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Atom Bombs, Synths, and the Red Scare: American Ideologies in *Fallout 4*

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Markus Pluschkovits

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1. Introduction

"War, war never changes." – this iconic tagline has become synonymous with the *Fallout*-series. It stands at the beginning of each *Fallout* game, of which *Fallout 4*, the fifth major release in the series, is the most sold installment. This tagline is almost deceiving, as *Fallout* games are not really about war, but rather its consequences. All *Fallout* games are post-apocalyptic games, set considerable time after the annihilation of most of society in a global nuclear war in 2077. In the *Fallout* universe, the Cold War never stopped, and ultimately, resulted in atomic mutual destruction in the 21st century. The player and their avatar, true to role-playing games, stumble through the ruins of this war to fulfill a grand quest. Along their quest, the player experiences the remnants of the society before the war – a society perpetually stuck in Cold War mindsets and 1950's aesthetics, a society long gone to both the player and their avatar. The player collects weapons, accomplishes tasks, gains levels and discovers locations on their way to the end of the game. Characteristically, these games are filled with so many things to do that, even after reaching this end, the player can play on for quite some time.

In this way, these games are not really about war, but about many different things. The question of what *Fallout 4* is about, i.e. what it communicates, is of strong relevance. While the game's publisher never released sales figures, they asserted that it has been the company's most successful game (Makuch). Bethesda, the publisher of *Fallout 4*, also published *Skyrim*, for which sales figures are available, placing *Skyrim* as the thirteenth best sold videogame as of 2019 (Sturak). It is therefore safe to assume that *Fallout 4* comes close to being one of the top ten best-selling games as of today, in an industry that was valued at around 135 billion US dollars in 2018 (Batchelor). Despite these impressive figures, and the number of players they entail, *Fallout 4* has not gathered widespread scholarly attention. As videogames permeate popular culture more and more, games like *Fallout 4* hopefully move closer to the center of cultural studies.

Because, when looking at a game like *Fallout 4*, it becomes clear that these games communicate a lot. Despite its slogan, *Fallout 4* negotiates complex meanings about things other than war, and engages excessively with both the past and the present. In the following pages, I aim to discern what these things are, and how they are communicated to the player. This project entails that videogames are an expressive medium, a medium that conveys meaning. This assumption that videogames have meaning, and the question of how they transport meaning will be the subject of the second chapter, as this is far from uncontested ground. I trace my arguments along the lines of the central debate of early videogame studies, the ludology/narratology debate.

Arguments both from ludological and narratological perspective are fleshed out in chapter 2.2. and 2.3. respectively, establishing how videogames can communicate their meaning. As a supplement to the debate, I investigate the role of the videogame market as a culture industry in 2.4., focusing on what kind of meanings are usually negotiated in commercially successful games like *Fallout 4*. While these discussions center on a more conceptual level, I frequently draw on other installments of the *Fallout* series as examples.

The other major part of this paper, chapter three, will investigate *Fallout 4*, aiming to answer the question what the game is about, if not just war. A closer look at *Fallout 4* shows that it is a game deeply concerned with history – precisely the history of the United States. The game approaches history in a variety of ways – through narrative means such as its aesthetics, its ruins and its environment (discussed in chapter 3.1.). However, *Fallout 4* also speaks of the present. Its negotiation of the present is more implicit, and mostly happens on the level of game rules, i.e. the ludic level. This is discussed in chapter 3.2., showing how the rules and game mechanics of *Fallout 4* are shaped by neoliberal assumptions of emotions, and the self. This analysis ultimately indicates that, while *Fallout 4* is deeply concerned with historical periods such as the Revolutionary War or slavery, the ironic tone of this engagement effectively rejects any critical conception of these periods. Irony and nostalgia set the tone of any engagement with the past, a past that is almost obscenely glorified in parts. And yet, the ironical distance between the past and the game's conception of it are indicative of resting anxieties of the present. Negotiations of the present are also implicit in the ludic aspects of the game. However, these ludic aspects do not reflect upon the past, but rather solidify hegemonial neoliberal assumptions about the self. By placing those in a post-apocalyptical context, these ideological assumptions are rendered as timeless, and thereby, reinforced.

To arrive at these conclusions, I draw from a variety of theoretical backgrounds, among them concepts from contemporary video game criticism, retrofuturism, ruin studies, ecocriticism, critical American history, and critical ludology. As Pfister (65) suggests, there is no universal theory of videogames, and likely never will be – which is the reason behind devoting chapter two to the expressive possibilities of videogames more generally, and drawing from this variety of established theoretical backgrounds to discuss individual phenomena.

Because it is almost impossible to cover all aspects of such a complex medium as videogames, even when limiting oneself to only one specific game, this discussion of *Fallout 4* cannot claim all-encompassing totality of the game's meanings. However, I hope that it provides groundwork

for further analysis, and nudges videogames closer to the center of attention of cultural scholars – a place they undoubtedly deserve.

2. Rules, Narratives and Commodities: the Contested Concept 'Videogame'

> "On Friday, April 19, 2002, senior U.S. District Judge Stephen Limbaugh rejected a request against a St. Louis ordinance passed in 2000 that limited the access of minors to video game arcades. According to the Associated Press, Limbaugh reviewed four games and found 'no conveyance of ideas, expression, or anything else that could possibly amount to speech'" (Frasca "Simulation" 225)

This anecdote, reported by Frasca ("Simulation" 225), unintentionally centers around a fundamental issue of videogame studies – if and how games 'speak', i.e. produce meaning. While debates in more public forums generally centered around depictions of violence in videogames, or sometimes their possible status as works of art, academic videogame studies tend to focus more on their ability to convey meaning, in whatever form that may be. This focus of study is particularly prevalent in western countries, where videogame design is mostly excluded as academic pursuit. This is in contrast to other academic cultures, such as Japan, where videogame studies are more concerned with such questions of videogame design and production (Wolf and Perron 13). These debates about 'meaning' in western videogame studies gave birth to a variety of theoretical approaches – most notably a field of study referred to as ludology – which all consider the expressive power of videogames in different ways.

The following chapter aims to discern the most important theoretical tools needed for a thorough analysis of a videogame from a cultural studies perspective. By tracing one of the founding issues of academic videogame studies – the so-called ludology/narratology debate – the object 'videogame' is sketched in light of its specificities as a medium. As such, the ludological position is considered first in chapter 2.2., due to its claim of centering on such specificities. Among them is considering the act of playing as effortful traversal of a text, the concepts of ergodic and unit operations, the status of filmic sequences within games, and ludohermeneutics, or the meaning of game rules. A short excursion to procedural rhetorics closes the ludological considerations. This ludological section is followed by narratological considerations in 2.3., specifically the localization of videogames in narrative traditions, the applicability of classical narratological terms, most notably concepts originating from Todorov and Chatman, and a specific narratological taxonomy for adventure games, drawing from videogame theorists like Jenkins and Pearce. The closing section 2.4 leaves the realm of formalist analysis and considers videogames as commodities sold in a market economy, thereby marking them as commodities of a culture industry, and the ideological implications this has

on their expressive power. Finally, the implications of these considerations on a cultural reading of videogames are considered, and close this chapter before turning to the analysis of salient factors in *Fallout 4* and their implications for its players.

2.1 The Ludology/Narratology Debate

The keynote of the 2009 Digital Games Research Association conference, delivered by game designer and scholar Ian Bogost, was aptly titled "Videogames are a Mess" (Bogost "Mess"). The 'mess' Bogost refers to is principally, but not exclusively, an ontological one (Bogost "Mess"): it refers to the founding question of academic videogame studies, often framed as ludology/narratology debate. The subject of this debate was the nature of videogames, and whether they are an amalgam of systematic rules, or a narrative, i.e. whether videogames should be conceived of as systems of rules, or narratives (e.g. Beil 26; Bogost "Mess";. Gamescoop 9; Ensslin 30; Pfister 63-64). While this question (and, for many scholars, its answer as well – they are both) appears straightforward, it was a productive source of disagreement within the early days of videogame studies, and is often cited as a founding issue for the discipline, inspiring many theoretical advancements (e.g. Aarseth, "Year One")

Scholars disagree if the term 'debate' even applies to the handling of this question about the nature of videogames. Frasca ("Ludologists" 92), involved on the ludology front, considers it a "misunderstanding". Murray, who was not a narratologist by her own account (*Hamlet* 190, was nevertheless an initial target for the ludologists, mainly for her infamous reading of *Tetris* as "a perfect enactment of the overtasked lives of Americans in the 1990s" (Murray *Hamlet* 178). She states that such a debate has preoccupied the then-young field of academic videogame studies for long, despite never actually having taken place (Murray "Last Word"). Her position is that the so-called debate de facto took the form of pure polemics, where "the 'ludologists' are debating a phantom of their own creation." (Murray "Last Word"), thereby suggesting that narratological hardliners that deny any game-like qualities in videogames never existed. Pearce, in her account of the debate, attests to this, being similarly surprised to be labeled as a narratologist ("Theory"). Frasca further solidifies the bizarre nature of the debate. He recalls the confusion he encountered when he – known to be a ludologist – employed narrative as a mode of analysis ("Ludologists" 92), and outright states in his account of the debate that he is not able to name any narrativists[1] ("Ludologists" 94). Bogost ("Mess") similarly argues that

[1] Fresca, in an effort to clarify the terminology of the debate, uses the term "narrativist" for scholars who see narrative as central in videogames, while he reserves the term "narratologist" for any scholar interested in narratives in any medium (94).

prominent ludologists confuse narratology as a formalist method of analysis (which ludology is, for all accounts, as well) with an ideology of narrativism that is practically nonexistent. Likewise, the ludologists feel misrepresented in the debate, with Aarseth pointing out that most of the early ludologists are actually trained narratologists employing narrative theory in their analysis (Aarseth "Ludology" 187). Additionally, he states that the ludologist position was misrepresented from the start, as a rejection of narrative theory in the field of videogame studies was never an objective of the ludologists (Aarseth "Narrative" 130). This disagreement between scholars sharing the same object of study and mostly employing comparable (i.e. formalist) methods of analysis – Simons calls ludology and narratology "siblings" – attested to both the early stage of academic game criticism and the difficulties of grasping the essential qualities of videogames.

The early stage of academic game criticism was precisely what motivated the sharp criticism of any approach to games focused on narrative by the ludologists. Espen Aarseth, editor of the first academic, peer-reviewed journal of videogame studies, rallies in the editorial of its first issue against "colonizing attempts" from literature or film departments (Aarseth "Year One"). However, not even the early ludologist approaches in this first issue of *Game Studies* disavowed narrative completely. Ryan concedes that the "inability of literary narratology to account for the experience of games does not mean that we should throw away the concept of narrative in ludology" (Ryan), Juul concludes that games and narratives share structural traits and that many "games contain narrative elements" (Juul "Games"). Aarseth himself, in his earlier, seminal study *Cybertext* draws clear parallels between games and narratives: "[t]o claim that there is no difference between games and narratives is to ignore the essential qualities of both categories. And yet, as this study tries to show, the difference is not clear cut, and there is significant overlap between the two" (*Cybertext* 5). The intense rejection of narrative was mostly due to the stated fear of intrusion into the new, emerging field, whereby "the vocabulary of literary theory" would become "a set of unfocused metaphors," (Aarseth *Cybertext* 14) neither equipped to account for the qualities of (adventure) games nor to accurately differentiate them from "other types of literature" (Aarseth *Cybertext* 111).

The ludology/narratology debate can therefore be framed either as an emancipatory effort of a newly emerging field (as e.g. Aarseth in "Year One") or as a somewhat misguided discussion where narratologists with different foci defended themselves against strawmen of their own creation. Current approaches to videogame criticism therefore usually avoid subscribing to either side of this artificial binary.

As this brief résumé of the foundational controversy of videogame studies has shown, the controversy in question is relatively small. The result of its existence, however, was substantial for the direction of academic videogame criticism. As Bogost ("Mess") suggests, this debate steered videogame studies into a purely formalist effort. This brought Bogost, who takes a functionalist approach (Bogost *Things* 7), to a somewhat provoking conclusion: "[b]y pitting one kind of formalism against another, the result became a foregone conclusion: formalism wins. Really, it doesn't even matter which one, since the underlying assumptions are so similar" (Bogost "Mess"). In a similar way, Moberly reflects that both ludology and narratology "construct readers and players alike as empty vessels," and that the effort of the debate "preclude[s] any discussion about the social, political and economic systems through which computer games […] are produced, or, conversely, any discussion of the role that computer games play in ensuring the reproduction of these systems" (Moberly 172-173). Dyer-Witheford and de Peuter additionally point out that the focus on formalist discussion blinds the critical eye to "digital play within formations of societal power" (xxvii). The ontological question of what videogames are might therefore not be the most productive, or even interesting, question to ask.

It is, however, a necessary question to ask, as the object of a study should at least be somewhat definable. Eskelinen, a representative of the ludology front, noted somewhat polemically that "[l]uckily, outside theory, people are usually excellent at distinguishing between narrative situations and gaming situations: if I throw a ball at you, I don't expect you to drop it and wait until it starts telling stories" ("Towards" 176). Even though this polemic (which Eskelinen later clarified was intended as a narratological in-joke[2], Eskelinen *Poetics* 414) was intended as an attack against narrative conceptions of games, it raises an important point: while the layperson is usually able to identify (video)games as such, formulating a fully fleshed out, satisfactory definition of a (video)game has proven nearly impossible.

The most notable effort comes from Wittgenstein, who laid out his theory of family resemblance on the basis of games. Wittgenstein asks: "[h]ow should we explain to someone what a game is?", only to conclude that "we should describe games to him, and we might add: 'This and similar things are called 'games''. And do we know any more about it ourselves? […] We do not know the boundaries because none have been drawn" (Wittgenstein 32). While such an effort at a non-definition is persuasive, Bogost (*How* 133) remarks that Wittgensteinian

[2] Eskelinen explains in his later book that this polemic was intended as a joke about the confusion of "the act with recounting of the act – something that competent narratologists and ludologists do not do" (*Poetics* 114)

family resemblance might "help to dampen the cold fixity of formalism" - however, its aim is to explain family resemblance theory, and not games themselves. It might therefore be more fruitful to follow the path Wittgenstein suggested, and consider theoretical implications alongside examples of specific games.

In my discussion, I do not aim to reproduce the formalist binary of the ludology/narratology debate, as such an effort of a comprehensive, formalist ontology of videogames is far beyond the scope of the present paper (see e.g. Feige for a valid and nuanced effort) and not the subject matter for a cultural scholar. Instead, I include a third, functionalist conceptualization of videogames, whereby videogames are seen as commodities, objects of a cultural industry, both actively influencing and influenced by popular culture. By revisiting the most prominent arguments of ludologist and narratologist conceptions of videogames, I aim to sharpen the focus on those aspects of videogames that should be investigated critically (e.g. the underlying ideology of rules and affordances, and the narrative possibilities of videogames). Thereby, this chapter will illustrate that the dichotomy between the two formalist approaches is a false one, and that – at has been argued before – videogames are both systems of rules and narratives. By including the dimension of games as commodities, I exemplify how videogames can be both subject to and reproducers of dominant ideological forces and prime the discussion of ideological meaning transported in *Fallout*. As an additional effort, the examples this theoretical discussion draws from will include the games from the *Fallout*-series, thereby laying out the history and tone of the franchise.

2.2. The Case for Games as Rules: *Fallout 1*, *Fallout 2* and *Fallout Shelter*

In a certain sense, the statement that 'videogames are rules' is painfully trivial. By virtue of being digital artifacts, played on a computer, videogames are constituted by and subject to their code and algorithms, which are perhaps prime examples of strict, unbending rules. However, such a reductionist perspective is clearly dissatisfying – even ludologists refrain from such a position. Aarseth traces this dissatisfaction, stating that "program and data of the internal level can of course be studied and as objects in their own right," but that those descriptions of code are not "ontological equivalents" of the actual games being played (Aarseth *Cybertext* 40). Even more straightforward is a short blog post by Jesper Juul, where, upon stumbling on the code for *Pac-Man*, he simply asks: "Is this what Pac-Man really looks like? What Pac-Man really is?" (Juul "Pac-Man"). The code underlying a videogame is therefore not the object of videogame studies proper, much in the same vein as the study of an alphabet does not compare to literary criticism.

While it is helpful to be aware of the materiality (or lack thereof) of games as code, it is obvious that this alone is neither a satisfactory definition of videogames – as nothing would differentiate them from other code-based artifacts such as an Excel spreadsheet – nor a perspective that can account for the act of playing. Instead, the main arguments for viewing games as systems of rules stem from two different directions, both of which will be addressed in the following. On the one hand, videogames are positively conceived of as interactions with rule-based systems, and on the other hand, they are seen ex negativo as systems of rules because they are logically incompatible with formal aspects of other narratives, as for example to organization of time in written narratives.

2.2.1. Ergodic Operations

Aarseth's early study on what he terms 'ergodic' literature, or cybertext, is generally seen as one of the foundational ludological texts. In his conception, ergodic literature requires "nontrivial effort" for the reader to "traverse the text" (Aarseth *Cybertext* 1). This means that the role of the reader is shifted – in contrast to their position as "voyeur" in traditional literature, the reader of cybertext is exposed to "the risk of rejection" (Aarseth *Cybertext* 4). By this risk of rejection, Aarseth calls forth the first conceptional difference between game and narrative: the existence of win and lose conditions. In contrast to the traditional novel, videogames usually feature at least a win (e.g. save the princess from the castle) or a lose (e.g. death of the avatar) condition. Aarseth's notion of the "nontrivial effort" (*Cybertext* 1), although general enough to include different types of hyperfiction, recalls the mastery needed to avert the lose condition until the game is won.

Fallout 1, for example, features two distinct lose conditions: while the death of the avatar results in a game-over screen, forcing the player to reload a saved game, an additional lose condition can be met by not adhering to a time limit. In *Fallout 1*, first published in 1997, and set in the nuclear wasteland of the 2160's United States, the player character is sent on a mission to retrieve a water chip – a technological McGuffin – in order to secure the water supply of their vault, an advanced underground nuclear shelter. The player gets a limited amount of time – 150 days of in-game time – to complete this mission. Should the player fail, a game-over screen is displayed, with the option to reload a save. While the bare survival against the hostile creatures of the nuclear wasteland is already an effort far from trivial, the punishment for avatar death is not severe, and dependent on when the player last saved. If, however, running out of time causes the game-over, the player might be forced to start a new game. Even though the timer is generous, a player can effectively lock themselves in a state where it becomes virtually

impossible to achieve the win condition without cheating. This can occur when the timer is already low on the saved game.

As such, a conceptional difference between videogames and literature becomes clear: there is no way to 'lose' while reading a novel, and it is generally not the case that the reader can induce a condition on which the novel becomes impossible to finish. While literature can be hermetic and require nontrivial cognitive effort from the reader in order to imbue meaning, the traversal through the text is generally open to every literate reader. In videogames, however, traversal through the game is dependent on the player's skill, and it is entirely possible – and common – for players to not be able to finish a game if they lack said skill.

In addition to the transparent timer (a countdown until the water supply of the vault runs out is displayed in the game menu), a second, hidden timer exist: should a player spend a considerable amount of in-game time (500 days) without progressing the main story (organized in quests, episodic tasks connected to each other through an overarching narrative) far enough, the player's home – the Vault – is overrun by an antagonistic force, again resulting in a game over screen. The destruction of this antagonistic force (so-called super mutants) by the player character is one of the possible win conditions of the game. Throughout the game, the player is never made aware of such a timer existing, and while the amount of in-game time the player is granted is generous, it is entirely possible to achieve this lose condition on accident. This is perhaps a prime example of what Aarseth calls "intrigue" in video games, the ergodic counterpart of "plot" in his conception (*Cybertext* 112). Aarseth's intrigue, borrowed itself from drama theory, differs from the notion of plot (in the sense of syuzhet) in that it is effectuated by the player, who is the voluntary target of ergodic intrigue. The outcome of intrigue – in contrast to plot – is not decided and depends on the skill of the player in order to be actualized (Aarseth *Cybertext* 112-113). For players who do not progress far enough in the game's story to even be aware of the super mutant threat, the meaning of intrigue is certainly not only true in its metaphorical sense. The actualization of plot through the action of the player differentiates the (adventure) game further from the novel: the ending of a novel stays consistent, no matter the reader's deductive skills, in stark contrast to the adventure game, where achieving specific desired outcomes can require considerable effort from the player.

