3. Between the Lines: Using Differential Game Analysis to Develop Environmental Thinking

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Abstract

When discussing Games for Change, there is a tendency to focus on the didactic potential of playing one specific game with its well-researched representation of ecological issues and carefully encoded values. While such arguments are doubtlessly needed, they may underestimate the importance of the context in which play makes meaning. This chapter highlights two important contexts within which players understand their actions in a particular game: their experiences in similar games, and their personal play compared to that of and with others. It presents deep readings of four survivalist games played both solo and cooperatively and shows how much ecocritical reflection is produced not by engagement with the individual example, but the comparative perception of games and players.

Keywords: system thinking, *Minecraft*, formal education, schools, methodology

Digital games relate to the natural environment in numerous ways, as this book impressively demonstrates. Given this broad range of approaches, the diversity of academic perspectives, and the virtually endless variety of digital games, it goes without saying that no single general analysis model could ever be universally adequate. However, particularly in schools, there is a need for methods of understanding games and their role in climate education; digital games are an often-central part of teenagers' media consumption. Many schools use dedicated educational games, while ignoring the playing habits of pupils. But integrating the games that students play in their free time into a curriculum in traditional fashion would necessitate preparing

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and distributing teaching guides for potentially short-lived games and educating teachers in game analysis methods.

In this chapter, I will present a small-scale empirical experiment that suggests a different solution to this challenge. I will discuss the variations of meaning produced by playing four comparable games in different player configurations. On the one hand, this will showcase the considerable impact of even minor differences in game mechanics between similar games to caution against generalizing across genres or drawing conclusions based on superficial play. On the other hand, it will juxtapose the same games played by an individual in isolation and the same person with a coplayer, to illustrate how the aims and parameters of play change with the social parameters within which they take place.

Through this analysis, I will demonstrate how a minimal method that focuses on identification and the discussion of differences—both between games and players—has the potential to produce reflections and learnings about the relationship between humans and the environment, especially when directed by a set of simple analytical questions or discussion prompts. After situating the study briefly in the existing theory and research, I will present a comparative analysis of four popular survival games. The analysis focuses on the systemic character of all games, which emerges from the differences between the games as well as the differences between play situations—in this case, playing the games alone and cooperatively with another player. In the end, I will suggest how the findings of the study could be refined for use in schools, to structure discussions of games that students select themselves. The goal of such an engagement with the natural environment via games is not primarily awareness-raising or learning about sustainability, but a more deep-seated adoption of system thinking, an otherwise very challenging learning goal (Evagorou et al. 2009; Assaraf and Orion 2010). Seeing how the various systems of familiar game worlds interact and codepend will pave the way for insights into the large-scale systems of reality. Such differential thinking has been proposed by Timothy Morton as a general ecocritical strategy for dealing with the interdependence of the natural environment: "The curtain rises on a pregiven holistic world. But interdependence is not organic: it's differential" (Morton 2010, 285).

Not agreeing on *Minecraft*: Studying difference

Digital games have been the subject of critical and academic scrutiny for some time now—not the least, because they have been recognized as

vehicles of values, here understood as "properties of things and states of affairs that we care about and strive to attain" (Flanagan and Nissenbaum 2016, 5). Numerous analysis frameworks have attempted to fuse often divergent approaches into coherent methods and to operationalize them for direct application by students and scholars (Consalvo and Dutton 2006; Mäyrä 2008; Fernández-Vara 2019). Simultaneously, the analysis of digital games from an ecocritical perspective has become an established, highly specialized practice (Ulman 2001; Clary 2004; Chang 2009; Chang and Parham 2017; Chang 2019).

