the latter as "little sis" when the two reunite in the second half of the game. From this we can see how Yennefer and Triss are represented as each other's antithesis. Similarly, the player's choice between these two women is represented as a choice between two female stereotypes often found in games, namely the warm, cheerful, innocent young girl and the cold, mature dominatrix.

To sum up, while Geralt masculinity is very tied to the actions the player makes him perform in the game, femininity remains a destiny that the female characters may accept or try, more or less successfully, to circumvent. Ciri is operated as if from a script in which the player follows an already

predefined path rather than actively shaping her overall storyline. Most of all, femininity is constructed against the backdrop of Geralt's sexuality and affection, either in the form of casual, or even paid sex partners, or as serious love interests. In addition to all this, while the game does to a limited extent try to address the problems of a patriarchal society from the perspective of women, all females still remain subjected to the 'male gaze' (c.f. Mulvey 1989) as they are visually represented as attractive, voluptuous bodies recurrently dressed in revealing outfits, but also because the most important female characters are ultimately characterized by their relation to Geralt or other of the game's male characters, as wives, lovers, sex partners and daughters.

THE AGENTIAL MODALITY

Of course, the construction of gender so far discussed ultimately depends on what the player does with the game, which is described by the agential modality in the framework. We have already seen that throughout the game the player is faced with a variety of choices about how to proceed in the game, but also that these choices can have more or less significant impacts on the events in the game. Some of the choices may in themselves be relatively trivial. Whether the player makes Geralt use a strong or fast attack, or similarly makes him traverse by foot or by horse, may in isolation not seem so important provided he manages to kill his opponent or reach his destination. However, such seemingly minor decisions such as travelling by foot, for example, may prove to be important, as they may make it easier for the player to find important objects in Geralt's surroundings. However, the range of decisions the player is able to make at different points in the game varies. In dialog scenes, the player can only choose between a set of predefined lines of dialog, and cannot control Geralt in any other way, while at other points, the player has more far-ranging control over his actions.

However, in *The Witcher 3*, the choices the player makes in these dialog scenes particularly affect the game's overall story. For example, through these dialogs the player can decide whether to pursue a romance with Yennefer, Triss or neither. While this does not change the overall structure of

the main quest line, it does impact the cut scenes and dialog options that the player is exposed to in the remaining parts of the game, as well as the ending, which is ultimately represented in a lengthy cinematic sequence. In their initial playthrough, players may not be aware of the consequences of the different choices they make, as they are only revealed much later. Therefore, while the main quest line certainly involves Geralt's interaction with the two women, and the game's glossary entries as well as comments from other non-player characters, stresses Geralt's romantic history with the women, it is ultimately up to the player if she wants to explore this particular aspect of the characters' relationships. In other words, although the game strongly urges the player to romance the characters, in the end they are not forced upon her. Consequently, romances, and subsequently all sexual relations that Geralt may have in the game, can be considered as what Østby (2016) calls private representational practices. Still, while they may be private, they are nevertheless limited to female characters, thus restricting the player from constructing a homosexual Geralt, for example.

Ciri's sexuality on the other hand, is made a less private issue. In one scene in the game's main quest line, the game forces the player to make a choice between three dialogue-line, in one of which she observes that she prefers women (see ***FIGURE 26***). As this is a main quest, and an obligatory dialogue-sequence, the content of this scene cannot be ignored by the player. However, even though the game thus allows the player to choose the answer in which Ciri disclose her sexuality, the game does not include any romance- or sex-scenes between Ciri and a non-playable female character (or male character for that matter). This is of course particularly notable, since the game contains so many possibilities for Geralt to have sex. As already mentioned, the game also significantly limits the player's freedom when she operates Ciri rather than Geralt. Ciri has no inventory she can access, which means that it is not possible to eat food or potions for regeneration or health boosts during combat. Similarly, the player cannot control which weapon she uses in combat, nor which kinds of clothes she wears.



FIGURE 26: Ciri discloses her sexual preferences
Screenshot from The Witcher 3 (CD Projekt Red 2019)

In addition to this, the sequences in which the player controls Ciri take place in enclosed game spaces, which although they are only on a representational level, are part of the game world that Geralt is more or less free to roam. In the first sequence, entitled "King of the Wolves" the player has to navigate Ciri through a river valley surrounded by steep banks that the player cannot make Ciri transgress. Similarly, in the next sequence, Ciri takes part in a horse race, and the player is supposed to navigate her to the finishing line. The road is surrounded on all side by a fence, rock formations, abandoned wagons and so on, which cannot be passed on a horse. The player cannot make the horse jump, nor can she make Ciri dismount from the horse. Therefore, she is left with the option of simply following the road until the finishing line, which also concludes the sequence, or to simply not progress any further.

However, while the game world is obviously designed to restrict the player's control over Ciri as much as possible, this does not mean that it is impossible to subvert these designed uses. There are several online guides for how to exploit bugs in the game's software in order to escape the demarcated paths and freely navigate Ciri around in the semi-open world of the game. However, this possibility is clearly a bug, which can be seen from a number of dysfunctions in the game. For example, if Ciri engages in conversations with non-playable characters, Geralt's model will appear undressed next to Ciri, and the conversation will be acted out with Geralt's voice. Similarly, in one creepy instance, Ciri may even encounter herself, as the player may navigate free-roaming Ciri to a location where another model of Ciri is available for a conversation. Furthermore, the player cannot pursue any of the quests in the game. As they are documented through YouTube videos (ShadowRevenant54 2016a; 2016b; 2016c; Evalina 2019a; 2019b), these practices may, of course, simply be understood as ways to test the limits of the simulation and explore the consequences of transgressing them. Nevertheless, these are purposeful acts that take a particular character beyond her intended role in the game.