While it may seem trivial to evoke the existence of win and lose conditions to underscore the role of the nontrivial effort, it accentuates the clearest differentiation between stories and videogames: As Murray put succinctly: "Stories do not require us to do anything except pay attention as they are told. Games always involve some kind of activity and are often focused on

the mastery of skills, whether the skill involves chess strategy or joystick twitching" (*Hamlet* 174). As games behave do not behave like stories in how they are consumed, the understanding of their consumption requires different theoretical tools. Inarguably among the most notable contributions of traditional ludology to the field of videogame studies is the supplementation of concepts of how videogames are consumed, i.e. what their playing entails.

Another fundamental addition ludology brought forward is that of the ergodic operation as smallest unit of playing. The ergodic operation is the basis of any ludic interaction with a videogame. Aarseth, who integrated the term 'ergodic' from physics into his new narrative theory, refers as any action by the user that effectuates a semiotic sequence as ergodic action (*Cybertext* 1). In essence, the familiar 'press X to start game' operation is already ergodic: input from a user affects the information state of the program. As such, ergodic operations are information feedback loops of programs with user (*Cybertext* 19). As Aarseth subsequentially points out, this is also true for reading traditional texts: in reading traditional narratives, everything preceding the sentence just being read can alter its meaning (*Cybertext* 19). The crucial difference, however, is that this feedback loop in traditional narratives is unidirectional[3]: while narrative can alter mental states of the reader, the consumption of narrative, be it read or watched, rarely has any meaningful influence on the (material) reality of the medium itself. As such, the difference between reading and playing a game is therefore that any interaction with a game is a performance "in an extranoematic sense" (Aarseth *Cybertext* 1), i.e. a performance that goes beyond the change of mental states. This loop, where a meaningful interaction of the player with a game changes both their mental state and the state of the game, is essentially Aarseth's conception of an ergodic operation (*Cybertext* 40).

Aarseth's notion of a semiotic process between player and game was especially transparent in the early days of videogaming. Early adventure games were often purely text-based, and featured little or no graphic support. The feedback cycle of input by the player and output of the game was, in such cases, completely verbalized – any action the player wanted to take had to be spelled out on the keyboard, and the game generated a response consisting of combined stock phrases. As such, playing an adventure game was clearly conceivable of as a succession of distinct ergodic operations. Even though *Fallout 1* was published after the advent of purely

[3] With regard to the notion of intertextuality, the word 'unidirectional' proves somewhat inaccurate. The essential distinction is that in contrast to intertextuality, the player of a game is not only "included within a […] discursive universe only as discourse itself," (Kristeva 37) but acts as both addressee and facilitator of said discourse.

text-based adventure games, characteristic elements of such are still clearly visible in the game's mechanics (see fig. 1):

Each player action in *Fallout 1* is accompanied by a verbalized feedback in the lower left corner, spelling out the actions (or lack thereof) to the player. Interestingly, by employing a "you", the player is interpolated to inhabit the role of the character they are playing. Movement is only possible along hexagonal tiles, and any fighting is purely turn-based, i.e. the player character and the enemies take turns to act against each other. All of these aspects of the game's mechanics are very close to both earlier, text-based adventure games and to classical role-playing games like *Dungeons and Dragons*. The semiotic cycle of the ergodic operation is transparent: by clicking on something, the character moves – a change of state of the game – and the game gives verbalized feedback to the player of the outcome of their interaction, e.g. "You see nothing out of the ordinary." This information in turn changes the player's mental state.

Figure 1: The player character of Fallout 1 leaving their Vault

While Aarseth's notion of the ergodic operation is suited to analyze the mechanics of a game like *Fallout 1*, more contemporary games offer decisively different mechanics, which can

hardly be interpreted as succinct, individual operations. Additionally, this conception of playing as ergodic operation, a "cybernetic sign process" (Aarseth *Cybertext* 39), is essentially a semiotic effort. While providing a sound basis for early ludology, the concept is somewhat lacking in applicability, as it provides no foothold to differentiate between pressing X to start, and pressing X to deliver the final blow to the end boss of a game, which represent two very different experiences. The concept of ergodic operations – useful as it might have been to establish 'games' as something different from 'stories' – "privilege[s] the position of the *work*" (Bogost *Unit* 129, emphasis in original) instead of the player. And indeed, if the ergodic operation is posed as the sole basis for understanding games, any effect the action has on the representational layer – what the player feels they have accomplished in the progression of the game – is secondary to the act itself. As such, any representation in games becomes "inconsequential for the seasoned gamer," and therefore, their "semiotic content and audiovisual aspects function not primarily as representations of an external (actual or fictional) world, but as mnemonic mediators between the game's mechanical system and the player" (Aarseth "Ludology" 188). Such a crass reduction of games to pure mechanics is a fundamental flaw of Aarseth's rendering of ergodic operations, as it cannot account for the emotional experience of playing videogames. Additionally, the videogame market appears to contradict this assertion as well. A game's graphics – i.e. the resolution it can be played at, but also the level of realism in portrayal it achieves – is a stable factor in how most games are rated by reviewers, despite not contributing to the game's mechanics in any way. Additionally, there is a prolific genre of videogames that acutely deemphasize mechanics over storytelling and atmospheric experiences (somewhat derogatively referred to as 'walking simulators', as the main interaction the player has to perform is walking their character around). The concept of ergodic operations is, while foundational to the field, ultimately unfit for an in-depth analysis that goes beyond pure mechanics, and should be seen as what it is: not a theoretical tool, but a valuable contribution in semiotics.

For the purpose of this paper, any subsequent ludological analysis will be informed by Bogost's concept of the unit operation (*Unit* ix), a term borrowed from cybernetics and software technology. In contrast to Aarseth's approach, unit operations are conceived as fundamental building blocks of any aesthetic medium, and are not solely specific to videogames (Bogost *Unit* ix). Bogost considers such media as configurative systems of procedural expressions conveying expressive meaning, i.e. as arrangements of unit operations (*Unit* ix). Units are prioritized over systems to account for the complexity of expressive media (Bogost *Unit* 2-5) – in analogy to literary theory, Bogost states that "unit operations interpret networks of discrete

readings […] [while] system operations interpret singular literary authority" (*Unit* 2). The term 'unit' is left deliberately vague. Parallel to object-oriented philosophy, a unit in this sense is any object constitutive of a larger system, even entire systems themselves, in relation to other objects (Bogost *Unit 4-6*). Units are therefore "fundamentally referential," and "form from relationships that extent beyond their own limits" (Bogost *Unit* 5). For videogames, ergodic operations such as button presses are units, but so are quests, characters or assets (recurring objects in the gameworld, such as trees, character models, or enemies). In literature, individual words act as units, but so do sentences or themes.[4]

The concept of the operation again spans between computational science and philosophy. An operation is "a basic process that takes one or more inputs and performs a transformation on it" (Bogost *Unit* 7). It represents a purposeful action, be it mechanic or discursive. It is a flexible, and not a static process, procedural in nature and not hierarchically structured (Bogost *Unit* 6-9).

Unit operations are therefore succinct, dynamic modes of meaning making (Bogost *Unit* 3-4). Bogost's accomplishment of connecting Heideggerian and object-oriented philosophy with computational science provides a flexible basis for analysis in the form of unit operations – which could also be considered a drawback of this mode of analysis. While the openness of the concept allows for broad application, it also lacks specificity due to its genericness, meaning that in concrete analysis, its necessary to draw from additional theoretical concepts. Such a specific language is already well established in literary theory (ultimately, metaphors, quotes, themes and the likes can also be read as unit operations), but is not yet present for a large body of videogames. Subsequently, while this paper assumes unit operations as fundamental element of meaning making with videogames, whenever possible, any discussion of a unit operation will draw on appropriate theoretical tools from other fields. This is in line with observations made by e.g. Pfister (65), who recognizes that there cannot be a universal theory of videogames, and instead draws on an amalgam of theoretical tools, depending on the research focus.

Ludology has therefore brought forth two of the most radical differences between games and traditional narratives. Both of these differences – the nontrivial effort required to play them, and the feedback loop between player and game – relate to the consumption of the medium, and any analysis of videogames should take these fundamental differences into account. A

[4] Bogost e.g. analyzes the theme of the chance encounter in poetry of Bukowski and Baudelaire, and in Will Wright's simulation game *The Sims* (*Unit* 73-89).

shorthand alternative to acknowledge these fundamental differences is sometimes found in references to a medium's interactivity, a term that is – as Landay (174) points out – "not well understood, having suffered from a too-broad application that conflates interaction with any action causing an outcome." For this reason, the term interactivity is generally avoided in this paper in favor of the conception of interactions as unit operations.

2.2.3. Time in Videogames

A further ludological objection to considering games as stories rests on yet another formal quality of the medium: its relation to time. The fundamental objection that videogames cannot be considered narratives was raised early in ludology, and rest on primarily on structuralist narratology, most notably Genette. The following traces out the ludological objection of structuralist understandings of time in narrative and games, considers its implication for a contemporary study of videogames in light of the casual spin-off game *Fallout Shelter*, and assesses the validity of the initial objections twenty years after they have been made. The chapter closes with a investigation of the cutscene – a, from a ludic perspective, completely insignificant event in game time – from a functionalist perspective, showcasing the specific temporal relation it brings to videogames.

Early videogame criticism originated mostly from narratology, which was quick to point out another essential difference between games and stories – the function of time within both. Eskelinen sees one possible discrepancy between time in games and narratives:

> "To be brief: a story, a back-story, or a plot is not enough. A sequence of events enacted constitutes a drama, a sequence of events taking place a performance, a sequence of events recounted a narrative, and perhaps a sequence of events produced by manipulating an equipment and following formal rules a game. This is quite trivial but crucial; there are sequences of events that do not become or form stories (as in Tetris for example). The reason for this is equally simple. In games, the dominant temporal relation is between user time and event time not, as in narrative, between story time and discourse time." (Eskelinen "Towards" 176)

For Eskelinen, therefore, the time between the actions of the player – what is referred to as "user time"– and the "event time", that is, what is happening in the game, is the relevant temporal notion of videogames ("Towards" 178). It is clear that this understanding of temporal relations of games is based on the notion of ergodic operations. While the shortcomings of ergodic operations as a theoretical concept have already been elaborated on, Eskelinen's ("Towards") understanding of game time based on user and event time carries another caveat: the response of user time action and event time action (i.e. the completion of one unit operation) is usually almost instantaneous. While Eskelinen is technically correct to consider the time between input and action as vitally important for games, this notion does not convey much about time relations in videogames, as – would it be the case that the relation between user and

event time was not (almost) instantaneous – the resulting piece of software would hardly be playable, and therefore no longer a game in the conventional sense.

In fact, Eskelinen touches on a much more interesting point regarding temporal relations: while it is clear that there should be no noticeable delay between the player's input and the action on screen, the reverse holds true as well: the actions on screen, governed by the game engine, demand a reaction by the player in the form of another input, and timing here is of the essence. Essentially, many games across genres demand near-perfect timing of inputs by players to progress the game, making timing an obligation the player has to fulfill (Wiemer 36). Essentially, for some genres, the relation of action and user time is determined in two ways: the immediacy of an action following an input is expected by the player and necessary to progress, as the action on screen demands additional input, which can be time sensitive. While the relation between user and event time was unidirectional in *Fallout 1 & 2*, as of *Fallout 3*, combat was no longer turn-based but rather realized as heated, three-dimensional battles, and therefore required precise timing. Interestingly, *Fallout 3* also introduced a feature called VATS[5], which pauses game time and allows for precise targeting, and thereby massively deemphasized the obligation of the player's timing.

Figure 2 Activating the targeting systems stops time in the gameworld in Fallout 3

[5] An acronym for 'Vault-assisted targeting system'.

Because unit operations usually consummated immediately, the discussion of temporal relations of videogames can hardly operate on such a level. Other ludologists have instead turned to find equivalents of narratological conceptions of time, mostly relying on established taxonomies of time in narrative, such as by Genette or Müller. Juul was one of the first to point out the incongruencies of time in narrative and videogames:

> "In the classical narratological framework, a narrative has two distinct kinds of time, the *story time*, denoting the time of the events told, in their chronological order, and the *discourse time*, denoting the time of the telling of events (in the order in which they are told). To read a novel or watch a movie is to a large extent about reconstructing a story on the basis of the discourse presented. […] If we then play an action-based computer game like *Doom II* (ID Software 1994), it is hard to find a distance between story time, narrative time, and reading/viewing time. […] It is clear that the events represented cannot be *past* or *prior*, since we as players can influence them. By pressing the CTRL key, we fire the current weapon, which influences the game world. In this way, the game constructs the story time as *synchronous* with narrative time and reading/viewing time: the story time is *now*" (Juul "Games", emphasis in original).

Juul's fundamental objection is therefore that, in videogames, no equivalent for story time is seemingly available: in his words, a videogame is "pure discourse" (Juul "Clash" 33).

This assertion of the instantaneousness of videogames, however, does not hold. The story time of narratives can also only be actualized in their telling, i.e. there is no other way to experience the narrative except as discourse, as telling: "[t]he narrative text, like every other text, has no other temporality than what it borrows, metonymically, from its own reading" (Genette 34). Juul acknowledges this position of Genette ("Clash" 29), arguing that because the readers cannot influence a narrative, it must necessarily represent something that has already happened (32-33). Thereby, he conflates the representation of events in narrative with the actualization of narrative in telling. While it is true that the influence a reader can have on narrative does not compare to that of the player on the game, this says little about the relation of story to discourse time: Juul, in this case, only considers individual ergodic operations – e.g. whether the player hits an enemy while shooting, or misses. He fails to consider the motivation of the player for shooting (the 'backstory', mostly presented in a traditionally narrative way, as cutscene or verbal description). A succession of disjointed individual ergodic operations – the only kind of game which would be completely congruent with Juul's assertion – cannot be considered an industry standard.[6]

[6] While Juul likely had games like *Pong* or *Tetris* in mind, the seminal open-world sandbox game *Minecraft* can serve as a contemporary example. A player in this continuously generating, open sandbox world can destroy blocks that make up all of the game environment and place them somewhere else, thereby building to their heart's content. The game is imbued with traces of narrative, however, as the 'ending' is a quite traditional slaying of a dragon.

Instead, narratives in games actualize themselves much in the same way as narratives in novels: through action, be that action playing or telling. The time of both videogame and novel is both now (Juul "Games"). When Juul asserts that "[t]he fixed status of a sequence of events is what identifies a story," and contrasts this with "[t]he variable sequence of computer games" ("Clash" 35), his argumentation does not leave the level of disjointed ergodic operations. On the scale of larger, narrative unit operations, this assertion fails. While playing *Fallout 2*, the overall sequence of events necessary to complete the game is fixed: the player is introduced as descendent of the protagonist of *Fallout 1*, is tasked to find a powerful tool to prevent starvation of their tribe, enters Vault 13, their village is captured by the remnants of a former American government, etc. The player overcomes many such hurdles before their eventual success. Many individual ergodic operations between those fixed elements (a closer investigation of satellite and kernel events in games follows in 2.3.2) conform to Juul's dictum, as they are not fixed in outcome or chronology. However, if game events are not just perceived as disjointed, individual button presses, it becomes clear that the sequence of most games is not completely variable.

A tentative transclusion of how early ludology considered time is therefore that the perceived differences between temporal relations in narrative and games are either trivial, as in Eskelinen ("Towards"), or only true on a superficial level of analysis, as in Juul ("Clash", "Games"). There are, however, temporal specificities that truly distinguish game from more traditional narratives, and two of those will be showcased.

There is, of course, a certain level of truth to the claim that videogames are played with a constant speed (Juul "Clash" 31). In traditional narratological terms, this would conform to the scene (Genette 94) – actions in the game conform temporally to how the player experiences them. Even though many play sequences in game are considered scenes, there exist different possibilities: ellipsis is quite common in role-playing games, where clicking on the map will place the character in a specific location (often called 'fast-travelling'). While no time for the player passes, temporal progression in the game usually does not halt, but will be skipped. The pause is also prevalent in games: while not technically acting as a descriptive pause in Genette's sense (94), it is common for players to utilize the pause button, which stops all action in game, for reflection upon happenings in game. Interestingly, the temporal form only theorized by Genette to be featured in narratives – the slow motion (95) – can be achieved in videogames. The *Fallout* series employs this temporal relation in the form of VATS (in *Fallout 4*, the rest of the game world is slowed down, not stopped, as in *Fallout 3* and *New Vegas*) or in the form of a power-up called 'Jet', which also slows combat severely, but only for the enemies, not the player.

Additionally to the time relations also found in novels or films, videogame feature a unique time relation: a selective 1:1 mapping of game time to real time. This is different to the scene in the sense that this mapping does not allow for a cessation of this relation, i.e. even when the game is not being played, time still progresses in the game. The mobile spin-off game *Fallout Shelter*¸ first introduced as a smartphone-game, features mechanics that utilize this mapping of game and real time. The casual game, a population manager simulating one of the iconic vaults of the series, allows for an option to send a vault dweller out into the wasteland to gather resources. The dweller disappears from the game world proper, and their travels are displayed in a travelogue form (figure 3). The progress of their exploration depends on how much time has passed – not time spent playing.

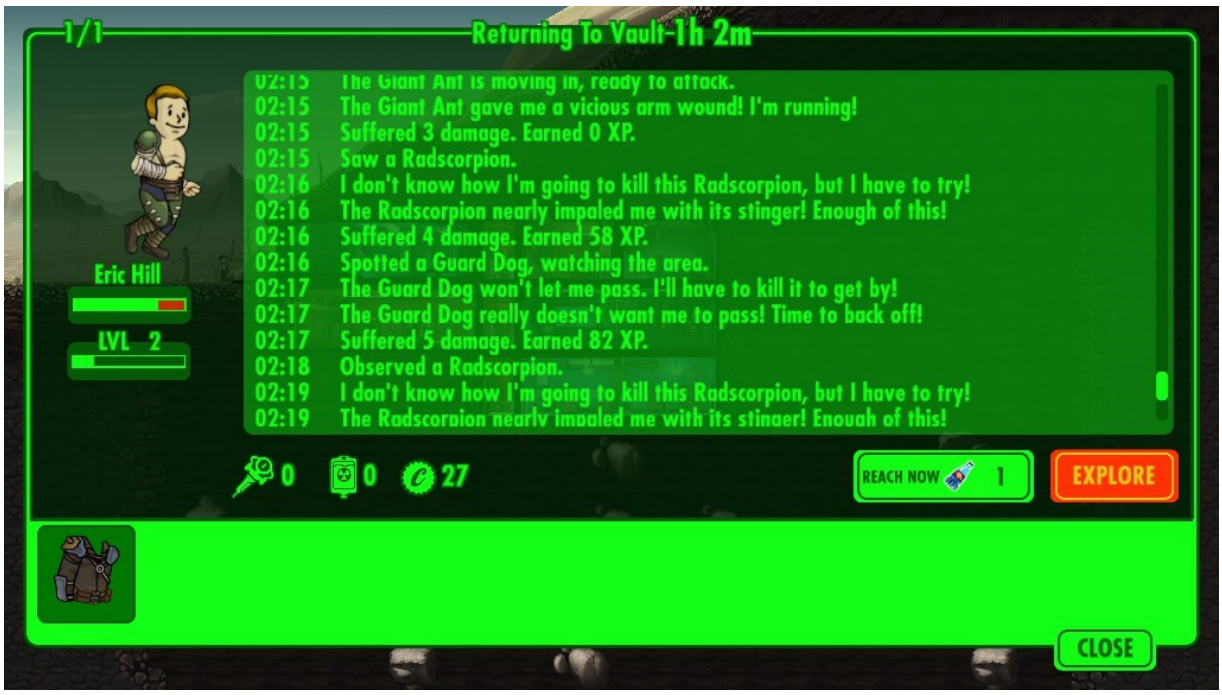

Figure 3 Log of real time exploration in Fallout Shelter

While this is not unknown to player of massive multiplayer online games, where the servers necessarily have to keep running even when one is not playing, this version of the always-running game is particularly interesting, because – lacking a multiplayer function – there is no need to map happenings in the game to real time outside of playing. The reason for such a mapping can be found outside of aesthetic considerations: players can speed up the return of their dweller by using a purchasable in-game currency. These are so-called microtransactions. Because real, experienced time cannot be sped up, this mechanic acts as an incentive for players to spend money on the otherwise free game. The reason for this mapping of game time to real time cannot be explained on purely ludic grounds – it needs to be considered a feature of videogames as commodities.

Another special time relation in videogames is also outside of the ludic and the formalism associated with it: the so-called cutscene. On first glance, the cutscene – that is, "a cinematic sequence that suspends regular gameplay in order to convey plot, characterization, and spectacle" (Klevjer 301) and utilizes "cinematic language to convey meaning" (O'Grady 113) – does not seem out of the ordinary in time relations of videogames, as cutscenes are usually scenic in tempo. There are, however, two distinct factors that bestow the cutscene a privileged position in game time, not from a structuralist perspective, but in their function– their function as markers of progress and their non-ludicity.