Accordingly, one finds discussions of the same game from as many perspectives as would be the case for a novel or a movie. *Minecraft* (Mojang Studios 2011), one of the best-selling and most influential digital games of all times, and one that deftly situates its players in a simulation of the natural environment, has been analyzed from countless perspectives—among them dedicated ecocritical ones (Bull 2014; Phillips 2014). There is, however, a surprising amount of discussion of ecology-related aspects in philosophical (Vella 2013), philological (Lobo 2019), technological (Costello 2018), and economical approaches (Dooghan 2019) as well. A recurring context in many analyses (Vella 2013; Nguyen 2016; Dooghan 2019) is that of Daniel Defoe's classic castaway narrative *Robinson Crusoe* (Defoe 1994), emphasizing the protagonist's "bending the landscape to his will [in] the first moves of colonization and industrialization" (Vella 2013, 6). This view on the game culminates in Daniel Dooghan stating that "Minecraft's mechanics not only encourage this kind of expansionist thinking but go further by representing the physical and cultural violence of territorial expansion as a pleasurable challenge" (Dooghan 2019, 71).

Several factors make such a strong, unambiguous interpretation of not just *Minecraft*, but any game, problematic. To focus on only two: first, the complexity of digital games is hard to address fully in any given interpretation: "[E]very game expresses a set of values, but it's often difficult to understand the many ways in which those values come to be embodied in the game" (Flanagan and Nissenbaum 2016, 15). The objects and discourses encountered in a game, the characters and their dialogue, the places and spaces all carry meaning and express particular positions, explicitly or implicitly. Yet the simulation systems are carriers of meaning as well: "What simulation games create are *biased, nonobjective* modes of expression that cannot escape the grasp of subjectivity and ideology" (Bogost 2006, 99, emphasis in the original). Whether veganism, pacifism, or sustainability are actionable concepts in a game world depends on the simulational rules of the system, on what is possible under which parameters. Therefore, mapping

the possibility space of actions in a digital game (Consalvo and Dutton 2006) is crucial in order to contextualize the representation and discourses of the game. One's actions in a game only have meaning before the background of what one can and, equally importantly, cannot do. While in themselves finite, the combination and permutation of (im)possible actions and the represented world produces staggering numbers of combinations. Still, compared to real-world systems, game systems and their constituent loops (Sellers 2018) are less complex, and can be more easily perceived, studied, and understood.

Second, "a study of videogame experience cannot merely examine the outputs of a given system or application" (Newman 2002, 410). It is not just that how we analyze games "depends on who we are, and why we do it" (Aarseth 2003, 6), but that what we analyze has been partially produced by us. The already potentially endless complexities of the systems are actively concretized by players' actions. Even though players exert "not authorship but agency" (Murray 1997, 153) within a game, they still "are going to transform the text" (Fernández-Vara 2019, 28). It is evident that the "videogame experience cannot be understood without recognizing the integration of the player in the process" (Newman 2002, 419). It is therefore not merely a relativizing interpretation when Amanda Phillips posits that *Minecraft* "is simultaneously ripe for capitalist exploitation *and* full of alternative queer embodiments and relations" (Phillips 2014, 109, emphasis added). That she sees alternatives to Dooghan's monolithic view is partially due to her playing the game differently than him. The player is still limited by the framework set by the game's authors, yet the player's active participation is required to produce the surface text of the game itself.[1] That being said, any game suggests to its players more or less concrete roles, goals, and behavioral patterns. These are crucial to the game's progress: a player who cannot or does not want to (quite literally) play along will not advance towards the games' goals. With recourse to reader-response theory, Espen Aarseth

1 A third major factor, which however will not be explored further in this chapter, is the ongoing development of hardware and software, which results in different commentators potentially having played different versions of a game. As interactive pieces of software, they are volatile objects. The differences between the available versions of *Minecraft*, from experimental PC versions in 2009 to the (as of the time of writing) current version 1.15.2, for different platforms and apparatuses, in different concurrently available play modes (survival, peaceful, or creative) are vast, to the point where they have little more than passing similarity. Dooghan (2019) and Philips (2014) not only argue from different perspectives and before the background of different ideologies with particular methods, they also produce different results by playing similar, yet not identical, versions of the game.

has termed the expectation of a player with particular skills, tastes, and interests the "implied player" (Aarseth 2007). And, as play philosopher Miguel Sicart has argued, players will at least implicitly compare their behavior in games with observed or assumed behaviors of other players (Sicart 2009, 122). They develop an impression of the "orthogame," in other words: "what players collectively consider to be the 'right and correct game' [distinct from] peripheral game activities" (Carter, Gibbs, and Harrop 2012, 14).