"Good thing women can be changeable"

In one of the game's sequences, Geralt has just successfully aided his potential love interest Triss in evacuating a number of mages from the City of Novigrad. Triss says her goodbyes to Geralt, as she is supposed to leave the city with the mages. However, she regrets and returns to Geralt, whom the player can then make greet her with either a simple "Thank you" or with the words "Good thing women can be changeable". This short passage provides a neat preface to a discussion of some of modding practices we may find relation to *The Witcher 3*. If players are not content with the experiences the game offers, they can make or download a variety of mods that change the behavior or appearance of the game. Nexusmods.com, an online platform for sharing game mods, currently[23]

[23] As on 3. December 2019.

contains 3058 mods for *The Witcher 3*. These modify everything from increasing the weight limit of the game's inventory, to adding new armor or adding saved files from various points in the game, such as immediately before a sexual interaction with a non-playable character. The technical medium on which the game is played, is important to consider, when in the following discussion of mods. This is because the mods can only be installed for the PC version of the game and are not available for players who play the game on dedicated gaming consoles – including the Nintendo Switch that I played used.

In terms of the current discussion, however, the most interesting mods are those related to the characters' abilities and appearances. Here, we may find mods that enable the player to replace the character model of Geralt with non-playable characters, which thus comes to occupy the position of operator agent. There are also mods that change Geralt's appearance, for example, by giving him an even more muscular body, enhancing the scars on his face, changing his hair color or the appearance of this eyes and so on. Other mods transform the appearance of non-playable characters such as Yennefer, Triss and Ciri, sometimes by increasing the size of their breasts, dressing them in skimpy, more revealing clothes or in more suitable armor and practical shoes, changing their hairstyles or makeup and sometimes making them more 'lore-friendly' so they match how a given 'modder' imagines them from reading Sapkowski's books, or playing previous games in the series. Other modifications humorously play around with the characters' appearances, such as swapping or merging the faces or bodies of the characters (see ***FIGURE 27***). The reasons why players partake in modding vary greatly, of course, and there are many ways of understanding such practices. As I noted in the beginning of the game, these practices can be seen through the lens ideological negotiation, which is suggested by Sihvonen (2009). Therefore, in continuation of Shaw's (2017) idea of encoding and decoding of affordances, we may say that players engage in oppositional uses of the game through which they negotiate or subvert the hegemonic meanings of the game.

Mods that change Ciri's outfit to a proper armor and a decent pair of shoes, swap the faces of various characters in the game and so on, play with or even undermine the meanings of the original text. But the same goes for mods that, for example, dress the female characters in revealing outfits, or simply in underwear. Such mods reinforce the intended meanings of the game by offering even more provocative racy representations in the game. However, in this case, it is important to keep in mind that this reproduces, through exaggeration, meanings that can be said to be already present in the original game (and in particular game series), qua its recurrent display of suggestive content.

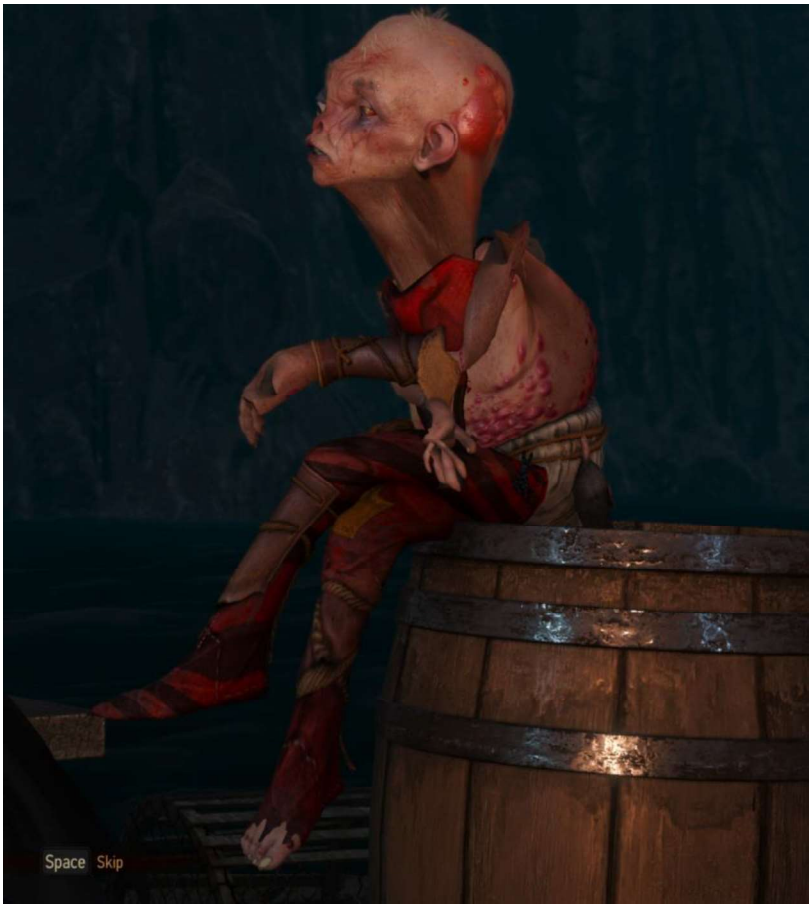

FIGURE 27: Screenshot of the mod "Yennefer Beautified"
Mod created by Jato (2019). Image courtesy nexusmods.com

The mods can also be understood as a coercive practice, not of negotiating meanings, but claiming ownership, and exerting power and domination over the game. As mentioned earlier, Aarseth (2006) observes how the notion of interactivity is often associated with "vague ideas of personalization and user freedom". We may conceptualize the practice of modding along similar lines, as an act of turning the game from a common object into a private experience, in which objects in the game – even those that were not initially scripted to be within the player's explicit operation – are rendered toys to be played around with in keeping with the player's desire. But it is just as important to stress, that these private experiences are in turn made into a common object again, as they are made available for other players to download on sites such as nexusmods.com or shared in videos on YouTube etc. To be clear, I am not suggesting that 'modders' themselves necessarily consider their practice in this way, nor that all mods can be framed as such (c.f. Wirman 2011). Still, in regard to the analysis of the construction of gender in games, this framing of modding practices sheds light on the different ways in which the player takes part in the process of meaning making. As such, some of the mods discussed here articulate the desires of players for better-looking or better-functioning characters, and more or less subtle critiques of the ways in which characters are represented – not sexy enough or overly sexualized or completely naked, for example.