As Klevjer (301) notes, cutscenes function as organizers of game stories. Their status as unit operations that structure the experience of plot privilege them – essentially, reaching a cutscene means that the player has progressed the game towards a milestone the game itself deems worthy of a reward (O'Grady 111). The cutscene, conveying information such as characterization or background story, serves to award meaning to the individual ergodic operations the player performed to reach it, thereby shaping them as a unit operation and bestowing significance to the action. In the same vein, they also prompt any operations following them. Even though their temporal mode is usually that of the scene, like most game actions are, they represent an idealized version of scene – all characters' movement is smooth and plotted out, the camera is usually fixed and showcases a well-selected composition of the action. In that sense, cutscenes are a cinematic spectacle (Klevjer 301). Their status as markers of progression within the game bestow them their privileged position within game time, as they indicate the temporal progression through the game on a larger scale.

The cinematic quality of the cutscene is also the cause of another temporal specificity, and simultaneously one of the biggest challenges to a purely ludic conception of videogames. Introducing an essentially filmic element to videogames – an element where agency is taken from the player – runs counter to any purist ludological conception of videogames. As cutscenes often deny interaction, whatever software title is played stops being a video game as soon as a cutscene happens, as some theorists have argued (e.g. Crawford 260, Juul "Games"). This has prompted the approach to consider the term videogame a "metonymical shorthand […] that confuses and obscures the composite makeup of these creations" (Aarseth "Narrative" 130) – essentially stating that videogames are made of more than just a game. While the argument that videogames are complex and include more than a game appears sound, it is also a prevarication: by referring to videogames as complex software packages that can contain elements alien to the actual game, any element of a videogame that does not fit ludological criteria is automatically excluded of being part of the game proper. The ludological proposition becomes impossible to

falsify, as any traditionally non-ludic element is excluded by this definition of being part of the game proper.

As an alternative, I consider everything included in a videogame as part of the game proper, cutscenes included, which allows to highlight another temporal phenomenon of the cutscene, resulting precisely out of their non-interactivity. Klevjer (305) points out that one of the significant functions of cutscenes is their ability to establish something close to an explicit narrative voice. Their suspension of rules established by the game world present them as a "deus ex machina force" bestowed with a narrative privilege, essentially signaling to the player that they are experiencing "a 'special' time – with more heightened coherence and consequence than ordinary time" (O'Grady 113). The non-agency of the player contributes to this experience of "special time" – as even non-action can be distinctly ludic (O'Grady 111). This non-ludictity is tied to the significance in the overall game progression they award: the progression is forced upon the player. Their non-interactivity becomes meaningful. This process becomes transparent in the opening of *Fallout: New Vegas*: the player character is on their knees with bound hands, getting shot in the head by the primary antagonist. Even though the cutscene's perspective is a point of view shot (corresponding to the first-person-perspective as the default of the game) and the tempo is scene (like the rest of the game), it is perceived fundamentally different by the player. On a structural perspective, cutscenes do not differ from gameplay in their temporal markup. Their effect on the player, however, is distinctly different.

As the above has shown, while studying game time relations from a formalist perspective is a valid approach, more interesting conclusions can be drawn from functionalist and player-centric perspectives. The notion of the cutscene as privileged game time and structuring element thereby proves to be an especially promising onset for the analysis of videogames.

2.2.4.) Hermeneutic Mechanics and Mimetics

Inarguably, one of the most essential contributions ludology brought to the study of videogames is their taxonomy of game models and rules. As the above has shown, not all assertion about the aforementioned formalisms still hold true. However, the rejection of narrative is not the only relevant point of friction between ludology and other forms of media study. Certain positions, even within contemporary ludology, argue against the possibility of videogames to represent or connect to aspects of the world of the player – a radical aesthetic autonomy of videogames that, as the following will show, does not hold to closer scrutiny. Nonetheless, this positions helps to highlight an important characteristic of videogame rules in general: their inherent capability to represent dominant ideologies.

Such a position wherein "the semiotic content and audiovisual aspects function not primarily as representations of an external (actual or fictional) world, but as mnemonic mediators between the game's mechanical system and the player" (Aarseth "Ludology" 188) – i.e. a position wherein the actors, objects and environments in a game serve primarily as set-dressing for the interaction with game rules – has been termed ludohermeneutics. Ludohermeneutics sees a "decoupling of gameplay from the referential and contextual aspects of the game" (Aarseth "Ludology" 188), and, by extension, a supremacy of mechanics over representation. The essence of a particular videogame is, in such a sense, found in the game's mechanics, and not their representational qualities. Anything that is rendered graphically within the game is therefore inconsequential to the player – and of questionable relevance to the analysis of a videogame.

While this position is sometimes referenced whenever the question of the relation between violence in videogames and violent behavior of the players arises (Aarseth "Ludology" 188) – as violent depictions are part of a game's representational skin, and therefore inconsequential in the ludohermeneutic perspective – a strict ludohermeneutic position is hard to defend: as already has been stated, the graphic resolution of a videogame is a stable factor in ratings by reviewers. Furthermore, the art style used in games sometimes act as defining element for their genre (e.g. pixelart games), there is a painstaking amount of personalization offered in avatar creations of many role-playing games, the ability of videogames to elicit emotions from players, and the existence of so-called telltale game, a subset of videogames where the mechanics are often reduced to simple button presses to decide the fate of characters – all these are just cursory, but valid objections to a ludohermeneutic perspective. It is therefore fair to say that such a perspective is not suited for the analysis of videogames.

Nevertheless, the primacy of rules that ludohermeneutics assumes helps to sensitize the focus on the ideological baggage that seemingly neutral game rules can carry. The roles and possibilities of a player are already funneled by a videogame's code – an enemy in a roleplaying game is usually either killed or fled from, but rarely reasoned with, and an object in a virtual store can usually be bought or stolen, but seldomly shared or borrowed. This ideological baggage of rules has already been considered by Murray in the advent of institutional video game studies, with her stating the importance of "asking why things work the way they do and why we are being asked to play one role rather than another" (Murray *Hamlet* 107) by a videogame. Murray even anticipates the emergence of ludohermeneutics, specifying that players can only perform the actions intended by the code written by (an) author-figure(s) –

“unless the imaginary world is nothing more than a costume trunk of empty avatars” (*Hamlet* 187) – an assumption which corresponds to a strong ludohermeneutic position.

It is particularly easy to forget about the constraints set by code in open-world/sandbox videogames like the *Fallout*-series, i.e. videogames that are defined by the possibility of player choice on where to go and what to do. Saxton Brown (396) rightfully points out how such free choice of the player ultimately reduces to “infinite possibilities within a finite system,” a system in which choices often are “a limited set of enactable colonialist and anthropocentric tropes.” The bias towards specifically intended modes of play is therefore hidden by apparent free choice of the player. Therefore, “interactivity does not mean virtual play is free from ideology; rather, it intensifies the sense of free will necessary for ideology to work really well" (Dyer-Witheford and de Peuter 192).

In such a way, the ludohermeneutic position collapses on itself: the mechanics and affordances of objects in games are considered by the player in light of their representation as identifiable object in the game world – e.g. an object in the game that looks like a gun will be coded so that the player is able to shoot it. Similarly, the representation of the object will be chosen by the programmer to correspond to something the player is familiar with – an object that is coded to shoot enemies will look like a gun. Both player and programmer carry their understanding of the world to the creation and interaction with the game world. The mediating status of graphic objects is thereby overdetermined and reciprocal: it allows players to interact with the mechanics, but also shapes how such mechanics are coded by the programmers.

The match of a unit operation, be it an interaction with the game’s environment or a game’s object, to its representation on screen has been termed a procedural rhetoric (Bogost *Persuasive* ix). These procedural rhetorics in games are heavily tied to gameplay: the press of a button producing on-screen effects that make sense to the player (Bogost *Persuasive* 14) represents a successful procedural rhetoric. These rhetorics can be fairly basic or convincing - like the press of a button corresponding to the pulling of a trigger in game - or outlandish and unconvincing. One example of such an unconvincing rhetoric has even been ingrained as the popular slang term - "Press F to pay respects". In *Call of Duty: Advanced Warfare*, the player was able to pay their respects to a fallen soldier by pressing the F button on their keyboard, an obvious mismatch in the signifying chain of procedural rhetorics, where the expression of emotion has been tied to a simple button press. The following intense mockery of this scene shows that players notice

such a crass mismatch in procedural rhetoric,[7] while rarely doubting such rhetorics when they feel intuitive or are heavily conventionalized. A mismatch between mechanic and representation therefore draws attention to itself, and in extension, the mechanics that underlie it. In such a vein, the task of contemporary critical ludology is to unearth the ideological baggage present even in successful procedural rhetorics.

2.3. Videogames as Narrative Medium: *Fallout 3* and *Fallout New Vegas*

In contrast to ludology, which tried to unearth a completely new understanding of videogames, narratological approaches to videogames rest comfortably in a scholarly tradition with established terminology and criteria for understanding – which have been criticized by early ludologists as unfit for the study of videogames. In an effort to circumvent the tried and tired arguments of this debate further, specific narratological criteria suited for the study of games are highlighted in the following – i.e. the adaption of Todorov's narrative organizations and Chatman's differentiation between satellite and kernel events – while new terms tailed specifically to videogames are introduced. These efforts are preceded by the cautionary disclaimer that these apply specifically to adventure and role-playing games. As has been pointed out by Eskelinen and Tronstad (195), Feige (45), Neitzel, and others, not all games lend themselves equally well to an analysis based on narrative grounds – sports and fighting games, for example, seem particularly resistant, as do many casual or abstract games. The following is therefore smaller in scope, and focuses on the narrative qualities of adventure and role-playing videogames.

2.3.1. Videogames in the Narrative Tradition

As Aarsenault (475) points out, Barthes was one of the first to identify parallels between narrative and games:

> "[A] great many set up two opponents at odds with each other over the possession of a stake […]. This may even be a widely used archaic form, as if narrative, emulating the practice of certain ancient languages, recognized […] 'a dual' in persons. […] [I]t points out the affinity between narrative and the structure of certain (quite modern) games in which two equal opponents set out to conquer an object. This scheme recalls the actantial matrix proposed by Greimas, an analogy that is not surprising if one pauses to realize that play, considered as a language, possesses the same symbolic structure as that found in language and narrative. The procedure of playing can be analyzed in the same manner as a sentence. (Barthes 259)

Barthes identifies the tension present in narrative settings and draws a parallel to games of the same structure. But while this immediate parallel between games of this kind and narrative is

[7] a *Google Trends* analysis shows that the phrase is still popular, five years after the original release of the game (*Google Trends*).

present, it does however conflate the act of playing with the act of recounting an experienced game, i.e. a narration (Ryan). This parallel is thereby limited in its applicability.

Another connection that has been made between videogames and traditional models of narration, reaching back into ancient Greece, is the metaphor of the (video)game as a maze that has to be navigated. Murray sees videogames in the tradition of "a heroic narrative of adventure whose roots are in antiquity," from where they receive their "narrative power" (*Hamlet* 163). This connection to the tradition of the maze is explained by a connection to the navigation of space, i.e. the physical traversal of an environment that bestows the sensation of meaningful action on the player (Murray *Hamlet* 165). Unlike videogames, however, mazes move "the interactor toward a single solution" (Murray *Hamlet* 165). This analogy of the videogame as narrative maze is, most likely, due to the technical limitations of the time and the way videogames looked – the first installments of *Doom* or *Wolfenstein 3D* resemble a labyrinth very closely. The analogy thereby primarily functions on the level of resemblance.

This analogy was also picked up by Aarseth, who nevertheless cautioned against basing analysis of games on it, and draws clear borders to its usefulness – warning that such analogies might "affect the critic's perspective and judgment" (*Cybertext* 3). As has been argued before, this fear of undue influence of narratological terms has motivated early ludology. Nevertheless, there is power and use in connecting videogames to established aesthetic forms of expression, as Feige (42) argues. Such a connection allows not only to understand (certain) videogames, but also to understand narration in general, as forms of 'interactive' narration have existed before videogames, e.g. in specific forms of theatre (Feige 44). But Aarseth's (*Cybertext* 3) cautioning is valid: as Rauscher (64) stated, the presence of a labyrinth in a videogame alone does not suffice to connect it to narrative forms of antiquity. While parallels in narrativity can be drawn, painting such a comparison in the broadest of strokes is not productive.

Another way in which videogames are tied to a narrative tradition lies within the history of game studies themselves. The earliest attempts at conceptualizing videogames come from the community around hypertext novels, where text-based adventure games were often subsumed as a subset of such (Neitzel). As the complexity of (adventure) games has moved beyond simple text-based adventures and both their technological markup and their status in the canon of new media has vastly superseded those of hypertext novels, the connection to this narrative tradition has not proved fruitful in the long term either.

A more promising route to locate (adventure) games in a narrative tradition might be found in older narrative tropes, especially those that Jenkins (122) terms "spatial stories," i.e. stories that

focus on traversals, often found in forms like hero's odysseys or quest myths. These kind of stories "are held together by broadly defined goals and conflicts and pushed forward by the character's movement across the map" (Jenkins 124). By virtue of this, these games are reminiscent of older narrative traditions. This analogy is further supported by the structure of the roleplaying adventure game according to quests – a term already suggestive of some (European) oral narrative traditions, as the countless iterations of the quest for the holy grail and their variety of sidetracking adventures indicate. Propp's *Morphology of the Folktale* can almost be thought of as a repertoire for characters and story design of many adventure games (Simons), and Campbell's concept of the monomyth has served as analytical tool for comparative videogame analysis (e.g. Ip "Part I", "Part II"). As however e.g. Burn (244) in his reluctance to commit to Proppian terminology demonstrated, and has already been stated above, such analogies have limited use and should be employed with caution.

Such attempts to locate videogames in diverse narrative traditions have been complicated by the lack of a shared understanding of what the term 'narrative' even refers to. As has been pointed out by e.g. Koenitz (4), Zimmerman (155), and Simons, the understanding of the term 'narrative' itself is conflated, especially within the field of videogame studies, where a transparent definition for what is clearly a contested concept is practically missing. Juul (*Half* 1.4.1.) argues along similar lines, stating that the term 'narrative' is "practically meaningless unless specified in great detail." I therefore use the encompassing definition brought forth by Aarsenault (482) when referring to narration in videogames:

> "Video game narration occurs when the algorithm, acting as a Game Master in role-playing games, orders the events and relays the effects of actions and current state of the fictional world through visual semiotics. While video games are perfectly capable of upholding extrinsic, embedded narratives by emulating cinematographic or literary techniques, the player's actions can be intrinsically narrativized by a fictionalizing player, given that they hinge on the same elements that are central to action theory." (Aarsenault 482)

As can be seen, this definition is focused on role-playing games, and differentiates between both narration in the form of cutscenes – what Aarsenault here calls "embedded narratives" (482) – and a ludic form of narration, which centers on the player as "fictionalizing" agent (482). He subsumes both of these forms of narrations under a shared umbrella, which surpasses the circular logic employed by a strong ludological position regarding cutscenes (as elaborated on in the discussion of cutscenes in 2.2.3).

As has been shown, the parallel between games and narratives precedes not only the ludology-narratology debate, but the commercialization of videogames as we know them today. Huizinga's seminal *Homo Ludens* even locates a more generalized play-element in poetry

(119), going back into antiquity. This, however, does not mean that a videogame may be read like a novel, poem or performance – the specifics of the medium must be accounted for, as the subsequent chapter shows.

2.3.2. Narrative Techniques in Adventure Games

There is – of course – narration in videogames, narrations in a way that is comparable to other narrative forms stemming from written, oral or filmic traditions. The role that narrative plays in each given game is not only determined by the game itself, or its genre, but also by the player's willingness to invest in it – some players, as Ryan suggests, might even forget a game's narrative in states of deep immersion, while others might fictionalize events without much narrative potential (Aarsenault 482). It is therefore needed to reconceptualize the way narrative is described and analyzed in videogames. The following chapter introduces concepts either suitable to be adapted for the analysis of videogames, or specifically coined for them.

Principally, a very basic categorization of narratives in games can be found in the narrative organizations as laid out by Todorov, which were considered as a taxonomy of videogame narratives by e.g. Neitzel. Todorov's initial dichotomy between mythological and gnoseological narratives (40) is suitable to serve as a basic starting point to understand narrative in videogames. The mythological narrative in adventure games – a "simple narrative" which operates on the "modification of a basic predicate" within "the principle of succession" (Todorov 40) – may take on a variety of forms, from the narration delivered in initial cutscenes that serve as the raison d'etre for gameplay, to initial quests aimed to teach game mechanics, so-called tutorials. Very often, the main quest of an adventure game will be mythological in organization, e.g. *Fallout 3*'s search for the protagonist's father – this narrative is organized around a straightforward succession of individual quests that provide little to no actual choice – the "modification of a basic predicate" Todorov (40) described. The gnoseological narrative organization, in contrast, affords more significance to the aesthetics of the telling of events than their actualization (Todorov 40). This, again, is found in many adventure games in different forms – in free-roaming exploration or sometimes even within a succession of mythological narrative elements. Todorov's reading of the Perceval story sees the accumulation of simple, mythological episodes (i.e. quests) as transformative to a gnoseological story organization that searches for meaning (40) – we can observe the same in some quest narratives of adventure games.

A prime example for the transformation of mythological to gnoseological story can be found in *Fallout: New Vegas*. The quest structure of *Fallout: New Vegas'* main storyline seems

mythological at first: the player searches for their would-be killer that shot them in the introductory sequence, and follows clues to find them within the partly ruined, but still operating Strip of Las Vegas. Upon finding them, they are handed a key item – a computer chip – that can determine the fate of the Strip: leaving it in its original state being controlled by a hidden autocrat, handing over the power to an organized, but only pseudo-democratic military state termed the New California Republic, even handing it over to a fascist, Hegel-quoting slave lord called Caesar, or flooding it with a poisonous gas clouds as nihilistic punishment for humanity's flaws – or taking control themselves. As was already pointed out by e.g. Schulzke ("Critical" 330), none of these choices are morally pure, and even when the player decides to expel all other factions, they still have to decide the fate of groups located in the Strip that are, at best, morally ambiguous themselves – like the well-mannered cannibals running one of the three remaining casinos. Additionally, the player is confronted with the fact that such an independently run New Vegas might not look at a lasting future. As such, the mythological succession of individual quests transforms into a gnoseological narrative that negotiates questions of values, and what the survival of humanity means – in Todorov's (40) words, *New Vegas'* story, "like so many others, tells the story of a quest; what is sought, however, is not an object, but a meaning."

Todorov's third organization of narrative almost reads as it would have been conceptualized with videogames in mind: the ideological organization. This narrative organization "is an abstract rule […] which produces different adventures" (Todorov 42). The events in succession no longer form a direct, simple causal relationship, and they do not transform "from ignorance to knowledge" (Todorov 42) – rather, they represent "repetitive and recursive" (Neitzel) happenings, and correspond therefore closely to what has been termed 'emergent narrative' in game studies. Before examining the ideological organization (in the form of the 'emergent narrative') below, another set of terms useful in the analysis will be discussed: the organization of narrative around satellites and kernels.

This particularly well-suited set of terms for understanding narrative structure in role-playing games is the distinction of happenings within the plot into satellite and kernel events (Chatman 32). The kernels are the essential plot points without which a narrative would cease to make sense. They represent branching nodes within a story, and in a bare-stripped version of a plot, each kernel would follow successively and logically to the next (Chatman 53). In such a way, kernel events would roughly correspond to the presentation of a main questline within a game, be that in the form of cut-scenes, dialogue or else. Typically, the recounting of a game's story would focus on kernels. Satellites, in contrast, are events that are not necessary for the logical

development of the plot. A satellite "can be deleted without disturbing the logic of the plot, though its omission will, of course, impoverish the narrative aesthetically" (Chatman 54). As such, a satellite will most typically correspond to so-called side-quests, missions or short narrations not necessary for the completion of the game. The satellites, functioning to deepen the narration, generally add a feeling of achievement to the player. While a game like *Fallout 3* spans the whole lifespan of the avatar from their birth to their search for their father as adults to their eventual death by radiation in a self-sacrifice to activate a water purifier in Washington, DC's Jefferson Memorial, much of the average player's time will be devoted to complete non-essential satellite quests. These "form the flesh on the skeleton" (Chatman 54) of the game, and the individual player's choice of which satellites to complete will strongly contribute to the individuality of each game's playthrough. Even more so, the possibilities of different endings in videogames even allow for a complete and unique arrangement of kernels within a playthrough (Rauscher 76).