Players have been empirically shown to fall into distinct types. Nick Yee's typology, based on surveys with tens of thousands of respondents, identifies three main motivations (Achievement, Social, and Immersion) and ten sub-motivations (Yee 2006; Yee, Ducheneaut, and Nelson 2012), distinguishing, for example, casual or goal-oriented play with others from play as a prosocial activity aimed at improving the well-being of others. Such broader studies of players have been supplemented by investigations of single-player (Aarseth 2007; Waggoner 2009), multiplayer (Myers 2008; Pearce 2009; Sundén and Sveningsson 2012), and team play (Taylor 2012).

Most relevant for the topic at hand is the influence of real-life relationships for player identity and behavior, for example, in the play of family members (Enevold 2009): "A mother playing chess with her child will play a different game from that of two chess masters—the game may be the same but the context changes how it is played, including tweaks in the rules" (Fernández-Vara 2019, 28). In very general terms, the importance of existing social relationships for players is connected to the concept of care. From a phenomenological perspective, the relationship between player and avatar as well as that between player and game is characterized by a need to care, in the double sense of to care for and about (Möring 2013, 289–291), and depending on the parameters of play, even a survival game like *Minecraft* will move the player from fear of survival to a need to care (Möring 2014, 8–11). Playing games together with close friends or a loved one creates a complex dual care structure that exposes just as much about the players as it does about the games.

To return to the divergent interpretations of *Minecraft*'s value system that I used as an initial example, we can see that such divergence is inevitable. This chapter suggests we take this divergence and its causes into account, as the lack of critical consensus is a powerful motivator for the reflection and discussion of play experiences. I have previously advocated for analyzing the ecocritical potential of examples that are not explicitly "ecothemed" through a simple analysis framework (Backe 2017), and in the following, I will demonstrate the application of this concept. The focus of the analysis is the differential dimension: by analyzing four examples, played both solo

and cooperatively, I want to outline how a very limited number of analysis questions can provoke reflection about not only the individual games, but about their systemic nature—a method that, I argue, could be applied to classroom discussions of games with relative ease.

Analyzing the possibility space of the game systems

To demonstrate the diversity of implementations of nature in digital games, the relevance of studying not explicitly ecology-themed games, and the impact of the player situation on the game and its analysis, I conducted the following study: between January 2018 and January 2020, I played four relatively similar games both alone and cooperatively with a partner. I assessed the details of their representation and simulation of the human role in the natural environment through an open coding process, successively refining the analytic dimensions through the emerging minor differences. To guide play and interpretation, I formulated a number of research questions based on the generic analysis framework[2] as well as addressing the points of contention in discussions of *Minecraft* mentioned previously: Does the game accommodate living in different relations with the simulated natural environment? Is it possible to live sustainably? Is the player encouraged or even forced into a specific way of living by the parameters of the simulation? Is one alternative clearly privileged or punishing?