THE QUALIFYING MEDIAL ASPECT

As argued throughout this dissertation, in terms of the meanings they produce, games are not simply self-enclosed objects, but always[24] reach out to a player who is situated in a context defined by various social, economic, political and cultural circumstances and by various ideas and assumptions about the object at hand. This is important to consider since, as I have argued, the representational capacity of games is not intrinsically 'in them', but always by necessity involves a certain perspective on them.

[24] Not including so-called zero-player games, which are games without players.

Therefore, the last part of this analysis will discuss the observations made about the basic modalities of the game in their relation to the ways in which games are qualified as a medium. Such a move is also important if we want to claim that the representations constituted by games have an impact outside the game. In the following, I will discuss the circumstances relating to the production, marketing and consumption of *The Witcher 3*, as well as the expectations about the aesthetic and operational qualities with which the game is met, with a focus on how these issues contribute to the representation of gender in the game.

Regarding the production issues, as already mentioned, *The Witcher 3* has had an extensive production budget in terms of the economic and temporal investments that have gone into producing the game, as well as the amount of people involved in this process. Of course, this needs to be taken into consideration when discussing the representational strategies of the game, and, in particular, how gender is represented in the game. Kline, Dyer-Witheford and De Peuter (2003) argue that the more complex the production of computer games becomes, the higher the risk associated with them. This means that such big-budget games need to be promoted and marketed to an already established audience with a known purchasing power and willingness to spend close to USD 60 on a single game. In turn, based on previous engagement with similar games, this audience comes with a set of expectations regarding *The Witcher 3* and the experience that it should offer. In addition to this, the game also exists in close connection with the other 'Witcher games' from the same developer, and the book series. That the game is meant to be understood as a continuation of previous games in the series is, of course, obvious from the game's title and number. In addition to this, *The Witcher 3* also allows the player to either import a saved file from *The Witcher 2* or 'simulate' it. If the latter is chosen, early in the game, Geralt will be faced with a number of questions that the player will need to answer, thus determining the outcomes and alliances of past events. Therefore, it is not unreasonable to argue that the game should also be considered through the lens of other 'Witcher

games', of which it is a continuation, as well as the book series, of which we may consider it a simulation.

This means that game developers and publishers, (in part) address an audience who are already familiar with, or even devoted to, previous games in the series, and possibly also its literary precedents. Therefore, to avoid taking excessively high risks with an expensive product, they may benefit from adhering to the conventions of 'Witcher games' that have been established with the two previous games in the series under the influence of the book series, while still expanding on them and introducing new mechanics, characters, settings and events to make the game feel original and novel. With respect to gender, Geralt remains the dominant character in both of the previous games. Consequently, with Kline, Dyer-Witheford and De Peuter's (2003) observations in mind, it is also no surprise that he remains the main playable character in most of *The Witcher 3*, and that Ciri is then clearly marked as a secondary playable character. Other conventions established by the previous games include the use of eroticized imagery of the female body, as well as racy and highly suggestive representations of sexual acts. In the first game in the series, *The Witcher* (CD Projekt Red 2007) the many possible sexual acts are not directly represented visually, though in some cases they are relatively explicitly communicated through sounds. In addition to this, sex is rewarded with so-called 'romance cards' depicting the women in question, in an eroticized posture. In the second game (CD Projekt Red 2011), sex is more explicit represented through moving imagery accompanied by a soundscape consisting of moans and groans (see ***FIGURE 28***). It is such representational practices that *The Witcher 3* continues in order to make the game clearly identifiable as a 'Witcher game' like the other games in the series.

The relations to existing games and books about the Witcher are also reproduced in some players' responses to the game. This is also evident in the number of 'lore friendly' mods that players make and distribute to other players. Such mods may be seen as manifestations of players'

negotiations of (primarily) the visual representations of characters and the ways in which they may deviate from earlier games in the series as well as their literary precedents. For example, some mods dress the character Triss in the clothes that she wore throughout the *Witcher 2* (CD Projekt Red 2011), or alter her hair or eye color to match what is described by the game. Other mods adjust the face and body of Geralt to make him more scarred and mutilated.



FIGURE 28: Representations of sex in *The Witcher* and *The Witcher 2*
Left: from the Witcher (CD Projekt Red 2007), screen-shot from Monologamy (2015).
Right: from The Witcher 2 (CD Projekt Red 2011), screen-shot from ScorbasGaming (2019)

In addition to the expectations that audiences may have concerning games in the Witcher series specifically, we may also consider the broader genre conventions associated with adventure games and RPGs[25], and how they may be reproduced by the game. Chapter six discussed (computer) games as a qualified medium with a loose set of conventions, which includes the privileging of a visual and even spectacular mode of representation – often complying with what Mitchell describes as the ideology of pictorial realism – a narrative mode of communication, and a use that is conceptualized as on the one hand participation in a represented word, and on the other as specialized and non-trivial operation. In regard to the particular game in question, we may more specifically say that it rests on

[25] Genre is a contested concept in game studies, and here it is used in a colloquial sense. Furthermore, what genre(s) *The Witcher 3* can be said to belong to is also debatable. An extensive discussion of this issue is outside the scope of this dissertation.

conventions associated with what are often referred to as role-playing games and adventure games. Although, not necessarily two distinct 'genres', generally their conventions differ. Most notably, in role-playing games, importance is typically given to the creation and development of the player's character as well as to encounters with monsters which are governed by a combat system (c.f. Zagal and Deterding 2018). With respect to adventure games, Fernandez-Vara (2009) includes among their common attributes a defined character whose identity is primarily prescribed by its appearance, object manipulation (where an object is usually associated with a specific action), and finally, that they are games of progression in a spatial environment that is designed according to an 'ideal walkthrough'.