Curiously, Ip, in a comparative analysis of different role-playing games (amongst them noted canonical titles like *Final Fantasy X* or *The Legend of Zelda*), noted that the ratio of kernels to satellites is tendentially low, suggesting that "the chosen titles appear to lack depth" ("Part II" 218). I would, however, argue that Ip ("Part II") arrives at such a low figure because his definition of satellite events is too restrictive, and too closely oriented at traditional forms of narration, such as back-stories, cut-scenes and on-screen text (Ip "Part I" 118). Videogames offer additional modes of narrative which require a new and distinct terminology – the following aims to showcase the most important additions to traditional narrative techniques employed by the open-world adventure game.

The first model for narration within videogames hinges on the understanding of narrative as a spatial experience within games (Jenkins 123). This means that the traversal of individual levels, or story-worlds carries narrative potential. As such, "spatial stories can evoke pre-existing narrative associations; they can provide a staging ground where narrative events are enacted; they may embed narrative information within their mise-en-scene; or they provide resources for emergent narratives" (Jenkins 123). The first possibility of spatial storytelling are such spatial stories that evoke narrative associations - these are termed "evocative spaces" in Jenkins' terms. The success of this type of narrative hinges on how the player's experience space and their familiarity with any source material that is referenced in the space. Jenkins connects this type of narrativity to transmedia storytelling (124), but it also connects to the general world knowledge of players. *Fallout*'s visual aesthetics draw heavily on such evocative spaces, which not only contain the usual display of skeletons and debris suggestive of post-

apocalypse, but also points more specifically to its alternative history perpetually stuck in the Cold War and the Red Scare.

Figure 4 Screenshot of an evocative space in Fallout: New Vegas

The poster in figure 4 is on display in a school building in *Fallout: New Vegas*. A similar poster next to it reads "C is for Commie!", thereby establishing that these were used to teach the alphabet to kids. Such a space carries evocative narrative potential, allowing the player to locate the game and its storyworld within a specific cultural sentiment (albeit by hyperbole). The narrative potential of evocative spaces rests therefore not only on the actual perception of the space by the player (although, in the case of *Fallout*, many such spaces exist, constructing the familiar aesthetic experience of playing a *Fallout* game), but also on the player's ability to parse the narrative potential of it.

Evocative spaces may even contain micronarratives, very localized and usually short narrative experiences (Jenkins 125). One such example found in *Fallout: New Vegas* is shown below in figure 5: the skeleton in the fridge, suggestive of someone trying to survive the nuclear attacks locked in a fridge. This micronarrative – someone locking themselves in a fridge and dying in the process – is even more so evocative in that the skeleton, wearing a hat, is a reference to a scene in *Indiana Jones and the Kingdom of the Crystal Skull*, where the protagonist survives a nuclear test locked in a fridge. The placement of skeletons as means of evocative storytelling are a staple in the *Fallout* series (see e.g. Spokes for a transdisciplinary analysis of *Fallout 4*'s evocative skeletons).

Figure 5 Evocative micronarratives in Fallout: New Vegas

Jenkins furthermore differentiates between the enacted and embedded narrative, with the former being roughly congruent with a game's main story or quest – i.e. a performance of narrative events on a pre-structured stage set by the game (Jenkins 124-26), and the latter as embedded narrative being "relatively unstructured and controlled by the player as they explore the game space" (Jenkins 126). The embedded narrative asks the player for "acts of detection, speculation, exploration, and decryption" (Jenkins 128) to reconstruct past events. Potential for embedded narrative can be found in a variety of game objects and locations, but especially written records or objects in the mise-en-scene lend themselves well for embedded narration. Figure 5 shows an embedded narrative in the form of a diary entry, found in an abandoned camp. The embedded narrative clarifies that this was a detainment camp for political dissidents prior to the fall of the atom bombs:

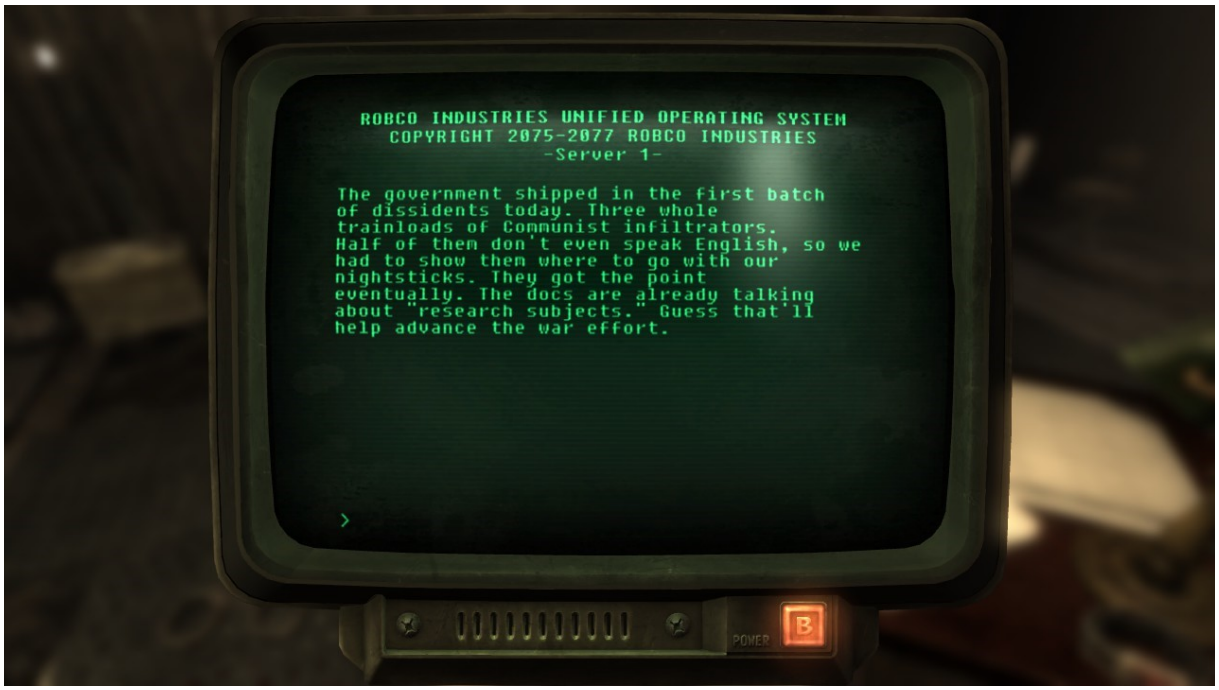

Figure 6 Embedded narrative in Fallout: New Vegas

Finally, the emergent narrative in videogames are those "are not prestructured or preprogrammed," but only emerge through the rules of gameplay (Jenkins 128). The emergent narrative corresponds to Todorov's ideological organization of narrative (42), and is the narrative potential of games (sequences) that feature no traditionally discernable narrative, but rather the potential for the construction of the narrative. Many simulation games are emergent narratives, most notably the *Sims*-series, which feature no pre-structured narrative. Nevertheless, this life simulation narrates something: the player, controlling a character (referred to as Sim) may marry, get a job, have children, and die, passing the control to a different Sim. The emergent narrative game can be understood as "a dollhouse", an "authoring environment within which players can define their own goals and write their own stories" (Jenkins 128). Pearce ("Game" 149) calls the emergent narrative "a story that evolves over time as a result of an interplay between rules and players," which makes the parallel of emergent narrative in videogames to pen-and-paper roleplaying games clear. The emergent narrative usually exists outside of the teleological quest structure of adventure games.

The final addition to narratology needed to discuss adventure games is supplied by Pearce ("Game"). Pearce identifies – amongst others – the augmentary narrative, i.e. the "[l]ayers of information, interpretation, backstory, and contextual framework around the game" ("Game" 145) which enhances the experience of the game itself – in the context of *Fallout*, this includes the player's knowledge about the origin of the specific aesthetics of the game. The augmentary narrative is different from Jenkins' notion of the evocative space in that it is not part of the

game proper, but may be cultural knowledge, fan theories or journalistic coverage of or about a videogame (Pearce "Game" 145-46). Figure 7 shows such potential augmentary narratives in the form of casino advertisements – the leftmost billboard, an advertisement for one of the casinos found in *Fallout: New Vegas*, has been theorized by fans to be a fictionalized stand-in for the Caesar's Palace casino (*Fallout Wiki*).

Figure 7 Potential augmentary narratives in Fallout: New Vegas

Additionally, one of the most important additions of Pearce ("Game" 145) is the introduction of the experiential narrative, i.e. the specific narrative experienced by a player during their individual playthrough of a game. Realistically, any narrative analysis of a videogame can only be the analysis of the experiential narrative of the player, as satellites and other narrative events can occur in a variety of orders (Eskelinen and Tronstad 198) and even static, independent objects – like evocative spaces – are informed and interpreted by prior and following events. The interpretation of different events and spaces therefore creates a unique understanding of them (Rauscher 76), which necessarily influences the analytical perspective.

These perspectives have evidenced in what ways videogames are narratives in a traditional sense, and in their own, specific ways. However, one should bear in mind that said concepts do not apply to all genres of videogames equally, and are not even employed homogenously as modes of narration within different adventure games.

2.4. Videogames as Commodities: Fallout 76

The above has suggested possible connections of narratives in videogames and various narrative traditions. It also has shown which terms from narratology lend themselves to the analysis of narrative in videogames, and has introduced concepts to describe narrative events specific to the (adventure) videogame. To conclude the theoretical modelling of the videogame as object of analysis, the third and final part of this chapter will focus on the specific economic and cultural conditions that shape mainstream videogames, and how these affect their possible meanings.

While there have been approaches considering the economic conditions of videogame production and consumption, many of these discussions were carried out in videogame journalism. Most prominently, issues of crunching, i.e. the working of gruesome hours prior to a game's release have found public interest on the production side, while the question of microtransactions, i.e. small, optional fees to buy progress or cosmetic upgrades in a game has ruled public discourse on the side of consumption. However, informed academic positions on the relationship of capitalist hegemony and videogame meaning remain sparse. This is, in part, due to the fixation of narratology and ludology in early videogame studies. Moberly (173) points this out when calling the debate "constructed to preclude any discussion about the social, political, and economic systems through which computer games (and the hardware required to play them) are produced, or, conversely, any discussion of the role that computer games play in ensuring the reproduction of these systems of production." The argument about such a formalist divide creates a dangerous blind spot, obscuring a facet of videogame production that shapes videogames and player experience to a great extent. Nichols formulated this shortcoming of the ludology/narratology debate probably most succinctly:

> "But these poles have, at best, paid lip service to one of the essential truths about video games: that they emerge, almost exclusively, as industrial commodities. What recognition is given comes typically in the form of sales figures waved like a banner at the beginning of a study to demonstrate via dollar signs just how worthwhile of study video games are; by the start of the next paragraph, the recognition gets obscured, abandoned, and forgotten. Doing so, however, ignores the impact industrial creation and commodification has on video games and, therefore, on game meaning" (Nichols 31).

It is therefore that the status of videogames as industrial commodities is the third perspective of analysis of this paper. Both ludological and narratological considerations of the analysis are underpinned by the conception of videogames as commodities produced in a capitalist system. In such a way, the interpretation of both mechanics and storytelling devices must necessarily be critical in order to unearth the relation of said devices to the capitalist hegemony from which they stem. As such, a ludohermeneutic position as described in 2.2.4. is unfeasible, especially

if one assumes that videogames can convey meaning about something else than themselves. While the following will sketch out basic considerations about the status of videogames as objects of culture and both products and reproducers of a capitalist hegemony, it is important to point out that the entanglements of videogames and capitalism reach further than the scope of this paper allows. There are, of course, other approaches, like e.g. Nichols, or Dyer-Whiteford and de Peuter, who model the relationship of players and modders (i.e. creators of fan-made modifications and expansions to games, which are usually distributed for free on the internet) as forms of "immaterial labor" (Dyer-Witheford and de Peuter 23), Kerr, examining new production logics of videogames, or Yee, who investigating the act of playing as new form of labor (59-96). Such approaches reach far beyond the pure content of a game and transcend notions of ludology or narratology. For present purposes, however, the discussion of such entanglements must be restricted to the bilateral influence of a capitalist hegemonic system to the content of the videogame, not purely to account for scope, but also to showcase that neither ludology nor narratology can claim analytical autonomy over a commodity.

2.4.1. Game Culture and Videogames in Culture

The connection of videogames and culture tends to function in either of two ways: very often, scholars investigating videogames and culture set out to investigate the culture of videogames – especially that of the elusive 'gamers', a term both used as self-identifier meant to in- and exclude, and simply as descriptive term for people who play videogames. Somewhat more comprehensively, some scholars however set out to model the influence and status of videogames as objects of popular culture, the second connection of videogames and culture. After a brief review of the identity of the gamer and their presumed culture, the second approach will be the main concern of the following section. The chapter closes with a conception of videogames as commodities in a cultural industry, following the notion of culture as industry laid out by Horkheimer and Adorno.

The idea of game culture as a distinct, specific culture is still a prevalent object of study, even though it has undergone significant changes recently. A great many investigations of game cultures, both in the past and today, focused on distinct online worlds, multi-user dungeons and their more contemporary spiritual successors, massive multiplayer online role-playing games (MMORPGS) (Shaw 404). The initial focus on the description of individual game worlds and their players painted such game cultures as distinct microcosms radically separate from real life (Taylor 18) – and thereby, mainstream or popular culture. While such approaches are still valid and have produced canonized titles within the field – such as T.L. Taylor's *Play between Worlds*

– attention has been shifted towards approaches concerned with gender and sexuality in the identifier ‘gamer’ and their culture.

The relation of gender, videogames and their culture might represent the only well-researched niche in the question of what videogame culture is (Shaw 416). The disconnect in gender between those labelling themselves ‘gamers’ – and thereby shaping an understanding of gaming culture – and actual players of games is staggering: a review of recent surveys shows that male players are more than twice as likely to identify as gamers (Paaßen, Morgenroth and Stratemeyer), despite the number of male and female players being roughly the same (Muriel and Crawford 29; Paaßen, Morgenroth and Stratemeyer 430). Gender even beats skill in the assessment of what constitutes a ‘gamer’ (Paaßen, Morgenroth and Stratemeyer 423). It seems that questions of gendered relations are still are source of contention within an imagined ‘game culture’.

Such a question of ‘the’ culture of ‘gamers’ and gendered relations within a gaming culture became especially relevant during 2014, when a large-scaled harassment campaign unified under the hashtag “#GamerGate” originated. This harassment campaign mainly targeted feminist videogame critics and game developers (Mortensen 788) for a seeming intrusion in a masculine online space, showcasing “the great distance between people who happen to play games and people who identify as *gamers*.” (Mortensen 792, emphasis in original). This targeted harassment campaign was not only at fault for committing a variety of crimes (Salter 253), the unification of strangers under the identity of ‘gamers’ via a hashtag has been cited as predecessor of the rise of the alt-right (Bezio 563) and online mobilization for Donald Trump’s presidential campaign (Salter 255). This has made it ostensibly clear that any conception of a distinct, isolated gaming culture outside of popular culture and mainstream discourse is typically misleading at best. Therefore, the approach taken in this paper focuses on “video games in culture rather than games as culture” (Shaw 416).

Such a kind of videogame studies, which considers games as objects in cultures rather than distinct, enclosed subcultures themselves have gained traction in the last two decades, partly caused by a broader focus of academia on popular culture in general (Dyer-Witheford and de Peuter xxvi). Nevertheless, even investigations of videogames as cultural objects are sometimes unclear on their actual relation to culture. Consider e.g. Crogan and his analysis of the videogame *The Thing*, a videogame based on the John Carpenter movie with the same title: while Crogan (14) is aware that the game itself exists only by virtue of connecting to a widely recognized movie, he nevertheless asserts that the “‘cultural inputs’ employed in digital games

are worthwhile objects […] in spite of — or even because of — the fact that they play a different, less central role in games than in other media forms such as films, television programs and literature." This sentiment hints again at a dictum that proposes an autonomy of form, a decoupling of gameplay and cultural signifiers – in short, a sentiment that brushes closely to aforementioned ludohermeneutics. Dismissing cultural signifiers entirely or brushing them off as "backstory" (Crogan 15) because they seemingly occupy a less central role to the player creates a blind analytical spot that should be uncovered. The tendencies of such positions to implicitly acknowledge the cultural status of videogames without drawing conclusions from culture in their analysis is ultimately an empty gesture. It is, essentially, the other side of the coin that Ensslin (42) described when theorizing that the demand of gameplay and immersion may render players less sensitive to the ideological content of games – wherein the analysist is stricken by form and gameplay and neglects cultural inputs.

This, of course, is not to say that a focus on mechanics is not a valuable addition to the analysis of a game. However, as has been argued in 2.2.4., a focus on mechanics must not forget that the modelling of said mechanics does not happen in a cultural vacuum. Neither representational nor mechanical meaning in games are authored directly: a programmer-author writes code, and that code generates representations. Any interpretation of the system's representations is projected onto it by an interpreter (Bogost *Persuasive* 4-5). Making meaning of computational representation is thus a fairly complex task: procedural semantic content in a game is generated by code – i.e. mechanics – authored by a human and interpreted by the player. This interpretation is shaped by underlying assumptions of both programmer and interpreter and constrained by the affordances of the code.

It is therefore necessary to conceptualize videogames as objects of culture in such a way that their relation to culture does not become obscured, but also in such a sense that cultural signifiers within games do not remain the singular focus in their analysis. Additionally, it is vital that the idea of seeing videogames as objects of popular culture "in culture" (Shaw 416) does not exclude them from a critical glance informed by their status as commodity, as Dyer-Witheford and de Peuter (xxvi) point out. Adopting such a double perspective of seeing videogames as both commodities and cultural signifiers is not exclusive to videogame studies by any means: the now apparently defunct Department of Defense Game Development Community listed 25 mainstream games as useful for the purpose of the United States Armed Forces (Dyer-Witheford and de Peuter 101-02). This is but one example that showcases how games relate to a larger cultural climate as a commodity.

In order to account for the relationship of games as both commodities and objects of culture, I view videogames as products of a culture industry as sketched by Adorno and Horkheimer. This approach is especially suited to consider artistic products both in culture and as commodities, and the videogame industry fits nearly seamlessly into Adorno's and Horkheimer's conception of culture as industry. This has been made clear both by the analysis of actual production, circulation and consumption of videogames (see e.g. Kerr's thorough discussion) and by analysis of which titles and genres dominate the market – very often remakes of and sequels to existing games, stemming from a small variety of genres, showing "little evidence of real innovation or avant-garde artistry within the commercial digital games industry" (Crawford and Rutter 151). This observation is in line with the arguments of Horkheimer and Adorno, who claim that within a cultural industry, all cultural products are necessarily mass produced, formulaic and standardized (95). The parallel between the conception of the culture industry and the contemporary videogame industry is so striking that it has led critics to consider the games industry as "pinnacle of the culture industry, as understood by Adorno and Horkheimer" (Muriel and Crawford 44).

The conception of popular cultural as industrial product helps to understand the status of most mainstream games. Like in the conception of the culture industry, many of these games tend to be awkwardly similar to or based on each other. The dictum to "let pass nothing which does not conform to their [i.e. producers, MP] tables, to their concept of the consumer, or, above all, to themselves" (Horkheimer and Adorno 96) is even evident in the game central to this thesis – it is, after all, the fourth sequel to an original game released in the 1990ies. But perhaps the conceptualization of videogames as cultural commodities becomes most clear when considering the latest main installment of the *Fallout*-series, *Fallout 76*. The game, which takes the retrofuturistic design elements of the main series into an MMORPG instead of a traditional single-player game, was a major disappointment for both fans and critics with the lowest-ranking Metacritic score of any main *Fallout*-installment (*Metacritic*). Essentially, *Fallout 76* combined both the formulaic aesthetics of other *Fallout* games with game mechanics from MMORPGs, thereby strongly lacking in any sense of originality. Even worse for players, the game was not even running stable, and what little inventiveness was promised fell either flat or was changed retroactively.[8] As the game's publishers tried to harrow in money with a

[8] What *Fallout 76* originally brought forward as main point of innovation was a complete lack of characters. Every human non-player character encountered in the original version was actually another player. But since the server architecture only supported 24 players on each server, this resulted in the game feeling empty. A coming update to the game reintroduces non-player characters to the game, doing away with this singular feat of originality.

considerable amount of microtransactions, the games status as commodity became clear to many players and drew considerable criticism.