While such an analysis could be profitably conducted with any digital games modeling a virtual environment, for this study, I limited the selection to first-person perspective survival games (Kelly and Nardi 2014; Abraham 2022). Here, players engage with complex simulations of open natural environments, in which they need to find shelter and sustenance and learn to craft tools from resources (Giant Bomb 2018). By giving the player responsibility for the avatar's subsistence, and by embedding them in an interrelated ecosystem, these games lend themselves to ecocritical studies. The selected games are *Minecraft*, *ARK: Survival Evolved* (Studio Wildcard 2017), *The Long Dark* (Hinterland Games 2017), and *Subnautica* (Unknown Worlds Entertainment 2018). All games simulate interactions

2 Is the natural environment engaged with semiotically—that is, audiovisually and discursively—as well as ludically? Do these modes of engagement with ecological questions cohere or create friction? Is the treatment of ecological topics explicit and central or rather implicit and peripheral? Is the treatment of "nature" specific and informed? Are game mechanics or semantics anthropocentric, or do they offer alternative perspectives? Is the treatment of ecological topics affirmative, critical, or ironical? (Backe 2017).

with the natural environment (flora and fauna) as well as subsistence and crafting of equipment or shelter. All examples engage with the natural environment from a strictly anthropocentric perspective. They are primarily played from a first-person perspective, and they all were (at least originally) developed and published independently. All examples were played on PC.

ARK is the most similar to *Minecraft* in terms of overall orientation. It interprets most gameplay elements differently, though, and replaces *Minecraft*'s trademark blockiness with near photorealism. Both examples can be played individually or together with others on shared servers; for the purpose of this study, they were played solo and together with one other player in a cooperative survival mode. To contrast the degree of freedom afforded to players in these two examples, *The Long Dark* and *Subnautica* were chosen as they offer single-player-only story modes reminiscent of the quest-driven structures of traditional single-player games. The result is a selection of four games mapping a significant portion of the diversity of the survival game genre, as well as chronicling my familiarization with the genre and the transfer of knowledge between the games that informs my current view of *Minecraft*. The open coding process (see Table 3.1)[3] allowed the identification of subtleties of the simulation (e.g., the impact of food spoilage or the degree of safety offered by shelter).

Table 3.1 Feature comparison of the examples (excerpt)

Title	Minecraft	ARK: Survival Evolved	The Long Dark	Subnautica
Country of origin	Sweden/USA	USA	Canada	USA
World	Procedural	Static/ procedural	Static	Static
Quest structure	End goal	End goal	Fully scripted	Fully scripted
Character creation	Binary choice	Sex/body	None	None
Scripted player char.	No	No	Yes	Yes
Tech trees	Free, nonlinear	Free, linear	Scripted	Scripted
Animal prod. essential	No	Yes	No	Yes
Threat diversity	Low (ca. 30)	High (>100)	Very low (1)	Low (c. 20)
Safety in shelters	High	Low	Absolute	Very high
Food	Depletes when active	Depletes constantly	Depletes constantly	Depletes constantly
Water	No mechanic	Depletes	Depletes + purification	Depletes + purification

3 The data is based on play experience and was verified and augmented by consulting the official game wikis (Gamepedia.com 2009, 2013, 2015; Fandom.com 2014).

Title	Minecraft	ARK: Survival Evolved	The Long Dark	Subnautica
UI representation	Drumsticks	Ham	Stomach	Apple
Easiest food source	Animal	Animal	Animal	Animal
Farming	Yes	Yes	No	Yes
Irreparable change to ecosystem possible?	Yes	No	Yes	Yes
Food spoilage	No	Yes	Yes	Yes
Tool degradation	Degrade through use	Degrade through use	Degrade through use	Are energy based

The most impactful factors that emerged through this coding process were the presence of an overarching quest structure and its interrelation with the player's agency; the threats the avatar is exposed to; and the simulation of subsistence. For all factors of survival and subsistence, the examples form a continuum of complexity. This goes both for the modeling of the avatar and the environment. To take just one example: While *Minecraft* does not simulate hydration and has the avatar burn energy only through strenuous activities (like running and jumping), *ARK* even simulates constipation and defecation, with the two other games falling in-between (but adding elements, like the need for purifying water).