In terms of gender, both adventure and role-playing games have a history of practices of the exclusion and inclusion of women as players as well as game characters. As observed in chapter six, these games have evolved from a male-dominated game culture, which is rooted in war gaming and further back in various 'serious' leisure practices of collecting and crafting. Furthermore, as discussed in the previous chapter, computer games have a long history of displaying the female body in a way that subjects it to the male gaze. In other words, the female body becomes first and foremost an object of desire, and not a functioning structure akin to the male bodies in many games. In role-playing games, and, in particular, single-player computer role-playing games, we may see a further complication. Brown and Stenros (2018) observe that in these types of games, sex and romance often comes in the form of a game mechanic or a reward. As such, the body is not only a spectacle, but something that the player – through the avatar – can interact with in ways that are governed by a romance system. If this system is successfully operated, the game will reward the player with a scene showing the consummation of the romantic interaction.

As discussed in the previous section, in *The Witcher 3*, the female body is both spectacularized and in some cases also governed by a romance system. However, in terms of the latter, romancing characters in the game is relatively trivial and not the result of an intricate operation and a sustained

interaction with the potential romance option. Instead, while romancing is not part of the main quest line, sex is an option that the player will be presented with, without having put a lot of effort into the relationships with the non-playable characters. As such, it works more as an easily earned attraction rather than a hard-earned reward for the player's effort. In addition to this, aside from the sex scenes generated from romancing a character or buying sex in one of the game's brothels, the female body is used extensively as a spectacular backdrop for play. Female characters dressed only in underwear are frequently encountered in almost all parts of the game world. These encounters range from women who are relaxing at the seaside, over courtesans entertaining the male guests at the local bathhouse, to the mutilated female corpses that 'decorate' the home of a head of a criminal organization.

This brings us to finally consider the ways in which the game is embedded in a specific economic context as a *commercial* product that is conceived to make money by attracting paying customers. In this regard, we may note how imagery of the female body can also be used as a promotional strategy. This is evident in a cinematic pre-launch trailer for the game entitled *A night to remember* (Digic Pictures and CD Projekt Red 2015). The trailer shows a young woman standing on the brink of a river. It is night and she is singing a lullaby. Geralt approaches her from behind, complementing her singing. She turns around and starts to undress herself, as all of a sudden, her clothes fall to the ground and she is transformed into a vampire. Geralt drinks a potion. The veins on his neck expand, his eyes turn yellow and a drop of blood falls from his nose. Geralt fights the vampire. During the fight she will sometimes be invisible while the contour of her body remains discernible as it is covered with a layer of glimmering dust. At other points, her naked body is completely visible appears undernourished and cadaverous, yet with highlighted musculature. Her body moves athletically as she bends and turns to avoid the blade of Geralt's sword. Finally, she bites his neck after which she shown in full figure with veins that light up all over her body. Geralt cuts off her arm and shoots an arrow through her waist. She is then shown crawling on all four, writhing in agony before she finally

collapses completely on the ground. In that moment, she is transformed into a young woman again. The film ends with a birds-eye shot of her and Geralt lying next to each other on the ground. Geralt on his back and fully clothed, the woman naked and on her stomach while her buttocks lit up in the moonlight (see ***FIGURE 29).***



FIGURE 29: Geralt next to a dying, female vampire.
Screenshot from A Night to Remember (Digic Pictures and CD Projekt Red 2015)

While the trailer does not show any actual footage of gameplay (c.f. Švelch 2017), it uses visual representations of the body, and the female body in particular as a way to promote the atmosphere and the visual, aesthetic qualities of the game. As such, with its combination of visual representations of the female body as monstrous and eroticized, it also cues players' expectations and possible anticipations of the content and tone of the game as a dark and wicked fantasy. In connection with the release of *The Witcher 2,* the female character Triss Merigold was featured with a series of nude computer-generated images on the cover and inside the Polish edition of Playboy magazine, while the Russian publishers promoted the game with a calendar containing nude photos of a model posing as Triss (Fahey 2011).

The website for the game functions as another promotional channel. The website promises "A whole world to explore. At home and on the go."("The Witcher 3: Wild Hunt - Official Website," n.d.). The world is described as "rich in mystery and adventure", "(…) lively and full of color"; a world that "boasts pleasures aplenty." By constantly addressing the reader directly using the second-person pronoun 'you', it describes the player as a kind of tourist in a virtual world carefully designed to offer the most exciting experiences: "All around, you will see signs of gross injustice, wartime atrocities and more (…) you'll interact with animals both hostile and benign (…). And in this system, you'll be the apex predator. (…) In *The Witcher*, the world lives alongside you and resonates with your every action." Similarly, the website encourages the player to "[e]njoy yourself in taverns and cabarets, play cards, drink with friends and romance ladies". In other words, the game is sold as affording a customized experience for individual players. The world is described almost as a warehouse with shelves overflowing with an abundance of products, diverse enough to suit the needs and preferences of (almost) any kind of player. However, while seemingly diverse and bountiful, many of these experiences remain designed for a player who is mostly interested in chasing a straight male power fantasy.

The employment of second-person pronouns promotes the idea that players may feel a sense of ownership over the game and its content. Rather than being cast as an operator, the player (and not Geralt) is discursively constructed as the central figure (and apex predator) to whom everything and everybody contained in the game are offered. This is not unrelated to Blom's (forthcoming) discussion of the role of the player in what she calls dynamic game characters. According to Blom, the player, takes part of the characterization process of the game's characters (playable and non-playable alike). The manifestation of this exists only in players' individual play of the game, and is not directly transferable to game sequels or more generally to other uses across media. While Blom stresses that this should not be understood as a form of authorship granted to the player, the official

website for *The Witcher 3* promises a role for the player that is more than merely a user of a product. Therefore, it is unsurprising, that a sense of ownership can sometimes be reflected in the expectations that players may have to the kind of experiences that games can deliver. Bearing this in mind, Iin chapter two, we saw that Mitchell argued that perspective painting carried with it a whole model of an ideal autocrat society. Similarly, we may say that the representational paradigm of *The Witcher 3* (and many games like it) provides us with a model of an ideal world in which it the player is cast in the role of autocrat, and he *[sic]* is the locus around whom everything and everybody represented in the game revolves. Although this ideal by necessity has to remain nothing more than an unrealized ideal, it offers a critical lens into the representational strategies of many contemporary computer games.