But perhaps most strikingly, *Fallout 76* conformed to another assertion about the culture industry: the tendency of the culture industry to subsume entertainment as "the prolongation of work" (Horkheimer and Adorno 109). The gathering of resources to craft items, the introduction of daily quests rewarding a daily login to the game, and the repetitive nature of quests that are rewarded with in-game currency (which can also be bought in microtransactions) caused reviewers to describe the act of playing as "more busywork than satisfying heroics" (Tyrell). The parallel between the act of playing a videogame and working is indeed striking – the term used for accomplishing repetitive tasks like those of *Fallout 76* is 'grinding', reverberating associations with depressing, hard labor. Yee (64) describes how playing such online games, which supposedly are escapes from work, tendentially end up actually becoming another form of work. *Fallout 76* represents the status of videogames as commodities of a cultural industry not just because its status as commodity is transparent in its formulaic structure and disappointing gameplay, it furthermore lays bare the extension of work in entertainment.

By considering videogames as commodities originating in a cultural industry, the question of what videogames can mean must be rephrased. It has already been shown that the idea of a neutral code governing a game is a flawed assumption, and that a position of ludic autonomy is therefore inaccurate. If videogames are thought of as products of a culture industry, their expressive meanings are never purely ludic, but connect to a larger, ideological discourse. The assumption of a 'magic circle' of play, disconnected from everyday life (Huizinga 77), only asserts the naturalization of the ideologies being conveyed in play. The videogame seamlessly integrates into the function of entertainment in cultural industries "[b]y claiming to anticipate fulfillment through their aesthetic derivatives," which "posits the real forms of the existing order as absolute" (Horkheimer and Adorno 103). As such, any meaning of videogames is also ideological meaning. Viewing videogames – especially commercial titles – as commodities necessitates investigating the influence of dominant ideologies on them, and how games themselves tend to reproduce such ideologies. Viewing videogames as outside of ideological forces is a faulty assumption, in the same way that viewing gaming culture as distinct from popular culture is. In order to not just pay lip-service to the status of (mainstream) games as commodities, it is essential to adopt a critical position of the ideologies that go hand in hand with the commodification of culture.

2.4.2. Videogames and Ideology

By acknowledging the commodification of culture in the form of the games industry, it becomes important to understand in which ways videogames are influenced by dominant ideologies, and transport these themselves. Because there is a wide spectrum of videogame genres – some of which lend themselves more easily to transport specific ideologies, such as war games – this discussion aims to cover basic principles of the transportation of ideologies by videogames. The principal focus, however, lies on role-playing and adventure games. It is also important to note that the mediation of ideologies in videogames can be seen both as a default of the medium itself and as a conscious design choice (Hayse 442). While ideological mediation in the form of conscious design choices (e.g. the design of enemies in *America's Army*, a game officially licensed by the United States Armed Forces, Allen 39) may be more salient, most necessary tools to unearth them are not strictly confined to videogame studies, as the analysis part of this paper will show. Instead, the more implicit ideological mediations found in videogames will be the main concern of the rest of this section. The first ideological mediation is found in the architecture of the videogames as simulation, while the second circles back to the commodity status of games.

During the course of the ludology/narratology debate, much ink has been spilled on the question of whether games act as system of rules or as stories. For certain games, their status can be more effectively conceived of as simulations or models. This does not just apply to those games that were developed as simulations specifically, i.e. 'training' or 'serious' games. After all, in the construction of games, "the designers transform certain intangible schemas into the physics, mechanics, world, gameplay and interface of the game" (van Ooijen 35). By doing so, games effectively act as "tangible models of specific areas of ideology" (van Ooijen 35). In other words, by conceptualizing a game as a simulation or model, the question of what aspects of perceived reality are integrated into the model in which way becomes ideologically charged. Because "meaning in videogames is constructed not through a re-creation of the world, but through selectively modeling appropriate elements of that world," (Bogost *Persuasive* 46) the selection of what is being modelled is in itself a meaningful decision, caused by the constraints of the software architecture. The mediation of ideologies is a default of videogames as a medium precisely because of selective modelling.

Furthermore, both the what and the how of the modelling is important. When a player interacts with a game, they operate the simulation, but all possible interactions "are constrained by their rules" (Bogost *Things* 4). This again follows the line of argumentation against

ludohermeneutics, whereby all possible interaction within a game is already charged with meaning since the selection of which actions are made possible is an ideological decision.

Additionally, the what of the modelling – so, which aspects are being modeled, i.e. the representations – can become an object of closer inquiry. While the ideological mediations on this level correspond closer to conscious design choices, it is however worth mentioning that videogames rarely model reality. In such a way, it seems conspicuous that while dragons, demons, zombies or magic are stable features of many genres, the modelling of characters seems firmly aligned to 'realistic' (i.e. mainstream) conceptions of gender and sexuality. The 'what' of the modelling is therefore not only a question of who and what is included, but which deviations of perceived reality are tolerated in the game.

Such questions about the how and the what of modellings in games offer great analytical potential. Since representational meaning in videogames is dependent on the affordances of code as source of representations, and any such representation can only be a simulation shaped by the code's affordances, an analysis of videogames can offer an "unusually detached perspective on the ideologies that drive them" (Bogost *Persuasive* 75). Because the perspective of the player on the actual happenings within the machine (i.e. representations on screen versus code) is twice removed, a perceived mismatch can offer potential to investigate ideological meanings. Contrarily, because the ideological mediation is twofold, it can in successful cases open up the possibility of a desensitization to it.

The ideological influence inherent in videogames is particularly relevant because most commercially successful games pose as pure entertainment. In their status as entertainment, "the underlying value judgements" coded in them "are rendered invisible" (Thompson and Quellette 3). To qualify as such apparently non-ideological tools, the unit operations available to the player must be carefully designed. Unsuccessful unit operations, as discussed in 2.2.1., can cause "the kind of cognitive dissonance that might lead to the discovery of this complicity" (Thompson and Quellette 3). It thereby becomes the task of the critical videogame scholar to unearth the ideologies inherent in successful unit operations, i.e. in such unit operations that do not threaten the player's immersion. As such, the ludological project can be carried out further, but on a more critical basis.

Such critical analysis is especially relevant in the context of open world or 'sandbox' games. In their promise to offer as much player choice and freedom as possible, these games intensify "the sense of free will necessary for ideology to work really well" (Dyer-Witheford and de Peuter 192). Because the player is under the assumption to be given the most choice possible

in a game, the actual funneling towards specific outcomes and playstyles – those that are allowed by the game – becomes obscured. In this way, "[p]layers, of their own choice, rehearse socially stipulated subjectivities" (Dyer-Witheford and de Peuter 192). As they point out, even - or maybe especially - the openness of sandbox games allows the imposition of such subjectivities, as they are "coded to constrain and channel" towards hegemonic subject positions (Dyer-Witheford and de Peuter 192-93). Because of their apparent freedom of choice, such an imposition appears as the illusion of free choice. In order to understand the ideological implications of videogames, it is not only important to look at what is in a videogame, but also what is missing.

There is, however, an additional aspect on the intersection between videogames and ideology that is worth mentioning. The object of the videogame itself and its role both in capitalism and in culture. Dyer-Witheford and de Peuter consider the videogame as the characteristic medium of the 21st century:

> "Just as the eighteenth century novel was a textual apparatus generating the bourgeois personality required by mercantile colonialism (but also capable of criticizing it), and just as twentieth-century cinema and television were integral to industrial consumerism (yet screened some of its darkest depictions), so virtual games are media constitutive of twenty-first-century global hypercapitalism and, perhaps, also lines of exodus from it." (Dyer-Witheford and de Peuter xxix)

While Dyer-Whiteford and de Peuter's assertion is painted in somewhat broad strokes, it does appear striking how quickly much of videogame production fell in line with a global capitalist order. Bethesda, the studio behind the latest incarnations of the *Fallout*-series, was on the vanguard of an attempt to monetize mods with their Creation Club. Mods, i.e. fan-programmed expansions to games, are typically distributed for free on the internet. Bethesda's Creation Club was an effort to monetize mods by creating a platform to sell them, with part of the revenue being paid to the creators of the mod. This effort by Bethesda to tame rouge fan culture was mostly frowned upon by the community (Hansen). In many other ways, actual play has, in parts, fallen to hegemonic capitalist orders as well, perhaps most strikingly in the trend of the gamification of work.

Gamification refers to "the application of game systems – competition, rewards, quantifying player/user behaviour – into non-game domains, such as work" (Woodcock and Johnson 542) and has been a noticeable trend in many workplace environments. The gamification via apps or contests is not only used to ensure productivity and motivation, but also considered useful for "employee control" (Kim 28). The process of gamification, gaining steady traction (Woodcock and Johnson 543) represents the other side of the process of games as commodities: while

games as products of a culture industry carry the spirit of work into entertainment (Horkheimer and Adorno 109), the adoption of play as form of work and productivity further blurs the boundaries between the two. The ideological implications of game mechanics therefore reach even further than the game itself, meaning their logic cannot be tied to the videogames themselves exclusively.

Ultimately, the relationship of videogames and ideology is probably summed up best by Nichols (32) when stating that "[a]s products of an industry focused on profits, video game production is forced to follow particular sets of logics in hopes of catching audience attention and dollars. The rules and narratives coded into video games typically seek to reinforce these tendencies and attitudes by limiting the experiences offered in video games." The ideological implications of most mainstream games are therefore both determined by a profit motive and by the affordances of the code that make up games themselves. This is of course not to say that videogames are completely determined by such ideological implications, or that there are no subversive games. Such subversive games, however, tend to be found outside of a best-selling games of all time list.

2.5. Transclusion: What is a Videogame?

After having investigated videogames from both a ludological and narratological point of view, and discussing the implications of the status of games as commodities, the possibilities of meaning making within a videogame have hopefully been better illustrated. It is, however, notable that despite all the ink being spilled about videogames, a satisfactory definition of the term has yet to be achieved. For the present purposes, it should suffice to note that the term 'videogame' is ultimately historically contingent – it is, after all, not a term coined by scientists (Aarseth "Ontology" 484). For the analysis of a videogame like *Fallout 4*, it seems of greater importance to understand how videogames (can) function than to produce a philosophically sound definition of a phenomenon so in flux like videogames.

This chapter has hopefully sharpened a working understanding of common aspects of videogames – of how they function both as systems of rules and as conveyers of narrative, and in what way videogames can connect to ideological discourses. As a preliminary transclusion to conclude this chapter on the theory of videogames, it can be summarized that videogames are, in certain ways, system of rules. They specifically act as systems of rules, made up of unit operations, and feature obstacles that need to be overcome to reach a winning– or avoid a losing – condition. These unit operations can, in contrast to a ludohermeneutic position, be considered meaningful representations, and convey meaning about things outside of the game. The

relations of time within a videogame, a much contested concept because many traditional conceptions of narrative ultimately rest on temporal relations, act somewhat different than those in narrative, but are essentially similar enough to apply narratological concepts to them. This, of course, entails that videogames, especially role-playing and adventure games, are also narratives. Chapter 2.3. suggested different ways in which videogames connect to narrative traditions. Additionally, a narratological toolbox showed which concepts of traditional narratology are appropriate for the analysis of adventure games, and introduced new concepts specifically modelled to describe storytelling in adventure games. Overall, while videogames can be considered both as systems of rules and as narratives, the final part of this chapter showed that they are also commodities, subjects to market forces that determine both their range of expression and their meaning. Such a trifold understanding of videogames as system of rules, narratives and commodities in a culture industry inform the following analysis.

Before turning to the analysis proper of *Fallout 4*, a final cautionary remark is in order. As Eskelinen and Tronstad (198) remind us, the exact configuration of every playthrough of a videogame must necessarily be different for each individual player, each time they play it. The best the analyst can do is therefore to describe their own playing experience and try to be mindful of any biases based on preferred playstyles. The following analysis is based on an amalgam of various playthroughs conducted by me during the course of the last four years, the latest happening during the course of the writing of this paper. The analysis is therefore one of multiple individual experiential narratives (Pearce "Game" 145), during the course of which I tried to alter my playstyle in order to cast a wider net. All screenshots, quest descriptions and other game contents are taken from these various playthroughs. *Fallout 4* was played on the Playstation 4 with all the current patches installed (i.e. game version 1.34).

3. Analysis

After having staked out a theoretical field for the analysis of a videogame, it is time to turn to the object proper, *Fallout 4*. It has been noted before that within videogame studies, there often tends to be a "precedence of theory over the object of study" (Ryan), which is why the rest of this paper is devoted to the analysis of the game itself. The analysis draws on both narratological and ludological aspects of the game and aims to examine those aspects critically. The approach taken is multi-angular, drawing from critical ludology, narratology, retrofuturism, ecocriticism, critical American history, ruin studies and dark tourism, in line with Pfister's (65) observation that any game contains a multitude of influences.

Fallout 4 has so far not only been the most commercially successful installment of the series, but also of the publisher's – Bethesda – history (Makuch). Although no official sales figures have been released, 12 million copies of the game where shipped on launch day alone (Makuch). A self-reporting polling website lists about an average of 26 hours to finish the game, and an average of 151 hours to finish all the quests in the game (howlongtobeat.com). To situate my own playing experience, I have spent about 260 hours playing *Fallout 4* between various characters, with the longest playthrough with one character amounting to roughly 127 hours of playtime. For players enjoying the role-playing adventure game genre, it becomes quite easy to spend a significant amount of time with *Fallout 4*.

The reason that *Fallout 4* is such a rich game is partly in its structure. As the discrepancy in the times cited above shows, the main story only accounts for roughly a sixth of the play time should one chose to try to 'complete' the game, i.e. pursue every quest. This is despite the fact that even the main questline of the game – its story – is already quite long and requires significant time to be played through. To contextualize the analysis, a brief recount of the game's plot is in order. This retelling is a retelling of the most salient kernel events of the game, and thereby somewhat different from what a typical player experience might be, as such an experience would also include a number of satellite events in various configurations.

In contrast to any other *Fallout* game, *Fallout 4* starts in 2077, just hours before the 'Great War', the global nuclear destruction of presumably all of the world. The 'Great War' is the pinnacle of the Sino-American war, an escalation of the Cold War between the United States and China, of which the player character is a veteran. In the *Fallout* universe, this Sino-American war was a war between the US and China for resources, essentially a Cold War turned hot. While all of the *Fallout* games are set in the future, and feature impressive technological advances in certain areas, such as intelligent robots or nuclear-powered cars, other cultural and technological conditions seem archaic, such as the lack of color TV, or clothing and hairstyles more reminiscent of the 1950s or 60s. The *Fallout* games essentially present an "alternate history that started to diverge from the actual world around the time of World War II" (Domsch 407) coated "with the ashes of the Atomic Age's fantasies of tomorrow" (McClancy). The player starts the game by customizing their character. They are introduced into the still pristine gameworld of Boston by their spouse, their infant son Shaun and their domestic robot. After a short while of domestic idyll, a news broadcast informs the player of incoming nuclear attack, prompting the family to flee to the nearest vault, 'Vault 111', for which they registered beforehand.

Unbeknownst to them, the player is cryogenically frozen in the vault. After an undisclosed amount of time, they are forced to watch their spouse, frozen in a pod across of them, being shot and their son being abducted. The player is then released from their cryogenic slumber and the world opens up to them. From this point onward, the game becomes nonlinear – technically, the player is free to explore the world of the game and pursue any quest they encounter. Prototypically, the player will follow the initial nudges of the game (and it is this 'ideal' or 'intended' playthrough that I am describing here), and return back to their former home, finding their cul-de-sac abandoned and destroyed. After talking to their domestic robot, the player learns that their cryogenic sleep has lasted for two hundred years, i.e. that the game has now moved to two centuries after the global nuclear war. The player, in search of their son, travels onwards through the nuclear wasteland of Boston, filled with mutated, hostile creatures. They will gradually encounter members of factions – the alliance and loyalty to these factions determines the game's end. The first faction typically encountered are the 'Minutemen', a now almost entirely defunct militia devoted to keeping the inhabitants of the wasteland save – taking both their name and their preferred weapon (a laser musket) from the Minutemen militia of the American Revolutionary War.

The player progresses to Diamond City, the 'capital' of the Boston wasteland, situated in a baseball stadium turned into a small city. On their way, they usually meet the ground troops of another faction, the Brotherhood of Steel – a faction present in other *Fallout* games as well. In *Fallout 4*, the Brotherhood is imagined as militaristic organization, trying to control as much technology as is left from before the Great War, in order to not let it fall into the wrong hands. In Diamond City, the player learns about 'synths', robots that are virtually indistinguishable from humans, and are said to be sent by the mysterious 'Institute', another faction, to infiltrate what is left of society after the apocalypse. After tracking down their spouses killer with the help of a robot-detective, the player is introduced to the fourth and final faction of the game, the 'Railroad', who are trying to free synths from their servitude to the Institute, considering them equivalent to humans. Through a series of quests, the player learns that their son Shaun was taken by the Institute, and follows him there. Arriving at the Institute, which is located in a bunker below the ruins of the M.I.T., the player learns that they have spent more time in cryogenic sleep than expected, and that their infant son Shaun is now not only old and close to death, but has also become the director of the Institute. The reasons for his abduction is revealed as well: earlier scientists used the infant's DNA, untouched by nuclear radiation, as model for the synths – for this reason, he is referred to as 'Father' by the members of the Institute.

At this point, the story opens up. What until now has been a fairly mythological narrative structure (Todorov 40) diverges into a more gnoseological setting. Depending on which faction the player decides to support, different quests and objectives are to be reached to ensure the winning state. The Brotherhood of Steel, who consider synths dangerous technology, requires the player to wipe out the Railroad, allies to them and their potential liberators, and destroy the Institute. The Railroad, consequently, require the annihilation of the Brotherhood, and organize a rebellion of the synths before destroying the Institute. If the player sides with the Institute, they have to both take out the Brotherhood and the Railroad. The ending achieved by supporting the Institute results in the Institute powering up a nuclear reactor, ensuring their continuous existence. Supporting the Minutemen will likewise end with the destruction of the Institute, although there is the possibility to destroy the Brotherhood of Steel as well. After having achieved this end point, the credits will roll – the player, however, is free to still roam the wasteland of Boston and explore, fight, and finish as many side quests as they desire.

Summarizing the plot of the game in this way, it becomes clear that *Fallout 4* is a game distinctly concerned with the United States and their history. In my analysis, I aim to examine in what ways *Fallout 4* negotiates ideologies of both the United States history and present on a narrative and ludic level. Building on a critical approach, the following will show that facets of US history are distorted by hyperbolic irony to make them approachable to the player, suggesting a resting uneasiness with both the past, and the present that resulted from it. Additionally, my analysis investigates how both ludic and narrative elements of *Fallout 4* work as reproducers of a hegemonic neoliberal ideology, ultimately relying on distinctly American cultural and historical assumptions. Thereby, *Fallout 4* as a game about a past in the future becomes telling of the contemporary United States.

The following analysis tackles the game from two sides. The first part of the chapter is concerned with the game's narrative in its broadest sense. I examine the gameworld's retrofuturist aesthetic in connection with significant kernel events of the story to discern the relationship of *Fallout 4* to both uncomfortable and celebratory elements of the United States history. This will suggest that the ironic distance the game aims to achieve ultimately undermines any critical engagement with history. This assertion is supported by the portrayal of ruins as evocative spaces in *Fallout 4*, which however hint at a resting uneasiness of such a distancing irony. These ruins also signify an ambiguous relationship to the contemporary United States. Building on this ambiguous relationship embodied in the ruins, a discussion of the nuclear ecology of *Fallout 4* closes the analysis of narrative. The nuclear wasteland of Boston again draws on contemporary anxieties while simultaneously negating them.

The second part of the analysis is concerned with some of *Fallout 4*'s salient mechanics and is ludological in nature. I relate the game's 'settlement' mechanic to the notion of the American Frontier and read it as a reflex of the manifest destiny. In such a way, I argue that the portrayal of history remains ultimately uncritical. This, however, holds also true to the present: in the final part of the analysis, I argue that the nuclear apocalypse of *Fallout* is effectively inconsequential, leaving dominant ideological assumptions about capitalism and self-improvement untouched. Thereby, these assumptions that guide our present are ultimately cemented as timeless.

3.1. The Narratives of the Wasteland

In this initial step of the analysis, the narrative assertions of *Fallout 4* are investigated. As e.g. Bogost (*Things* 48) suggests, narrative and space are closely intertwined in videogames. For this reason, much of the discussion of *Fallout 4* centers around its space – its ecology, and the ruins that inhabit them. However, another significant portion is devoted to the game's plot. Priming the analysis is a closer look on the game's retrofuturistic aesthetics – as both the game's environment and plot are couched in them.