CONCLUSIONS

In this chapter, I have discussed the representation of gender in *The Witcher 3*, building on the analytical framework I proposed earlier in this dissertation, along with the observations about the qualification of games as media made in chapter six. As such, I have analyzed how the game models gender through properties that it ascribes to male and female characters. Here, attention was given to the formal properties of the game as well as how these were communicated as, for example, trading, looting, killing etc., and finally through the ways in which agency was distributed to the player. Such an analysis would not have been possible with the view that models are similar, or structurally similar, to their targets. As I argued, the game can be said to model gender because it contains characters and activities that are encoded as masculine and feminine (first and foremost through imagery and the textual labels that accompanies the different characters, such as ‘strumpet’, ‘hag’ ‘’boys’). Based on this, it is possible to inquire into how the game structures the relationship between these gendered characters and their means of relating to the game world. For example, I described how operating Geralt differs from the operation of Ciri, even though both are offered as playable characters. It is

important to clarify the difference between the formal structure of the game, and the ways in which it is communicated, as there is nothing given about the meanings we ascribe to formal elements. In other words, it is not the formal elements in themselves that adds meaning to the game. For example, take the sex workers of the game. There is no necessity in how the formal properties, including the agency afforded to the player, relates to these characters. Although the game displays moving imagery of male sex worker, Geralt is only allowed to have sex with (some) female sex workers. In terms of the agential mode, male sex workers are in Aarseth's words, purely decorative. In continuation of this, there are elements of the game that on a formal level are highly similar, but are communicated in very different ways. For example, and in line with Brown and Stenros' (Brown and Stenros 2018) observations, visiting a brothel and visiting a merchants shop are formally almost identical. While this game thus models prostitution only as trade, this does not mean that it could not have been represented otherwise, for example by adding to the model another set of properties (such as the option to actually romance the woman, making it possible for the sex worker to refuse, making it possible for the sex worker to perform other actions than only having sex and so on).

Based on the analysis of *The Witcher 3,* I would argue that the game offers a model that represents masculinity as precarious, functional and materialistic. Masculinity is performed through actions, and its utilitarian value is determined by the player's mastery of skills such as killing monsters, completing quests, changing and upgrading Geralt's attire, trading and earning money, romancing female characters and so on. These aspects determine the questions we may ask of and what we may come to know about masculinity based on the information the model offers. The model grants us epistemic access into the performative aspects of masculinity, but not is mental or emotional features. While we may ask how masculinity is done, we cannot ask how it is experienced or felt. Such emotional and mental properties are simply not included in the model. I want to stress, that this is true for *The Witcher 3,* and while it may also coincide with the conventions of many other games,

this is not a medium-specific limitation of games. There is in principle nothing to prevent a game from modelling mental or emotional phenomena, as I already observed with the example of Hellblade: Senua's sacrifice (Ninja Theory 2017)

Conversely, the game models femininity as a destiny that is to mostly determined by the patriarchal society that characterizes most parts of the game world, but also by the player to whom the role of controller is in part delegated. Moreover, femininity is associated with a significant reduction of the actions that the game allows female character to take, and many women in the game are purely decorative. We may also observe that the game represents independence for women as something that is often associated with sex. Again, this limits the questions with which we may approach the model's representation of femininity. Unlike with masculinity, it does not make much sense to ask how it is achieved and performed. In continuation of this, the game also does not allow us to know how femininity can be lost and what happens then. On the other hand, the game actually offers some information about how femininity is 'felt' by the characters of the game (for example by Tamara Strenger, who describes her discontent with how her father treats her mother and her, and by Ciri who expresses frustration with the lack of agency that she is given). In continuation of this, sex is, in most (but not all) cases, represented as inconsequential and unconditionally enjoyable encounters. On the one hand, the game thus offers a model of an emancipated, progressive and uncomplicated relation between sexual partners, that in many liberal societies may be the ideal. One the other hand, the model may come across as highly naïve, as it fails to include properties, such as unequal power dynamics, hurt feelings, romantic interest, cultural shame and so on. Finally, I also discussed how players may negotiate these meanings through their operation of the game. These negotiations may reinforce or subvert the meanings offered by the game, but they may also be thought of as simply attempts of testing the game machine and its limits.

The meanings offered by the game does not exist in a vacuum, but is part of greater complex of cultural meanings. Therefore, I also discussed how the representational practices found in *The Witcher 3* relate to the conventions of gender representation established through previous games in the series as well as more generally in computer games, and specifically in role-playing games and adventure games. Finally, I discussed circumstances pertaining to the production and promotion of the game, and how the game's developers choose to balance the introduction of new material while still meeting the expectations that players might have formed based on their engagement with previous games in the series. I also briefly discussed the use of spectacular imagery of the female body as a means of selling the game, its atmosphere and content. To understand the representational practices of *The Witcher 3* then, we should not only look at the meanings that given strictly by the game itself, but also at how the player is situated vis-a-vis the game, and the extent to which it reproduces overall cultural distributions of power. To what extend this is good or bad depends on how a model is put into use. It could, for example, be used to spur conversations about how sexuality is governed and evaluated morally in culture, or about the more personal experiences we may have had, but it may also be used to as a means of offering alternative versions (and visions) of reality. Most of the time, however, a game such as *The Witcher 3*, is not put into such serious uses (although it probably should be), but is rather used as a leisure commodity. Therefore, in order to understand fully, the meanings associated with games and how they may model various phenomena, we must take into account the context in which they are used and produced. In other words, understanding representation in games does not only involve understanding how they model phenomena but also how games, as models, themselves are situated in reality.

CHAPTER 8

Conclusions

With this dissertation, I set out to theorize how we can understand games as representational artifacts. I wanted to approach this question from a media-centered perspective, as I argued that the concept of media has occupied a complicated position in the field of game studies. For me, however, media is of central concern as a way of anchoring games, or as an instrument for momentarily seizing and taming the heterogeneity of what we call games in order to study their representational capacities and practices. With this in mind, I am aware of the potentially political overtones of my project, and that one may understand the whole aim of approaching games as media as an act of control that runs the risk of significantly reducing what games are. This is not the intention, nor do I think it would be a viable ambition if it were. I strongly believe that ultimately, games can never be disciplined in such a manner. Rather, my ambition has been to propose a method for *approaching* games rather than confining them as representational artifacts – a way of attributing to them representational capacities rather than claiming that this is inherently their nature. In popular discourse, games are often imbued

with representational qualities. This is especially the case with what I have called modern, proprietary leisure games. One of the aims of this dissertation has therefore been to address why we treat games as representational, and in what capacity and to what extent they are media. However, importantly, without treating this aspect as something that marks a difference in kind to games that are seldom or never considered to represent something. For this reason, I structured my dissertation around a few related questions that in different ways touched upon these issues. I asked what makes games representational artifacts, how they relate to media, how we might understand their representational capacities, but just as importantly also their representational practices. Finally, I also asked how we might approach the analysis of representation in games. These questions were addressed in the following way. Chapter two reviewed a number of high-level theories of representation in the arts, whereas chapter three discussed in what capacity games have been theorized as representational artifacts by game scholars. Chapter four proposed a theory of game simulations, and subsequently, chapter five was devoted to the question of how games relate to media and offered two models for the analysis of representation in games. Chapter six considered the 'long history' of modern, commercial games and their associated representational practices. Finally, in chapter seven, I offered an in-depth analysis of how the game *The Witcher 3* represents gender.

SUMMARY OF THE DISSERTATION

The starting point of my dissertation was Mitchell's (2010) model of representation, which points out four elements, namely the maker, the beholder, the represent*ing* object and the represent*ed* object. In itself, this model is media-independent, and can be applied to a range of representational artifacts. In *chapter two*, I discussed a limited number of different theories that addressed representation in different ways (although these theories might not have used that term specifically). Some of these addressed particular media, such as pictorial art (e.g. Ernst Gombrich, Richard Wollheim), whereas others, such as the semiotic approaches (Charles S. Peirce, Ferdinand de Saussure, Louis Hjelmslev),

aimed to provide more universal theories of representation that could be applied to a variety of media and representational practices. In comparison, Stuart Hall's cultural studies approach focused more on the material aspects of representation, borrowing its cue – but not conforming to – Western Marxism. Finally, I discussed Jean Baudrillard's post-modern approach to representation with a special focus on his discussion of simulation and media as non-communication. Special attention was given to Nelson Goodman's nominalist theory of representation, which, like the semiotic theories, aimed to provide a general, media-independent theory of representation. According to Goodman denotation, was the overarching principle under which one might also find other interesting forms of representation, such as exemplification but also what he called representation-as, which combined denotation and exemplification. The benefit of applying Goodman's conventionalist theory is that it treats all types of representing objects on par. As such, no essential representational powers are associated with representing forms such as images and text. Rather, what counts for Goodman is how they are used. In this way, Goodman rejected earlier theories of pictorial art that in different ways understood their representational capacity through concepts such as similarity, resemblance, illusion etc. This is obviously convenient for a study of representation in multimodal objects, such as games, which applies a range of different representational modes that need to be accounted for.

Chapter three reviewed a range of theories concerned with representation in games. These were categorized as six ways of discussing games in relation to representation, framing them as texts, worlds, simulations and cultural artifacts, and studying them through the lens of rhetoric and hermeneutic. This way of categorizing them results in the loss of some nuance, and it is important to keep in mind that these categories are not mutually exclusive. For example, discussing games as worlds may be achieved perfectly well by treating games as texts, and the rhetorical approach to games may conceptualize them as simulations. Still, the categorization shed light on the different aspects of games that these different approaches emphasize. With this meta-review, I hope to have

contributed with conceptual clarity over the ways in which the broad concept of representation is employed in game studies, thus making it possible to compare and bring together, as well as distinguish all the existing studies of games that are in some way or the other (and sometimes directly, at other times indirectly) concerned with concept of representation.

However, it was especially the idea that games are simulations that was further theorized in this dissertation. Therefore, in *chapter 4* I discussed the *representational capacity* of games. I proposed an approach to game simulations that was inspired by Goodman's conventionalist theory but extended to simulations through the works of Roman Frigg, philosopher of science. This view positioned simulations in extension of models more generally, thus rejecting the view that the term simulations should be used exclusively for dynamic models. Thus, in principle, there is no qualitative difference between a model of the solar system, for example, and a simulation of the same target. Also, Frigg rejected the idea that models are isomorphic to their target. Targets, he argues, can exhibit multiple different properties and therefore models are only isomorphic with respect to a particular description of the target. Instead, Frigg proposed a theory of simulations according to which a model is described as denoting a target, while the properties of this model are thus taken to exemplify properties that are then ascribed to the target. This was then adapted to games, resulting in a theory according to which games, with their structural, communicational and agential aspects, may prompt a mental model that denotes a target, and where the properties of this model are conceived as properties that are imputed on this target. It is important to note that this is not a theory of games, but of how games can be seen as representational artifacts. As such, I think it is perfectly possible for players to engage with games without treating them as such. In addition to this, the model applies to games as a whole, but also to particular objects of games. This means that even though we are not ready to treat a game as a whole as a simulation of some target, we might be inclined to treat certain elements within the game as such. With this approach, I do not make a qualitative difference between

the representation of dynamic properties, such as behavior, processes or action, and a range of other properties that a game can, in principle, represent (such as appearance, age, materiality, experiences, emotions and so on).