3.1.1. Retrofuturism, Nostalgia and History in the Wasteland

As the brief recollection of the enacted narrative of *Fallout 4* has shown, this game is distinctly concerned with history – the history of the United States. The game's unique conception of history is embedded in, and mediated by its retrofuturistic aesthetics, which convey a sense of nostalgia, masked by an ironic distance. The following untangles the relationship of *Fallout 4*'s aesthetic, its conception of history, and its use of irony. It suggests that, while the game's aesthetic suggests an ironic distance, the actual engagement with darker parts of the United States history is uncritical. The ironic distance that dilutes any critical engagement with history ultimately reaffirms hegemonic notions of America's past.

Fallout 4's instantly recognizable visual design has been a cornerstone of the series, especially since the enhancement of graphic abilities of computers before the serie's revival with *Fallout 3* made a more detailed rendering of objects possible (McClancy). The design is overtly retrofuturistic – a style that, in *Fallout*'s iteration, can probably best described as "a parody of 1950s scientific utopianism as well as its political paranoia" (Domsch 407). Retrofuturism, a term that Latham (340) links back to the 1984 Smithsonian exhibition "Yesterday's Tomorrow" can be accurately characterized as "a Space Age Future that simultaneously conjures the past", a mélange of "fin-de-siècle daydreams and modernist longings" (Latham 339). Retrofuturism is, essentially, a "*history* of the future" as Joseph Corn and Brian Horrigan write in their book

accompanying the Smithsonian exhibition (xii, emphasis in original). Figure 8 below gives a glimpse of *Fallout 4*'s retrofuture before the bombs fell, complete with a domestic chore robot. The game's aesthetic is an augmentary narrative experience (Pearce "Game" 145), underlying all other narrative experiences of the game because they are molded to fit its mode.

Figure 8 The interior of the player's house before the Great War

The recognizable, but nevertheless strange aesthetic of the game evokes the design of the 1950s, and by extension its historical associations and beliefs (McClancy). In such a sense, the dominant mode of the aesthetic is nostalgia. This nostalgia is not only evoked by the game's aesthetic, but also by its destruction – after all, shortly after the initial sequence of the game, the retrofuturistic environment becomes destroyed, ravaged by time and nuclear fallout. The evocation of the 50s is therefore displaced in two ways: both by the actual temporal mismatch between the game's aesthetic and the 21st century it is played in, and in the destruction and neglect symbolizing this passage of time. The aesthetics are the futures of the past, "the ashes of the Atomic Age's fantasies of tomorrow" (McClancy).

The game's design is thereby a somewhat excessive nostalgia, a nostalgia yearning not specifically to the 1950s, but rather to the promises these times supposedly held. This nostalgia excessively permeates every aspect of the game, and frequently crosses into the pastiche. Some (e.g. McClancy, Mosberg Iversen) have suggested that this crossover of nostalgia to pastiche hints at the overcoming of any nostalgia, but this would be too simplified. The nostalgia of retrofuturism is both "a form of bad faith and a screen for darker impulses – specifically, for fears of our own antiquation" (Latham 343). These fears are articulated quite literally in *Fallout*,

where the irradiated world has surpassed humans. In *Fallout*, nostalgia reminds us that these tomorrows of yesterday have already arrived – the retrofuturist nostalgia is reminiscent of a future that is already "upon us, and with a vengeance" (Bukatman 59). This essentially means that the future has arrived, but is completely different from what futurism expected it to be. This becomes obvious in *Fallout*, a game that "is set both in the future and in the past" (November 301) – and can only articulate its future as past. Bukatman's phrasing of a future "with a vengeance" (59) already calls upon Jameson's analysis of nostalgia[9], as a "nostalgia for the present" (Jameson 279). This nostalgia for the present is a result of the impossibility to articulate a meaningful idea of the future (Jameson 286). In such a way, this nostalgia is very much retrofuturist in nature. The past has to step in for a future that can no longer be imagined, the nostalgic mode is thus a nostalgia not for the 1950s specifically, but for their vision of the future. Latham, after all, calls retrofuturism "an ironic celebration of the obsolescence of imagined tomorrows" (348). But since nothing fills the hole, all that is left is the nostalgia for those imagined tomorrows. In its excessive display, bordering on pastiche, it displaces the aspect of yearning present in nostalgia, but does not drown it out. The ironic distancing created by excess fuels not only the game's nostalgia for a future, but also informs its overall perspective of history.

Essentially, *Fallout 4* as a game is deeply concerned with history. On the forefront of many discussions of the series stand its negotiation of the Cold War – cited as being the maybe most engaged discussion of this part of history in any current popular text (McClancy). Scholars have noted the similarity between the Cold War setting of the game and the current post 9/11 security state, drawing parallels in the way these periods "see the United States facing an existential threat based in an ideology defined as antithetical to American ideals" (McClancy). But *Fallout 4* engages with the past even further – while its aesthetics evoke the Cold War, its plot – the enacted narrative – draws on the American Revolutionary War and the legacy of slavery. These two distinct eras of history become entangled in *Fallout 4*: while much of the plot negotiates the US legacy of slavery, with cyborgs as a stand-in for the enslaved black Americans, the gameworld being modelled after Boston arguably invited many of the parallels to the American Revolutionary War. The game itself seemingly suggests how its relation to history should be understood: one of the first kernel events has the player rescue the last member of the

[9] Bukatman's "future […] with a vengeance" (59) is likely inspired by Jameson's conception of "historicity with a vengeance" (Jameson 287)

Minutemen from the Museum of History. The banner in front of it (fig. 9) reads: “Celebrate History!”

Figure 9 'Celebrate History!' banner in front of the Museum of Freedom

And indeed, the game’s conception of the Revolutionary War is celebratory. The Minutemen, one of the game’s factions modelled after the militia of the Revolutionary War, take their slogan (“Ready at a minute’s notice!”) from the original Minutemen slogan – to be “ready to ‘stand at a minute’s warning in Case [sic] of an alarm’” (Bush 19). The game celebrates the legacy of both the Minutemen and the Revolutionary War extensively: Bunker Hill, Lexington and Concord, places that “enshrined the minutemen in American military history” (Bush 20) are all significant locations in the game. The Battle of Bunker Hill is reenacted as a kernel event of the story, where the player – depending on their alliance to the different factions – either helps captured synths to escape (when aligned with the Railroad), recaptures them (when aligned with the Institute) or kills them (when aligned with the Brotherhood of Steel). The allusions to the Revolutionary War reach further: the ruin of the Old North Church has two lanterns placed on its steeple, a reference to the plan to alert the Revolutionaries of the British, popularized by the poem “Paul Revere’s Ride” by Henry Wadsworth Longfellow: “Hang a lantern aloft in the belfry arch / Of the North Church tower as a signal light, – / One, if by land, and two, if by sea;” (8-10).

However, the allusions to the Revolutionary War are not exclusively celebratory. Many of them are saturated with elements of pastiche and irony: the Minutemen carry ‘Laser Muskets’, a weird fusion of a musket and a laser rifle, which requires a manual crank to be shot.

Furthermore, the game features an non-player character named John Hancock (clearly named after the historical figure), reimagined as period-cloth wearing, drug-addicted, borderline maniac ghoul (fig 10).

Figure 10 The game's version of John Hancock

This Hancock-character however is in no way displayed as antagonistic or evil, much rather as a likeable and somewhat eccentric fellow. This fictionalized version is close in style to the game's version of the USS Constitution. Although not technically part of the Revolutionary War, as the ship was constructed only after independence from Great Britain, it is linked to the legacy of the Revolutionary War – and American Militancy in general – through its name and status. In *Fallout 4*, the ship is fitted with rocket engines and 'shipwrecked' on top of a building for undisclosed reasons. It is maned by characterful robots, and the player has the option to complete a satellite quest to defend it against intruders and launch it again (only for it to promptly get stuck on the next, higher building). These hyperbolic, absurd engagements are in the same mode as the excessive indulgence with retrofuturist aesthetics: taken at face value, their portrayal is purely ironic. This irony in *Fallout*'s dealing with history deserves closer attention.

Videogames, theorists like Lizardi argue, can act as points of departure for "alternative histories that resist historical determinism." In many readings of the *Fallout* series, this resistance is, in some way or another, attributed to the use of irony, satire or cynical humor in the games (e.g. Domsch 407, McClancy, Mosberg Iversen, November 298, Schulzke "Critical" 324-25, Schulzke "Refighting" 267). This, however, begs the question in which way historical

determinism is resisted, and where the subversion of such resistance lies. The excess of the retrofuturistic aesthetic can be questioned along the same lines.

Such a line of questioning cuts to the core of *Fallout* and its relation to history. While it is clear that traversing the wasteland with a drugged, ghoulish John Hancock as companion only to encounter a flying naval warship populated by anachronistic robots is a fun playing experience, it is not a subversive one. In a certain way, the fact that the player can, and is encouraged to laugh about experiences like these reassures their underlying mythos. By designing these enacted narratives and micronarratives as so excessively ridiculous, their moderate form becomes reinforced as acceptable. As Dyer-Whiteford and de Peuter state in their analysis of the excess of the *Grand Theft Auto* series, such ironic excess acts as "a self-cancellation that allows these elements to stay intact, […] the rendering of these truths in the form of excess […] functions to keep these same truths at safe distance" (181). Cutterham (315) formulates this even more succinctly: in his analysis, *Fallout*'s "setting serves as an exaggeration – a distortion of scale, but not type." Such a distortion does not engage critically with the history that underlies it– instead, it solidifies the fundamental assumptions on which it rests. In similar ways, the same is true for the excess of the retrofuturistic aesthetics: the nostalgia for the present, for an articulatable future that underlies its aesthetic is somewhat numbed in the excess of its portrayal.

The game's negotiation of the Revolutionary War is therefor largely celebratory. Irony, although generously used by *Fallout 4*, ultimately reaffirms these celebratory negotiations of history. *Fallout 4*'s perspective on its other main historical influence, however, is much different. While it can be argued that *Fallout 4*'s position on the Revolutionary War is mostly informed by its setting in Boston, its negotiation of the legacy of slavery is driven by the game's kernel narrative. This narrative utilizes 'synths' as a stand-in to humans in its metaphor of slavery. While the argument has been brought forward that this aspect of the story serves as reminder of the role of slavery in the creation of the United States (McClany), I argue that this central metaphor reveals itself upon closer inspection as signifying a residual awkwardness with this dark part of United States history. Furthermore, the way in which the enacted narrative can play out offers an astonishing rewriting of history, bordering on revisionism.

Fallout 4's central narrative arch of the Institute – the shadowy organization which creates the synths, enslaves them for their labor, and uses them to spy on the residues of civilization – marks the turning point for its narrative from the mythological to the gnoseological narrative structure. Prior the discovering the Institute, the player follows the kernel events in a linear trajectory. Once the Institute is introduced into the narrative, the player has to align themselves

with one of the factions to progress their quest, resulting either in their prolonged enslavement if they decided to side with the institute, their destruction if the side with the Brotherhood of Steel, or their liberation if they side with the Railroad. While the game makes relatively straightforward assessments on the ethical implications of each position, the choice remains in the hand of the player. The metaphorical underpinnings of this narrative turning point is straightforward, the allusions to the Railroad, modelled after the Underground Railroad, marks this metaphor of slavery as distinctly American.

This underlying metaphor, however, carries somewhat awkward implications. While the game makes explicit that synths are virtually indistinguishable from humans (and one of the satellite quests actually reveals an non-player character of the Brotherhood of Steel, devoted to murder synths, as a synth himself), they game subdivides these synths further. The Institute, painted as a society of scientists locked in voluntary isolation, are equipped with an army of synths – those synths are visibly nonhuman and only serve a ludic function as killable enemies (fig. 11).

Figure 11 A non-interactable synth and a humanoid synth

This subdivision the game makes for a ludic reason – i.e. to offer a near endless stream of enemies, consistent with the image of the Institute as small population of scientists – echoes the subdivision of slaves along the lines of 'house'- and 'field servants', a complex and controversial issue running along different axis, far from being a rigid divide (Sutherland 339-40). The game, however, has no other possibility than to articulate this binary as clear cut: there are synths who offer a variety of unit operations to the player – they give the player quests, make conversations or pose challenges to them, and there a synths who are mere cannon fodder,

where the only possible unit operation is to kill them. Because *Fallout 4*'s central metaphor poses synths as slaves, it evokes this problematic binary as well.

The idea of using mechanical humans in a variety of forms as metaphors for slavery is not unique to *Fallout 4* – in fact, stories about robots or synths regularly address legacies and understandings of slavery (Kakoudaki 115). The metaphor of artificial humans as slaves is explicitly positioned in the legacy of racialized slavery, as the body of enslaved black people has always been reduced to the status of a tool (Chaney 265) or machine (Gallardo 242) in white supremacist imagination. This metaphorical equivalent of the robot as slave is already primed by the etymology of 'robot' from the Czech 'robota', meaning serf labor (Kakoudaki 116). The robot, cyborg or synth is thereby already coded as (racial) other. Chaney (267) especially notes how the complex determinations of the black slave are organized around a visible otherness.

Fallout 4, however, negotiates this point differently – by making the enslaved synths completely undistinguishable from other characters, the game implicitly assumes a race-blind point of view. While this appears to be an effort to underscore the similarities between synths and humans, this effort ultimately results in characterizing the othering of synths as opaque and random. By taking visual othering through mechanical appearance out of the equation, the game invites a race-blindness to its metaphorical construct, essentially ignoring the racialized aspect of US slavery. Critics like Kakoudaki have explicitly noted that it is precisely this visible, mechanical otherness of the artificial human that connects these "narratives with the historical legacies of slavery and their cultural memory" (117). In the game's choice to make the sentient synths indistinguishable from humans, it deemphasizes the role of (racial) othering in slavery, essentially pulling the rug out under the central metaphor's feet. This desire to tell a story about the history of slavery in the United States without engaging in its racialized aspects is indicative of the uneasiness with the racialized aspect of slavery and its legacy in contemporary racism. *Fallout 4* tries to reconcile its vision of a post-racial future with the story about US slavery it aims to tell. The dissonance between these efforts expresses a lingering uneasiness with, and an ambiguous relationship to the history of slavery.

And indeed, the retelling of the United State's history of slavery with synths is telling of a residual uneasiness about the legacy of slavery in contemporary US society. This uneasiness is in tension with its celebratory depiction of the Revolutionary War, as both these aspects of the narrative center around a quest for freedom. One of the game's possible endings connects these two aspects: if the player completes *Fallout 4* in an alliance with the Minutemen, they can free the synths. In this portrayal of an alternative history, the Minutemen, celebrated heroes of the

Revolutionary War, also become the liberators of the enslaved. This version of the enacted narrative places the shameful history of slavery in the celebratory context of revolutionary liberation. The act of liberation is thereby coded as American – but not the act of enslavement. This expulsion of the uncomfortable aspect of slavery seems an idealized version of history, a history that sits well with the player – but not a history that critically engages with itself.

Ultimately, the enacted narrative of *Fallout 4* and its concern with US history is primed by its augmentary narrative in the form of retrofuturist aesthetics. These aesthetics, informed with a complex nostalgia, and characterized by ironic excess, lay the groundwork for the engagement with history – a history that is ultimately either negotiated uncritically, or characterized by present day anxieties. This conception of history is not exclusive to the game's enacted narrative or augmentary narrative – it is developed further in its evocative spaces.

3.1.2. Ruins and Dark Tourism

While *Fallout 4* and its predecessors inarguably feature a diverse and interesting mise-en-scene and a range of evocative spaces, amongst their most revered and prominent is their depiction of ruins. The setting of many of the main installments of the series were culturally and politically relevant centers of the United States, such as Washington D.C. in *Fallout 3*, Las Vegas in *Fallout: New Vegas*, and Boston in *Fallout 4*. The following examines the depiction of the post-apocalyptic Boston in *Fallout 4* under the theoretical lenses of both ruin porn and dark tourism. I argue that both the evocative spaces of nondescript ruins and American landmarks serve as more than pure set dressing, and instead both fuel "a rational paranoia that taps into our own eventual demise - both individual and, more importantly, collective" (Lyons 1) and showcase an uneasiness with the historical past of the United States and the myths that sustain it.

Walter Benjamin was amongst the first to recognize the appeal of ruins, noting that "[i]n the ruin history has physically merged into the setting", a setting in which history is represented as "irresistible decay" (Benjamin 177-78). The irresistibleness of such a decay has shaped the understanding of ruin porn, a term reflecting the obsession that ruins inspire (Lyons 2). The obsession with ruins has been investigated from several angles, most notably citing "the idea that the destruction of physical structures is paralleled by, and symbolic of, the destruction of social structures," thereby associating the ruin with "liberation and freedom" (Watts 247). This liberation is sometimes considered not just a liberation of an abstract standing order, but more directly an understandable paradigm. Drawing on the well-known phrase, both attributed to Frederic Jameson and Slavoj Žižek, that it would be easier to imagine the end of the world than the end of capitalism, Lyon (3-4) argues that "ruin porn confronts both of these matters in a

single gesture. The end of capitalism thus evokes the end of the world." The “liberation and freedom” Watts (247) sees as the ground of obsession is thus the liberation of capital. There have, however, been complementary approaches, seeing the fascination in contemporary ruins in their ability to confront us with mortality and extinction without facing the literal consequences of death (Lyons 10). Yet another angle sees this obsession more grounded in “the moment of obliteration,” which decontextualizes the ruin both from the present and its past (Arnold 335). Another explanation grounds the phenomenon in nostalgia (Steinmetz 298). There is no singular explanation to account for the fascination of ruins.

The ruins found in *Fallout 4* may even make the situation even more complex. There is, of course, a considerable difference in the portrayal of a ruined, nondescript family home or super market versus the ruin of the M.I.T. or the dilapidated Bunker Hill Monument. While the former may correspond closer to the a “simpler nostalgia for Fordism” and “a desire to relive the past” (Steinmetz 298), while the latter may correspond more closely to the metaphorical destruction of a social structure (Watts 298). The relationship between ruin and observer is even further complicated by the fact that ruins in *Fallout 4* are not only there to be observed – they are, essentially, to be played with. While parallels have been drawn between videogames and architectural storytelling (e.g. Pearce “Theory” 3), the considerations of ruins in games has been sparse so far.

However, one theoretical field closely connected to ruin porn (Lyons 6) has made considerable advancements in modelling the experience of a virtual encounter with death and destruction: virtual dark tourism. Originally conceived as dark tourism, its object of study are places with violent or devastating histories, turned to “tourist sites connect[ing] people to the past in tangible ways through objects, spaces, exhibits, and dramatic recreation" (McDaniel 1). These travels to sites of atrocities, whether the journey be virtual or real, attract in a similar way as ruins. One of the reasons McDaniel names for the attraction of dark tourism is to “invite reflection on the possibility of catastrophe in the here-and-now,” citing “postmodern anxieties about late-capitalist and post-Cold War developments” as a possible reason (McDaniel 2). Ultimately, virtual dark tourism functions in a similar way, however with the facet that even impossible travel is made possible (Milligan 267) – not just travelling to sites that are hard to reach, but also to those that do (yet) not exist. The virtuality of the travel – or the destination – does not matter much: a Seaton (14) has concluded, the encounters of dark tourism are always “engineered and orchestrated” for the tourist’s consumption.

The discussion of the ruins of *Fallout 4* as evocative spaces is therefore informed by two perspectives: their appeal as ruins and their status as destination of virtual dark tourism. Before turning to the recognizable ruined structures of *Fallout 4* – the dilapidated Bunker Hill Memorial and the Massachusetts State House – the all-pervasiveness of nondescript ruins in *Fallout 4* is discussed.

A novum in *Fallout 4* that separates it from preceding titles is the fact that the player, however briefly, gets a chance to play before the bombs fell, and is invited to a direct comparison of the starting area before, and after the Great War. The first depiction of ruins in this discussion very much begets such a comparison: it is the player character's house, the last structure they see before entering the vault, and usually the first they encounter after escaping. Figures 12 and 13 offer a direct comparison of this structure before and after the player enters the vault:

Figure 12 The player character's house prior to the Great War

Figure 13 The player character's house as ruin

This ruin is special – not because it is parsed by the player as their literal domestic dwelling, bur rather because the game allows us to see it untouched beforehand. The interior, once pristine, is encountered again as abandoned, smashed, forgotten. While some critics have expressed doubt about the obsession with ruins simply being ground in nostalgia (e.g. Gansky 123), it is clear that nostalgia plays a significant role in such a depiction. The pristine house and its interior are symbolic for a presumed past way of life. In this way, these ruins are not simply evocative spaces, but also spaces enriched by augmentary narratives. Economic history suggests that such a picture is not inaccurate: the building of single-family homes skyrocketed between 1946 and 1956, and spending on furnishing and household appliances rose by 240 percent between 1945 and 1950 (Coontz 24-25). It is, however, not the factual accuracy behind the pristine home, but rather its promise of economic growth and stability that inspires nostalgia. In many of the domestic ruins of *Fallout 4*, such a nostalgia is evoked. This is not a nostalgia for a specific period of time but rather the promises that it supposedly held. The fact that the series' revival with *Fallout 3* in 2008 coincided with a large-scale global financial crash and a decade-long recession contextualizes this nostalgia even further in the supposed promise of (economic) stability.