Another benefit of the theory is that it steers free of the idea that models must necessarily represent targets that have an actual extension in the world. Frigg argued how models could represent theories, including hypothetical target objects, and similarly games often simulate fantastical or speculative worlds or beings. This is particularly useful, as many games can be said to be adaptations and therefore in different ways build on – and thus to some extent simulate – literary, cinematic or televisual precedents.

To further discuss this connection between games, literature, cinema and television, for example, I needed to ground my approach to games as simulations in a theory of media. This was particularly important as popular and academic discourse on games, unlike scientific simulations, often considers them as one *medium* or several *media*. Furthermore, one of the consequences of my conventionalist approach to simulation was precisely that the capacity of simulations to represent a target is always relative to some intentional description of it, rather than something that is inherent in the object itself. This means that simulations ultimately become comparable to other communicative means. In *chapter 5*, I therefore discussed the question of media through the concept of intermedia. Intermedia, as it has been theorized by Elleström, offers a means of describing media without buying into essentialist claims about core properties and expressive powers of distinct media. Instead, Elleström takes as his starting point Mitchell's claim that all media are mixed media. He suggests a framework that distinguishes between three overall aspects of media. These are the basic aspects, which describe the material, sensorial, spatio-temporal and semiotic modalities of individual media artifacts, the qualifying aspects, which describe the historical and discursive construction of

distinctive media, and finally the technical aspects, which describe the actual technical artifact used to display the mediated content.

For the purpose of the research project carried out in this dissertation, it was necessary to adapt Elleström's framework to games. The result was a framework that maintained the overall distinction between the basic, qualifying and technical aspects of media artifacts, but revised the modalities contained within the basic aspect alone. With respect to this aspect, I distinguished between material, structural, communicational and agential modalities. The intermedial framework was also mapped onto a communication model inspired by Hall's model of the encoding and decoding of media. According to my situated cybermedia communication model (as I called it), we can describe the communicational process of games as an exchange between the 'game as machine' and the player. This exchange produces the 'game as played', i.e. the results of the operation of the machine as they appear to the player (as well as potential spectators of play). The player may then construct from this game as played a mental model that she may take as denoting some target. This model is both a result of the context in which the game is played as well as the operational conditions that the game offers the player, but the model, in turn, may also affect how the player understands this context and conventions of operation. Finally, the model also positioned the producer of the game according to this communication process, although I stressed that the producer only indirectly takes part in communication by designing the 'game as machine' as a combination of material, structural and communicational modes, and with certain intentions as to what and how it should communicate. The design of this 'game as machine' is also influenced by the production contexts, the economic conditions in which the game is marketed, knowledge about players' consumption practices and preferences, aesthetic and communicative conventions, as well as the availability of particular technologies and techniques. Together, the intermedial framework and the communication model constitute the tools with which we can approach a practical *analysis of representation.*

In *chapter 6,* I discussed the ways in which games have been qualified as a medium. This moved the focus from considering the questions pertaining to the representational capacity of games to instead discussing their representational practices. In other words, this chapter started from the premise that games represent by convention before addressing what those conventions might then be, how they came to be as well as the ideological assumptions underlying them. In particular, I looked at proprietary, commercial games, as they were emerged at the end of the 19th century. This was also a history of the ways in which games have intersected and interacted with other existing or emerging media. This could, for example. be with media technologies such as screens or computers, media institutions, such as the printing press, media content such as popular TV shows or characters or literary sources being adapted to games, or communicative modes such as visual and temporal representation, pictorial and textual, space and events as a motif, consumption practices, such as specialized 'non-trivial' operation or more casual viewing. The first part of the chapter specifically looked at the historical situation in which games emerged. This situation was characterized by a new organization of labor, the emergence of 'leisure' as well as commercialization and gendering of these leisure activities. I distinguished between two main trajectories of commercial proprietary games. The first constituted by board games and similar cardboard materials that emerged as an offspring of the printing press. I associated this trajectory with what is often called mass-market games, the playing of which has often been framed as a family-friendly and casual leisure activity. But I also associated it with 'serious leisure' (and often male-dominated) practices such as collecting and crafting, which developed into amateur wargaming and later other forms of hobby games such as role-playing and strategy games, but also later came to influence the appropriation of the computer in the home, and the development of domestic, computer-based gaming practices. The other trajectory described screen-based and mechanically operated slot machines, which intersected with what came

to be known as cinema and television but also developed into first pin-ball machines and proper gambling machines, but later a variety of arcade games.

In the second half of the chapter, I discussed the aesthetic and operational conventions surrounding more contemporary games, and how they can be seen as consequences of the ways in which games have historically intersected with other media. Among these conventions, I included the prominence of visual, even spectacular modes of representation, which in the case of especially digital games comply with what Mitchell describes as the ideology of realism; narrative modes of communication; interactive engagement – often framed as participation in the represented world, and finally, their consumption, which is often thought of as non-trivial or even specialized (and if not, the games are considered 'casual'), and finally, the technological fetishization, which plays a significant role in the assessment of the quality of games. These conventions, I argued, function both as a measure of 'innovation' within the qualified medium, but also as a way of drawing borders between what count as real games and 'gamers' and what does not.

With this in mind, *chapter 7* offered an in-depth analysis of a single game, *The Witcher 3: The Wild Hunt.* The analysis focused on the ways in which the game modelled masculinity and femininity. While at first glance, masculinity and femininity may not easily come across as obvious targets of a simulation, with the conventionalist theory of simulation proposed in this dissertation, it is perfectly possible to see the game as a model of gender. In this model, masculinity was closely tied to the ways in which the player operates the game, through looting things, killing monsters, and traversing game spaces, for example. In major parts of the game, the player controlled a male playable figure, Geralt. Through Geralt, masculinity was encoded as something that one performs. But for this reason, masculinity also becomes a precarious property that is always on the verge of being superfluous. Femininity on the other hand, was represented as a destiny. Many of the game's female non-playable characters were to some extent depicted as strong, independent women who were

fighting suppression in a patriarchal society. Still, they simultaneously functioned as either romance options or more casual sex partners of the main protagonist, or as 'eye candy' for the player. With respect to the only female playable character, Ciri, the agency that she, through the player, was granted was significantly limited compared to the male playable character. Moreover, and importantly, significant decisions about what happens to Ciri were made based on the player's choices as she controlled Geralt and not Ciri. This reinforced the overall portrayal of a world in which being a woman is a destiny that one can only try – in vain – to overcome. To arrive at these findings, I analyzed the material, structural, communicational and agential modalities of the games. In terms of the latter modality, I pointed out how players also challenge the constraints imposed by the game, for example by exploiting bugs or through the use of mods that change the appearance or functionality of the game. However, I also discussed these findings in regard to the qualifying aspect of games. Here, I pointed out among other things that *The Witcher 3* is part of a game series and also an adaptation of a book series. This means that players of this series have certain expectations of what a proper 'Witcher game' should look like. One of these expectations is that romance and sex should play a significant role. In addition to this, I discussed the role of the economic circumstances in which the game is situated, and how the female body is used as a spectacle to market the game in cinematic game trailers.

I would like to conclude this by returning to the issue of ideology and representation, which was discussed in chapter two. With respect to games, ideological critique should not only be concern with to the content of games. Games are not only vehicles of ideologically loaded communication and as such function as instruments for disseminating political discourse and persuading their players. Rather, than thinking of games only as carriers of different discourses, I suggest we turn our attention to the ways in which games, as qualified medium is discursively situated in ideology. As a qualified medium, games re often conceptualized as entertainment machines build for our own individual

pleasures. As such they bring with them, a commodification and spectacularization of serious issues on the level of pure surface but also subjects this content to the user's operation (which in terms is understood as an act of control). However, this runs the risk of undermining the potential meanings that games may offer, as they are ultimately exchangeable in the hands of the player. Nowhere is this clearer than in the way that games represent politically loaded issues, such as gender.

LIMITATIONS, IMPLICATIONS AND FUTURE PERSPECTIVES

In this dissertation, I have offered an account of representation that is primarily theoretical. I have focused on discussing existing theories of representation in games, and more generally, on the expense of in-depth analyses of actual games. One might have expected and hoped to see a more analytical approach to representation in games. However, as games do not easily offer themselves to the concept of media, this also pose a challenge to a study of representation in games, that must be addressed. Therefore, with this dissertation, I have aimed to pave the way for more analyses of representation in games. I have done this by discussing the ways that existing studies in different ways have distributed their focus on the four aspects of representation, but also how they have conceptualized these aspects in the first place. In addition to this, I have then offered a media-centered analytical approach that is capable not only of addressing the model in itself, but how this model is situated in a medial circuit.

In this dissertation, I have discussed how games can be analyzed as representational artifacts. However, it is also important to stress the limits of this way of framing games. I consider games multistable artifacts that can be framed in many different ways, from machines and products to services, toys etc. For this reason, I want to stress that considering games as media is not a given and may not necessarily correspond to how players may see them. For this reason, I am also not claiming that the findings of the critical analysis in chapter seven necessarily coincide with how all players may experience and interpret the game. However, I would assume that many players, having played

games for the majority of their lives (casual, serious, digital or non-digital), in fact have a relatively refined apparatus for decoding games.

As Calleja (2011) describes, there are many ways in which players may engage with games, and this must also affect how the players come to understand the representations of the game. With regards to the body of Lara Croft, Aarseth (2004), for example, argued that rather than looking at it during play, he looks through it. However, this does not entail that we cannot look at the depiction of her body, nor that many players do in fact look at it. However, Aarseth's observation is still an important observation about the multistability of games and the ways in which we cannot take for granted that we see the same things when we look at games. Still, most commercial leisure games do employ fairly conventional representations, such as 'realistic' imagery and textual labels to instruct our interpretation of games. However, analyzing *The Witcher 3* as a model of gender, for example, does not entail that this is the only interpretation we may have of the game.

If we consider games as representational artifacts, a range of interesting research opportunities emerge. In terms of the media question and inspired by Mitchell's (1994; 2005) discussions of meta-images, one could, for example, analyze what games have to 'say' about their own relationship with media. I have already touched upon this question in chapter six, but I believe a more systematic approach to how games represent media could yield many interesting insights into our cultural construction of games as media, and how the game designers reflect on this. Backe (2018) provides an example of what such an analysis could look like with his discussion of in-game images. According to Backe, these images function as a subtle reflection of games' relationship to reality. In this dissertation, 'reality' has been a relatively trivial concept, that I have not devoted much effort to. Instead, I have turned the issue the other way around, focusing not on the relationship between games and reality, but rather between game and mediation. Similarly, one could very well employ Backe's observations about in-game images in an analysis of how games reflecti upon their own mediation.

Such an analysis would of course not be limited to in-game images, but could take into account a range of basic, qualified and technical media such as text, music, television, cinema, literature, screens, telecommunication devices etc.

Another possible line of study concerns the implications for what are often called serious games, that is both learning games, and so-called advergames (Bogost 2007). While this dissertation has been concerned with commercial leisure games, the relativization of the representational capacity of games proposed in this dissertation must have consequences for serious games as well, as the purpose of these games so often seems to hinge on their ability to say something about phenomena that are extrinsic to the game itself. Without engaging in a deep discussion of this issue, one obvious implication is, of course, the importance of contextualization. In other words, if the expressive power is not in the games themselves, then it is ultimately the users who make them represent. This is good news as it also opens up for the possibility of using games that are not designed specifically for a serious purpose, but also that it paves the way for more critical future discussions about the basis on which games construct their representational power, and the limit of this power.

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