The feeling of nostalgia is, however, ambiguous. While the idea of the suburban family home filled with wonky household appliances corresponds somewhat to the economic reality of the 1950s, the accuracy of such a depiction is not important. There is also a deeper enjoyment in such ruins, in seeing the destruction of the ideals they evoke. In a way, these domestic ruins

also fascinate because they signify destruction and obliteration (Arnold 355), and in this case, the destruction of the promises signified in these homes is ambiguous to the player. What these ruins signify oscillates between acceptance of such stability being bygone and spite towards them. These ruins are, after all, literal playgrounds – there is little to no awe-inspiring distance between them and the player.

The cul-de-sac in which the player's home is located is the prime example of this. After the nuclear destruction, the player can build new structures, made of scrap metal and improvised materials (this mechanic is discussed in more detail in 3.2.1.). Any nostalgia still present in these structures is overcome by literally scrapping them away and repurposing them into new, makeshift structures, bearing clear signs of their repurposed nature. The exterior of these houses, however, cannot be repurposed. These ruins loom over the player while they create their new, makeshift dwellings. Thereby, the nostalgia that underlies them becomes complicated. Because they lack the authoritative distance of a mere visual representation, any simple nostalgia they may evoke becomes challenged by ludic actions. In such a way, these ruins are more than evocative spaces – the augmentary narrative associations of them potentially inspire nostalgia, which is overcome partly due to a game mechanic allowing to repurpose them. The emergent narrative experience of this mechanic complicates their nostalgic associations. These can be overcome and recontextualized, where their bare structures serve as reminder of a 'survival despite of'. The contrast of the ruins of an imagined past and the makeshift present structures opposing them results in the ambivalent nostalgia these ruins portray.

Not all of *Fallout 4*'s ruins are imbued with such ambivalent nostalgia. While many (domestic) ruins allow for the unit operations of settlement building that characterize their ambivalent status, the great majority of nondescript ruins mostly act as pure evocative spaces. These might be explored and battles might be fought within them, but the player is not able to significantly transform term. These ruins act as destinations for the virtual dark tourists that play *Fallout 4*. This does not lessen their status as objects of investigation, as much of the fascination of *Fallout* lies in its "wonder of archaeological discovery" (Seidl 43).

Consider, for example, the ruin in figure 14: this is a ruin as nondescript as can be, the game does not even allot a marker on the map that would have identified it. It is a former retirement home, now dilapidated and forgotten. The gameworld of *Fallout 4* is filled with such ruins, they symbolize a societal collapse (Watts 247), even more so than a completely barren landscape could.

Figure 14 Ruin of a retirement home

Such ruins are evocative spaces of the game world, often filled with micronarrative experiences. A ruin like the one in figure 14 usually features carefully placed skeletons or other atmospheric details, not only enriching the gameworld, but also marking death as an "implicit feature" of it (Spokes 147). These all-present ruins are also constant sites of combat themed unit operations, and the death they represent is thereby mirrored with literal deaths of the player's avatar or other, non-player characters (Pichlmair 109).

Thereby, these ruins serve both a ludic and a narrative function. As objects of play, they enable the player to traverse them in a variety of ways, using holes in walls, roofs, or floors for creative actions in combat sequences. The rubble and ruins of the inner city of Boston similarly enhance play, creating tight chokepoints for hectic and claustrophobic combat, as Mosberg Iversen has described for the urban ruins of *Fallout 3*. In their role as evocative spaces, the ruins act as destinations for the player as dark tourist, often filled with micronarratives which facilitate the sensation of play as "archeological discovery" (Seidl 43). But they serve yet another role: while the constant reminder of death may generate a feeling of uncanniness in players (Milligan 275), it has also been brought forward that these ruins symbolize "liberation and freedom" of standing social orders (Watts 247). The term 'liberation' is probably most representative here, as the ruins themselves hardly subvert social orders, but much rather suspend them. The taboo of direct violence, which necessarily has to be suspended in a combat-driven game, is circumvented by a world filled with ruins, which make it ostensibly clear that this is no longer a society in order.

These nondescript ruins therefore serve a variety of purposes and convey different, sometimes even conflicting meanings. While they facilitate explorative behavior, these generic ruins are somewhat overshadowed by more salient ruins – the ruined landmarks of Boston.

These ruins – such as the Monument of Bunker Hill or the Massachusetts State House –are fundamentally different because they are mostly unaffected by the game's retrofuturistic aesthetic and are modelled more closely to their real equivalents. Also, these buildings carry meanings outside of their game appearance – which are modelled and modified in their game appearance.

Consider, for example, the game's rendition of the Memorial of Bunker Hill in figure 15: it is visibly dilapidated, but far from being a traditional ruin.

Figure 15 Bunker Hill Monument in Fallout 4

This depiction of ruin comes closer to what Lyons (2) described as "a bewildering form of time travel to the future within the present." The Bunker Hill Monument stands as a recognizable feature of the present, and as such, seeing its slow but visible degradation is a different experience than any nondescript ruin in the game. The monument, originally constructed "to the memory of those statesmen and soldiers who led the way in the American Revolution" (Bunker Hill Monument Association 28) has, for the longest time, been a staple of the United States concept of a nation, even though its importance diminished somewhat after the Reconstruction era (Roeser 3). However, the battle of Bunker Hill – and the monument commemorating it – are still part of a larger American mythos. The monument itself, interpreted

as “a symbol of American military perseverance and heroism” (Purcell 61) is an integral part of this mythos. The monument in *Fallout 4* does little to question or critically engage with this mythos. Although an independent community has settled around it, the Monument of Bunker Hill is far from being an opportunity to “rethink standing symbols of social order,” as Chandler (58) analyzed for prominent ruins of *Fallout 3*. Instead, the game reinforces the uncritical conception of American heroism and self-sacrifice. As the player character is introduced as a veteran of the Sino-American War in the introductory sequence of the game, and the Battle of Bunker Hill is recreated ludically as a kernel event in the story, the Monument of Bunker Hill is consistently placed in the same, militaristic context. It’s prevalence even after nuclear war suggests a timelessness to the mythos underlying it.

This mythos could have been critically negotiated in the course of the game. After all, the *Fallout* series is often read as games concerned with the “harsh realities of a world devastated by war" (Schulzke “Refighting” 266) – but such a reading might not account for the traces of militarism still embedded in the games. In the same way that the enacted narrative of *Fallout 4* might produce an ironic distance to US history, but does not subvert it, the depiction of the Bunker Hill Monument might recontextualize its militarism, but does not subvert it. Ultimately, the symbolism of the monument – much like its structure – remains nearly unchanged. It is the present, masquerading as ruin.

This, however, is not the only form of negotiation with the US’ past in *Fallout 4*. Figure 16 shows the game’s version of the Massachusetts State House. Lacking the pervasive mythology of sites like the USS Constitution or the Monument of Bunker Hill, such a location represents the United States history and its institutions more broadly. There are still traces and remnants of them, scattered through the wasteland of Boston, but these have been repurposed.

Figure 16 Massachusetts State House in Fallout 4

Ruins like those of the Massachusetts State House corresponds to those ruins conceptualized by Lyons (10), which "speak of our own civilisation while we are still living and breathing." While such a structure might not be recognizable for most players, it carries the aura of officiality and governmental power. Its abandonment very much reflects the downfall of a social order as theorized by Watts (247). While this alone makes the Massachusetts State House a notable evocative space, the interior of it contains a micronarrative experience especially worth considering. Inside of the ruin, the player will be confronted with a number of raiders, anarchistic antagonist out to kill them. But beneath the State House itself, the player will find a safe filled with radioactive barrels, and a mirelurk queen – one of the rarest and deadliest enemies of the game. It is no surprise that this irradiated monster is found in the underground foundation of a State House (much like the Institute as primary antagonist is located in a secret bunker under the MIT, and the climactic fight with the spouse's killer happens in the basement of a military fort). Such a connection between foes and monsters and them dwelling underground makes sense from a ludic perspective: it offers an additional challenge to the player, as even the traversal to them is a challenge in itself. Were these foes located immediately behind the entrance door, there would not be a build-up of sorts, leading to these intense confrontations. There is, however, more to this: by such a placement, the very foundation of such ruined, official buildings becomes associated with peril and monsters. Whenever the player enters a ruin like the Massachusetts State House, they can be sure that a monster lurks at its bottom.

The fact that these large ruins imbued with an aura of officiality and governmental power carry these traces of rottenness at their foundation [10] is significant. The previous section (3.1.1.) laid out how irony is used as a distancing device to uncomfortable aspects of US history. Without straying to far into a psychoanalytical reading, it can be argued that these monsters in the basements of (semi-)official ruins fill the distance created by the ironic depiction of history. These ruins are, after all, representations of these institutions and their shared US history. As such, the evocations of officiality these structures generate are inextricably linked with the foes and irradiated monster that lurk within them. The monsters in the basements of these ruins thereby hint at a resting uneasiness with the history these ruins embody.

The ruins of *Fallout 4* serve a variety of different narrative and ludic functions. Ultimately, these ruins reflect a variety of obsessions cited in literature of ruin porn – such as nostalgia, a liberation of standing social order, or implicit encounters with death. However, placed in their ludic and narrative context, we see that these ruins express something even deeper, simultaneously asserting American myths while also expressing an uneasiness about them.

3.1.3. The End of the World: Ecocriticism and Apocalypse

As a final note on the game's narration through its space, this chapter investigates the augmentary narrative experiences of *Fallout 4*'s nuclear ecology. The augmentary narrative associations are investigated through the lens of ecocriticism and are related to current concerns of climate. The nuclear catastrophe that shaped the wasteland of *Fallout 4* is read as the antithesis to the slow pollution process of climate change, and as a nihilistic absolvent of it. In such a way, it taps into the notion of the atomic sublime, an atomic sublime succeeding the Cold War. Nevertheless, the irradiated glow of the wasteland also draws on contemporary anxieties of pollution. These factors are additionally related to gameplay, where it becomes clear that even in the post-apocalypse, the nuclear ecology exists to provide the player. However, it is far from being pastoral – it falls closer into the trope of the dangerous wilderness.

The environments of videogames matter. Murray, in her seminal study on narration in new media, already acknowledged that digital environments contribute to the immersiveness of digital text (*Holodeck* 87-88). *Fallout 4*'s environment is largely determined by its ecology – a distinctly post-apocalyptic, nuclear ecology. The barren and ruined landscape is wholly defined by its nuclear catastrophe. Barren trees and fields are filled with irradiated, mutated creatures.

[10] Other notable examples for this phenomenon are the Institute in a bunker under the MIT, the hitman Kellogg in a bunker under a military fort, a brain-harvesting operation run by a US military branch underneath an office building (introduced in the *Automatron* DLC), etc.

Not all of these are hostile, but almost all of them are mutated and strange. *Fallout 4*'s ecology has to be read in light of its catastrophe – the mutually assured nuclear destruction.

This nuclear annihilation of *Fallout* expresses a "vulgar desire for catastrophe" (Horn 102, my translation), a desire to overcome the vaguely lingering fears of the present. The nuclear apocalypse is essentially the opposite of what Horn called the "catastrophe without event" (Horn 19-20, my translation), a prolonged, lingering catastrophe that is seemingly always in the making. Climate change represents such a present catastrophe without an event. Because it's causes and effects are complex, it is hardly possible to identify a single cause or culprit, not even in narrative (Garrad 115). The complex and long catastrophe without event proper that climate change is, is overcome in *Fallout 4* by nuclear destruction. This is somewhat ironic, as Derrida famously referred to nuclear war itself as a "non-event", as something that simply has not happened, and therefore only exists in texts, such as videogames (Derrida 23). Nevertheless, in this text, the catastrophe has finally happened, the non-event has become event, and the player is invited to enjoy the rubble of its destruction. *Fallout*'s irradiated ecology is, in this sense, almost light-hearted and fun. Despite its daunting radiation, it is essentially a playground, grounded in the relief of having overcome the catastrophe without event.

The nuclear ecology of *Fallout* – especially the early titles – thereby becomes something bordering on the "kitschy and unthreatening" (Knoblauch 132). While many of the whimsical mutated creatures, like the two-headed cows called brahmin, support this unthreatening conception, it is important to acknowledge that there is more to this nuclear ecology, and a reduction to kitsch would be inaccurate. Following Aravamudan's comparison of nuclear criticism and ecocriticism, I suggest that the nuclear catastrophe of *Fallout 4* is a sublimation of anxieties of climate change (10-13). This sublimation is, however, not entirely successful: just as the nuclear wasteland is not entirely unthreatening, residual anxieties remain.

Before turning to see how these residual anxieties are expressed in *Fallout 4*'s ecology, it is important to note the general representation of the nuclear ecology. Both in its hostility, but also its mostly unthreatening mode, it stands as continuation of the atomic sublime. The atomic sublime, initially identified by Hales, describes the feeling of "[t]error and beauty" (Hales 24) which characterized initial portrayal of nuclear detonations. These feelings solidified in American culture and their relation to the depiction of nuclear detonations, resulting in their understanding as "terrible beauty" (Hales 19), and a new relation to landscapes. With the advent of nuclear detonations, "a product of man, of culture" framed "in the language of nature," the relationship of man and ecology changed: there were no more "unmodified sign[s] of nature,"

and all of ecology became understood as a dominion of human and nuclear influence (Hales 28). This understanding of the atomic sublime is referenced in *Fallout 4* in how it portrays the nuclear detonations, happening just mere seconds before the player enters the vault in the beginning of the game (fig. 17).

Figure 17 The Mushroom cloud of Fallout 4

Its depiction as the familiar mushroom cloud is couched in a cutscene, in itself a "special time" (O'Grady 111) of the game, actively emphasizing narration. By taking away agency from the player, the sublime image of the detonation is emphasized. This is in line with Hale's conception of the atomic sublime. However, the post-apocalyptic nuclear ecology of *Fallout 4* develops the atomic sublime further.

The post-apocalyptic nuclear ecology of the wasteland is an extension of the atomic sublime. The landscape still feels exalted, but not in the "awe and pleasure" (Hales 24) of the atomic sublime. Instead, its exaltation lies in its overcoming of present anxieties through catastrophe. While much of the atomic sublime rested in the knowledge that there was no more nature save from human influence, that there is "nothing completely outside of us" (Hales 28), this new atomic sublime takes this as its prerequisite. Its presentation as a destroyed wasteland, a man-made horror, is contrasted with its framing as a pseudo terra nullius, waiting for discovery by the player. It is, in this sense, an "unnaturally natural" (Wills 451) ecology – entirely shaped by the actions of humans, but still able to evoke a feeling of discovery, of being the first to see it. Figure 18 aims to represent this extension of this new, atomic sublime.

Figure 18 The Nuclear Ecology of Fallout 4

There is, however, another facet to this exaltation that cannot go unmentioned. Much of the sublime feeling evoked by the nuclear ecology of *Fallout* is due to its mediality. It is, after all, a completely computer-modelled landscape, one that achieves a high level of 'realism'. Much of the sublime feeling associated with it stems precisely from the fact that it is not real. The awe it inspires is therefore not only in what this ecology transports, but also in its medium.

This extended atomic sublime, however, does not mean that the wasteland is entirely without peril. As Will (458) notes, while nuclear landscapes may inspire a feeling of "divine beauty," it also designates itself as a place "where invisible evils lurk." *Fallout 4* realizes this underbelly of the atomic sublime in two distinctly different ways: on the one hand, as a designated, hyperirradiated area of the game, and on the other, as a ludic limitation, i.e. a gameplay mechanic.

There is one area in the game where the ecology of *Fallout 4* significantly changes. This area, called 'The Glowing Sea' (fig. 19), differs significantly from the rest of the game. Both in its absolute barrenness and its distinctly different color palette, this part of *Fallout 4*'s geography stands out. The Glowing Sea is, in its color scheme and its weather, very much a toxic place. Its name connects it to notions of the ocean, to deep water, an antithesis to the territory of humans. It is polluted nature, actively harmful to the player. Despite its open space, it feels claustrophobic to the player, as the fog and frequent nuclear thunderstorms obscure their field of vision. It thereby evokes a narrative of pollution.

Figure 19 The Glowing Sea

This evocation of pollution in the Glowing Sea brings the nuclear ecology of *Fallout 4* back to a full circle. Visiting the Glowing Sea is a kernel event of the game, traversing it is mandatory to complete the game. Should the player choose to investigate the place, they will inevitably come across abandoned factories, a decrepit nuclear power plant, and even an abandoned bunker, filled with nuclear warheads. While the game itself explains the highly irradiated ecology of the Glowing Sea by stating that this was where a nuclear warhead detonated during the Great War, the locations found in the Glowing Sea evoke a different kind of pollution. The densities of ruins of factories and the presence of a nuclear power plant connect the Glowing Sea to present-day questions of pollutions. The Glowing Sea in its overt toxicity is not subverted by the notion of an atomic sublime. In its pollution, it represents a taste of what might be a possible future. Its presentation as actively hostile and claustrophobic demarks it from the rest of *Fallout 4*'s ecology. It does not signify the overcoming of an ecological catastrophe like climate change – instead, it illustrates a possible result.

Tightly connected the presentation of the Glowing Sea is a game mechanic of *Fallout 4*: radiation damage. While ludic in nature, it also carries narrative implications. Much like in previous *Fallout* titles, the exposure to radiation is actively harmful to the character. The radiation damage is determined by proximity to a source of radiation, which can be both explicit objects in the game (e.g. a nuclear waste barrel) or just places themselves – such as the Glowing Sea. In fact, the Glowing Sea is probably one of the most irradiated places in the game, so much so that its traversal becomes impossible without utilizing specific armor or items to dampen the

radiation damage. Domsch (407) has commented on how "the ecological consequences of man's inherent inclination to war" act as "elements that structure the experience of playing the game." Pollution is therefore a significant gameplay factor as well. This element, that much of the game's ecology ignores in favor of an exalted experience with nature, is present in a ludic way. The explicit connection of this mechanic to specific places or objects reverberates ongoing and present anxieties of pollution. This corresponds to assertions that, while many videogames while not explicitly deal with climate change, they often nevertheless negotiate its effects (Saxton Brown 403).

As a final note on *Fallout 4*'s ecology, it should be noted how non-consequential the nuclear apocalypse ultimately is for the ways in which players can interact with the environment. There is no scarcity of any natural resource, and almost anything in its ecology is designed to be consumed. Wild animals, who also serve as resource for crafting recipes and experience points, will endlessly respawn. Water will continuously flow out of water pumps, once they have been built by the player. Crops that the player plants will never go barren, and reproduce continuously. In the way in which the player can interact with the environment, the nuclear apocalypse plays a small role. This is, of course, also due to the nature of videogames – resources must be available and respawn continuously, in order to make plays for several hundreds of hours possible, technically denoting no 'endpoint' at which playing becomes impossible. However, it also reflects how many people conceive nature. The ecology of *Fallout 4* communicates much, but overall, it is still there to be consumed by the player.

3.2. Playing America: Ludic Operations after the Apocalypse

This final part of the analysis is concerned with the mediation of ideologies in the game's rules and mechanics. As has been established before (chapter 2.2.4. and 2.4.2.), the unit operations of videogames are not free from ideological baggage. Because game rules are usually conventionalized and implicit, they are optimal actors in processes of naturalization of ideological assumptions. By virtue of this, Bogost ("Ideological" 175) considers such ludic operations as authoritative, "rendering them implicit and in need of critique."

The following aims to discern some of the implicit assumptions present in the mechanics of *Fallout 4*. The first mechanic under investigation – settlement building – connects back to the narrative assertions of the game. This mechanic is contrasted to the notion of the Frontier, as established by Frederick Turner. It suggests that this mechanic, whereby players can establish settlements, acts as a reverberation of the foundational frontier thesis. However, much like the game's metaphor of slavery, discussed in 3.1.1., any shameful aspects of this epoch are defused.

The settlement mechanic leads to the second focus of this chapter. This is a focus on the present, specifically how game mechanics transport ideological frames about happiness and the self. Much in the nature of programming architecture, and neoliberal conceptions, both happiness and the self are implicitly assumed to be easily quantifiable concepts. Because these assumptions are framed within a post-apocalyptic context, their historicity is obscured, naturalizing them even further.

3.2.1. A New Frontier

The first ludic consideration of *Fallout 4* is tightly connected to its ecology and evocative spaces. It is, essentially, a ludic negotiation of these spaces, tightly connected to the United States' history and ideology of manifest destiny. The settlement mechanic, a game mechanic enabling the player to build and fortify settlements, is the logical continuation of a theme that Cutterham (321) already identified (albeit to a lesser degree) in previous *Fallout* titles – the theme of the frontier.

The idea of seeing the American nation building through the lens of the frontier goes back to Frederick Turner. While the question of the accuracy of Turner's frontier thesis is still somewhat debated, and the general consensus suggests that Turner's arguments are somewhat lopsided, the frontier as idea still resonates in popular imagination (Paul 324-35). An essential part of this experience of the frontier is the distinctiveness of it to (colonial) America. Turner sees this as distinctive to American history because:

> "American development has exhibited not merely advance along a single line, but a return to primitive conditions on a continually advancing frontier line, and a new development for that area. American social development has been continually beginning over again on the frontier. This perennial rebirth, this fluidity of American life, this expansion westward with its new opportunities, its continuous touch with the simplicity of primitive society, furnish the forces dominating American character" (Turner 7).

These writings on the frontier thesis are stunningly parallel to the player experience of *Fallout*: the protagonist emerges from a vault, completely unfamiliar with the wasteland he is surrounded with – an identifier or the player, who enters the game as a stranger to the wasteland as well (Milligan 275). The wasteland functions as frontier, and the player "must accept the conditions which it furnishes, or perish" (Turner 8). As Peterson (160) suggests, such post-apocalyptic wastelands can function as revisioned frontier. This wasteland as new frontier is hostile to the player. It is a strangely defamiliarized version of nature, in which beasts, ghouls and 'primitive' societies thrive, but that needs to be remodeled for humans. As Bogost (*Things* 48) notes, progression through the game's quest entails movement through its space - the true challenge of the game is thereby the traversal, and eventual mastery, of this new frontier. The

kernel story sends the player all through the wasteland and supplies them with ever more deadly weapons to master the creatures and fiends inhabiting this new frontier.

But it is not only in the game's narrative that this trope of the frontier is echoed. As a novum to the series, *Fallout 4* features the workbench- and settlement mechanic. This gameplay mechanic allows the player to utilize workbenches, placed strategically in the wasteland, to build structures like huts, walls, or decorations. The player can scrap existing structures, or use junk found throughout the map, to create new settlements. These settlements will then be inhabited by non-player characters, which the player can assign to a variety of duties, such as farming, resource production, or guarding of the settlements. These settlements can be linked up via trading routes, essentially establishing a new empire with the player character as its head. Figure 20 shows settlements spread across the in-game map, the lines connecting them indicate active trading routes.

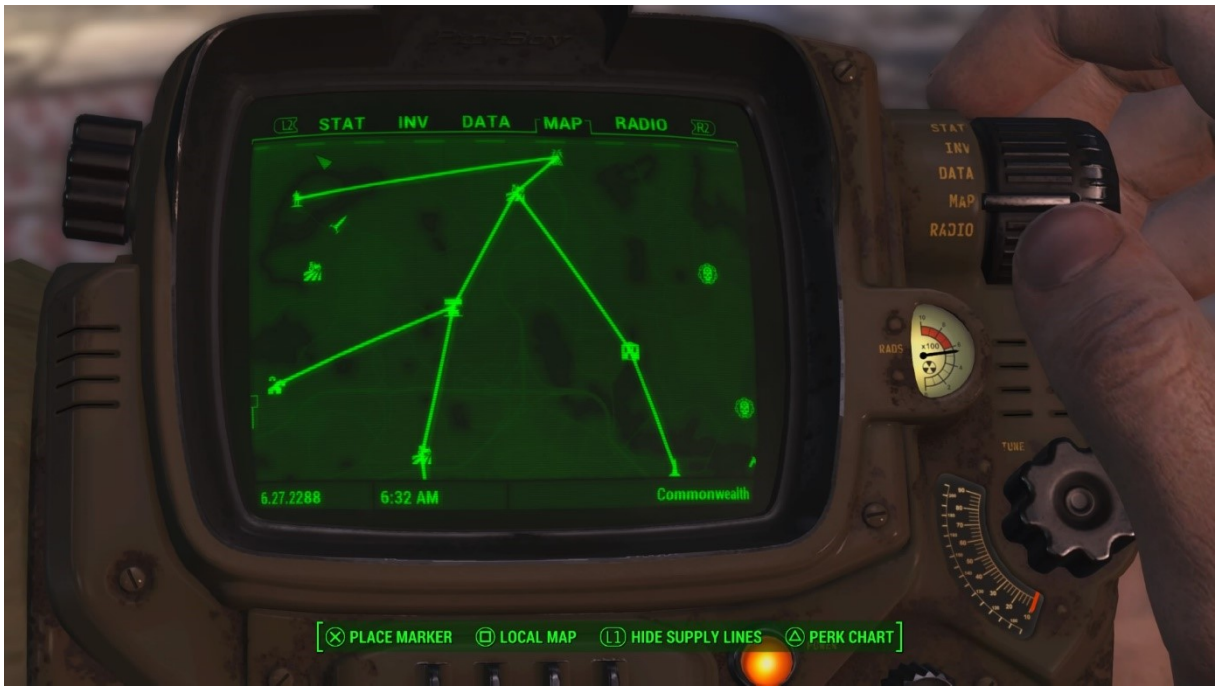

Figure 20 The in-game map of settlements in Fallout 4

This mechanic has two implications for the relationship of the player and the game environment, coded as frontier: it is conceived as a hostile environment – arguably a sensible conception for an irradiated wasteland – that can be manipulated and tamed. Additionally, this taming of the frontier entails a civilizing effort. The player is invited to (re-)build a civilization.

This civilizing effort of the frontier is, theoretically, not an essential part of *Fallout 4*. While there are quests associated with the building of settlements, all of these are potential satellite events, and the game can be completed without them. They, however, still also perform a

narrative function as well – they provide an emergent narrative experience to the player. The rules out of which this emergent narrative experience emerge are straightforward: objects can be built using a variety of resources either collected as items during play (referred to as 'looting') or by scrapping existing objects in the area. Once a settlement is established, it will draw inhabitants automatically over time. These settlers must be provided with beds, water and food sources, recreational items such as weightlifting benches, and means of defense. The player provides for these needs by crafting objects like wells or guard towers and assigning the non-player characters functions, such as farming crops or standing guard. The overall 'success' of a settlement is expressed in a happiness index for each settlement, made up from how well all the aforementioned needs are being met. Happier settlements draw more settlers, which in turn make farming for resources or filling roles in the settlement easier. Because these settlements progress and grow, they are an emergent narrative experience.

These emergent narrative experiences have been associated with the ideological narrative organization as described by Todorov (Neitzel). The "abstract rule[s]" producing these narratives (Todorov 40) are ideological in nature – as game rules tend to be. There are two fundamental ideological assumptions underlying the settlement mechanic of *Fallout 4*: the first shapes the wasteland as frontier, an untamed nature waiting to be civilized by the act of establishing settlements. The second ideological assumption is that a concept like happiness is quantifiable by a combination of simple factors, which will be elaborated on in the subchapter following this (3.2.2.).

The settlements are essentially the ludic way to the taming of the frontier of the wasteland. In an almost metaphorical way, the first settlement the player establishes in a prototypical playthrough – 'Sanctuary' – is located almost on the northwest end of the game world's map. From there, the westwards expansion of the frontier becomes an east- and southward expansion in the game. 13 locations can be turned into a settlement in the gameworld, ranging from abandoned suburbs to a drive-in cinema. These are, quite literally, "meeting point[s] between savagery and civilization" (Turner 7), where the ruins of former civilization are contrasted with the savagery of the wasteland in form of mutated monsters. It is a ludic rendering of the manifest destiny, with only one important difference: this time, the lands behind the frontier are actually empty.

This is the crucial difference between the ludic frontier to the historical frontier: its emptiness. Whatever land there is to be settled on is actually unclaimed – in contrast to the history of the United States, where the westward expansion is more accurately described as "successive

invasions and occupations of Indigenous nations" (Dunbar-Ortiz 118). *Fallout 4*'s ludic frontier takes this aspect out of the equation: the places the game affords as possible settlements are mostly empty, bar some generic enemies. In much the same way as the game's central metaphor of slavery, this ludic rendering of history circumvents any uncomfortable aspects of it, and thereby becomes an uncritical engagement with it. It reinforces the idea of a civilizing aspect of settler colonialism by presenting it in precisely such a way – as a civilizing endeavor.

The settlement mechanic is additionally also linked to one of the ways to finish the game: should the player want to side with the Minutemen-faction, and end the game with them destroying the Institute, establishing at least eight of the 13 settlement locations becomes a kernel event necessary to progress the game's plot. These settlements are under the control of the Minutemen. In such a way, the nexus of American history being referenced and evoked in the Minutemen becomes almost comically overdetermined: they are simultaneously reminiscent of the Revolutionary War while also liberators of 'slaves', and additionally, they represent early settlers.

The implementation of the settlement system in *Fallout 4* showcases how ingrained the notion of the frontier still is in American culture. The wasteland of *Fallout 4* offers an unproblematic stand-in for the historical frontier. However, because any problematic aspect is removed, this ludic rendition of the frontier is ultimately uncritical of its history.

3.2.2. Unit Operations after the Apocalypse

This final note on *Fallout 4* investigates two particular mechanics present in the game. Connecting to the previous chapter, the first mechanic this chapter analyzes is the quantification of happiness in the settlement-system. Following this, the leveling system of the game as a quantification of the self is inspected. The common denominator to these different unit operations is, effectively, their unremarkability during play. These unit operations correspond complex ideas to very simple mechanics, and thereby represent successful procedural rhetorics. The success of these rhetorics hangs partly on their conventionalization in videogames, but also in how these processes are understood in a neoliberal hegemony. This conventionalization, and the framework it depends on, are contrasted with the game's postapocalyptic[11] setting – a space

[11] For convenience, I follow Doyle's typological convention to not hyphenate 'postapocalypse' when referring to her concept of the postapocalyptical imagination (Doyle 100-01) to differentiate it from the more common understanding of the term. The hyphenated 'post-apocalypse', when used in this paper, refers to the more general understanding, simply meaning 'after the apocalypse'.

that in its very nature would allow for the transcension of current ideologies of neoliberalism (Doyle 108).

As a postapocalyptic game, *Fallout 4* is not restrained by considerations of realism – it can safely transcend notions of what is realistic and common to our present experience by virtue of it depicting the downfall of everything that shapes said present experience. It is a postapocalyptic game, a game that does not need "to revise or restore what has come before catastrophe" (Doyle 105) – i.e. a game that has free reign to express itself in any way it might want. The idea that the postapocalypse does not have to "reconcile the contradictions of the old world in a drive to revelation," but rather opens spaces for "imagined tactics" outside of dominant ideologies is referred to as the postapocalyptic imagination (Doyle 111). While the *Fallout* games have made use of the postapocalyptic imagination as "a site in which to play out aberrant possibilities in a wasteland" (Doyle 111) on occasions, the *Fallout*-game's ludic components seem hesitant to move beyond established forms. Pichlmair (111) briefly touches on this point, noting that "those who settle down immediately start to copy the rigid social structures of an abolished society."

Fallout 4, released years after Pichlmair's (111) assertion, drives this point even further. The settlements the player can establish, discussed in the preceding chapter, carry a gameplay element highly indicative of present-day neoliberal assumptions. Each of these settlements have a 'happiness index', a numerical value assigned to them. This value expresses the overall happiness of the settlers, rendered in a percentage point. The implicit goal of this mechanic is to reach the highest possible happiness index in each settlement. While the game does not reward this explicitly, reaching 100% happiness in a large settlement awards the player an achievement (a digital trophy outside of the game, which usually can be displayed in online-gaming networks) called 'Benevolent Leader'. While the mechanic is somewhat hermetic, even to the seasoned player, the mapping of the gameplay mechanic to its expression is not too alien to raise awareness to itself. It thereby represents a successful procedural rhetoric. Figure 21 shows the mechanic as expressed in the in-game overview of established settlements.

Figure 21 In-game overview over the happiness of settlements

The units of food, water, power, defense and the number of beds make up the basic calculation of happiness for the settlement. Some additional factors, like the placement of specific items, influence happiness. These are not made explicit.

The overall happiness of settlements influences their productivity, i.e. the resources they will yield their player. Ultimately, this procedural rhetoric should not be as successful as it is. The idea of the quantification of something as abstract as happiness out of simple factors as the number of beds should at least raise eyebrows. This rhetoric nevertheless works. By virtue of falling into a tradition of modelling very abstract ideas into simple processes (such as videogames do), the conception of happiness – which translates to increased productivity – as a quantifiable resource is successful. And yet, this procedural rhetoric taps into another tradition, while simultaneously reinforcing it: the idea of the quantification of emotions.

As sociologists have noted, this idea of an 'economy of emotions', which quantifies and operationalizes feelings, can be seen as an extension of capitalism into the realm of culture (e.g. Kappler and Vormbusch 268). Others have noted how videogames, in the form of gamification, can further this process of self-quantification (e.g. Whitson 167). *Fallout 4* expresses these assumptions – that happiness is quantifiable, and that it is a resource, used to increase production – in its settlement mechanic. This considerable ideological bias in its procedural rhetoric is notable precisely because it is so natural to players. The procedural rhetoric is successful because it is naturalized, both the medium itself, which encourages such simplifications, and hegemonical assumptions of the player. However, these assumptions are

not only expressed in the settlement-mechanic. They underlie another, more fundamental game mechanic as well: levelling.

Levelling up in *Fallout 4* works very similar to most role-playing games: after having slain enough enemies, or completed enough quests to accumulate enough experience points to be pushed over a threshold, the game rewards the player with reaching a new level. In *Fallout 4*, leveling up means either adding a point to one of seven character values, or choosing from a variety of perks, which have different effects on gameplay. The selection of perks is determined by the character values, in a way where a strength stat of one only allows the player to obtain a strength perk from tier one. Figure 22 shows the first three tiers of perks and their character values.

Figure 22 Overview over the player's stats and perks

While, again, this is not a mechanic exclusive to *Fallout*, but rather a staple of role-playing games, it rests on two fundamental assumptions. The first assumption entails that a character's abilities are quantifiable (Baerg 161), the second suggests that the enemies and quests of the game are valuable as resources furthering the advancement of the player-self (Seidl 48-49).

As Baerg (161) has already noted in his discussion of older role-playing games, the understanding of a character as accumulation of a few specific numbers positions "the player to understand her avatar in a neoliberal entrepreneurial manner" – the object of identification for the player thereby becomes a set of numbers. This, essentially, entails the quantification of the game-self. Baerg (156) connects this understanding of 'leveling up' to the political context

of neoliberalism, but does note that such a political context is subject to change (Baerg 170). *Fallout 4*, as a postapocalyptical game, could represent a space where different approaches contesting such implicit narratives of self-optimization could emerge. However, the game does not seize the possibilities granted by this postapocalyptical imagination.

The same holds true for the second assumption underlying *Fallout 4*'s leveling system. Seidl (48) has noted how almost every interactable object in the game world of *Fallout 3* ultimately only represents "an investment toward the […] next level", a trend that has not changed in *Fallout 4*. In fact, this mode of interaction is such a staple in many role-playing games that an alternative becomes nearly unthinkable. The framing of objects, quests, or enemies as resources or investments for a better score, a higher number to quantify a character's value, has become so conventionalized that many other games, which do not rely on these interactions, are often considered lacking (as e.g. so-called 'walking simulators'). While *Fallout 4* is unique in many aspects, such as its aesthetics, most of its mechanics do not differentiate it from other games.

Precisely this combination of its postapocalyptical aesthetics and its conventional mechanics, reverberating neoliberal conceptions, is ultimately the ideological framework of the game. Its mechanics, grounded in present-day assumptions, are mismatched to its aesthetics of the postapocalypse. Because these mechanics are couched in the aesthetics of postapocalypse, they are cemented as timeless. What Seidl (49) phrased it in his discussion of *Fallout 3* also holds true for *Fallout 4* – it is a game in which "capitalism fakes its own death." Its mechanics seamlessly transport present-day assumptions, grounded in neoliberal capitalism, into its postapocalyptical setting. While *Fallout 4*'s story is an imagined version of the past, its mechanics transport the present into the future.

4. Conclusion: Game Over?

As has been shown, *Fallout 4* is a videogame with complex meanings, both about the American past, and its present. These meanings are negotiated in a variety of ways – both on a narrative, and a ludic level. The game's excessive aesthetics convey nostalgia, a nostalgia not specifically for the past, but also for the present. A similar nostalgia haunts the ruins of *Fallout 4*. Similarly, both the game's enacted narrative – its plot – and the ruins of landmarks in Boston suggest a difficult, but ultimately celebratory attitude towards American history, somewhat keen to avoid critical engagement with darker aspects of this past. The ludic settlement mechanic is analogous to this reimagination of history: the manifest destiny in *Fallout 4* is peaceful, in contrast to history. This peace is somewhat reflected in the game's ecology. The new atomic sublime of

Fallout 4 is a convenient absolvent of climate change, although it still connects to discourses of pollution, localized only in a small part of the game, the Glowing Sea. The ludic component of pollution, in the form of the radiation mechanic, hints at an anxiety towards a polluted future. Ultimately, the game environment connects to a wider neoliberal understanding of the relations of self and ecology. The game's environment with its objects, enemies, and quests are ultimately only present for the consumption by the player. Thereby, the player can level up, and continue their quest of a quantified optimization of the self.

This, however, is not the full extent of expressive meanings in *Fallout 4*. Many more aspects of the game – and videogames in general – are deserving of critical attention. For reasons of scope, aspects like mods, the game's diegetic music, its framing of time, fan communities, intertextual relations to other media, and others could not be part of this discussion. These represent aspects and approaches for further investigations of *Fallout 4* and other videogames.

Such investigations are direly needed. As videogames are on track to become the dominant entertainment medium of the 21st century, scholars of popular culture need increasing awareness of the intricacies of the medium and its modes of expression. The heated debates about whether videogames turn players violent have mostly faded. It is now time to investigate what these games can mean.

(31372 words)

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Appendix

English Abstract

As videogames are set to become the dominant pop-cultural medium of the 21st century, this paper aims to provide approaches to a critical reading of Bethesda's *Fallout 4*, informed by perspectives of cultural studies. Tracing arguments from the fronts of the ludology/narratology debate, this paper adds the conception of videogames as commodities of a culture industry to provide a critical perspective on the meanings and ideologies negotiated in *Fallout 4*, one of the most successful games of the last decade. Drawing from various theoretical approaches, salient narrative and ludic aspects of the games are investigated. Among them is the game's plot, its nostalgic retrofuturistic aesthetic, its ruins and ecology as evocative spaces, its stylization of the gameworld as frontier through its mechanics, and tangible neoliberal ideologies present in its levelling system. Ultimately, it is shown that *Fallout 4* is a game negotiating US history and its present. While the engagement with history, most notably the Revolutionary War and slavery, relies on ironic detachment and celebratory excess, its engagement with the present hints on resting anxieties with legacies of slavery and pollution.

German Abstract

Videospiele sind auf dem besten Weg, das bestimmende Medium der Populärkultur des 21. Jahrhunderts zu werden. Daher nimmt sich diese Arbeit eine kritische kulturwissenschaftliche Betrachtung eines der erfolgreichsten Spiele der letzten Jahre zum Thema: Bethesdas *Fallout 4*. Auf den Spuren der Ludologie-Narratologie-Debatte stellt diese Arbeit eine dritte, kritische Konzeption von Videospielen vor – als Produkt einer Kulturindustrie. Anhand dieser Triade werden bemerkenswerte narrative und ludologische Aspekte *Fallout 4*s untersucht. Unter anderem werden dabei die nostalgisch-retrofuturistische Ästhetik des Spiels, seine Ruinen und Umwelt, die Stilisierung der Spielwelt als ‚Frontier' durch seine Mechaniken, und hegemoniale ideologische Annahmen in der levelling-Mechanik untersucht. Dabei zeigt sich, dass *Fallout 4* vorranging ein Spiel mit der Geschichte und der Gegenwart der Vereinigten Staaten ist. Die Beschäftigung des Spiels mit verschiedenen geschichtlichen Epochen – allen voran die Revolution und Sklaverei – ist vor allem durch ironische Distanzierung und Überschwänglichkeit geprägt, während die Darstellung der Gegenwart auf unterdrückte Unbehaglichkeiten mit den Resten der Sklaverei und gegenwärtiger Umweltverschmutzung hindeuten.