The examples thematize discourses of ecology only very sporadically. *The Long Dark* signals paratextually its engagement with ecology through a text page at startup that informs players that the survival simulation and the behavior of wolves in the game are not true to nature, but dramatized for a more engaging play experience. *Subnautica*'s intradiegetic help system includes a few comments on vegetarian living (see Figure 3.1), but neither *Minecraft* nor *ARK* offer much discourse at all.

All examples exhibit some friction between how ecology is simulated, discursivized, and visualized, sometimes in ways that undermine impressions of well-researched implementations of the natural environment. This begins with the fidelity of representation: *Minecraft*'s low-fidelity rendition of a world consisting of blocks of equal size suggests that its simulation will be similarly simplified. For example, in *Minecraft* apples only grow on one type of tree, yet they are oaks, not apple trees. Still, the simplifications or distortions of natural processes Alenda Y. Chang finds in most games are less pronounced in *Minecraft* (Phillips 2014, 111–114). The impressionistic visuals of *The Long Dark* have a similar effect, signaling constantly a detailed, yet highly stylized approach to nature and survival (see Figure 3.2).

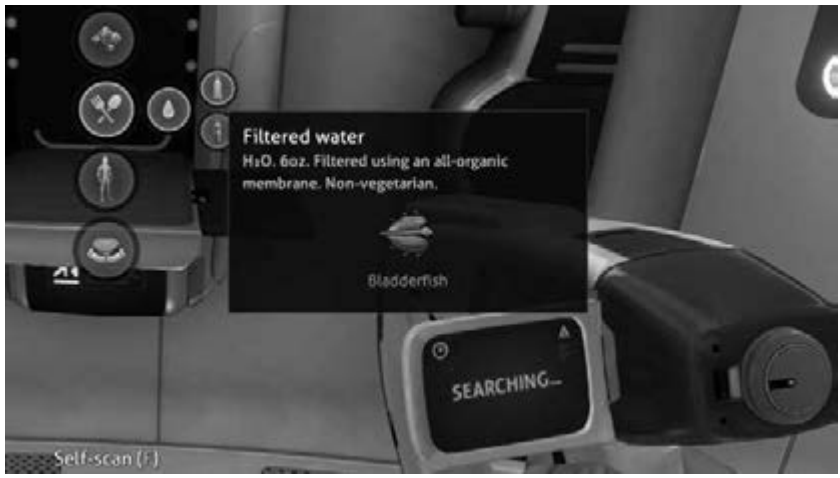

Figure 3.1: Animal-based nutrition flagged as nonvegetarian in *Subnautica* (cropped screenshot).

Figure 3.2: Killing or sparing a rabbit in *The Long Dark*.

ARK, on the other hand, strives for photorealism; the diversity of wildlife, their behavior, sizes and colors, not only appear well-researched, but implemented with great attention to detail. Many of the liberties the game takes are explained through the notes left by Helena, a prior visitor to the deserted island the game is set on. They reveal that the island and its inhabitants are an artificial construct, commenting, for example, on the unsustainably high ratio of carnivores to herbivores as well as on the coexistence of animals that lived millions of years apart (see Figure 3.3).

Moving from the appearance of the game world to its simulation, the nonobjective character of simulation systems in games becomes quickly

Figure 3.3: A pack of direwolves and a *Tapejara imperator* in *ARK*.

apparent. The arguments for *Minecraft* as a perpetuation of capitalist, colonialist, or neoliberalist logic stem from the fact that its simulated environment appears "as stockpiles of resources standing-reserve" (Vella 2013, 9). Learning in the first minutes of play that elements of the world can be used for crafting food, tools, or shelter, every newly encountered element will be perceived at least partially as a new resource. Additionally, *Minecraft* forces its players into some degree of utilitarian efficiency thinking through the way the avatar's inventory works: as weight is not calculated, only space is a limiting factor. The finite number of available inventory slots in which only resources of the same kind can be put into the same inventory slot, encourages the players to think in monocultures, using, for example, one kind of tree as a wood supply because it stacks neatly in the inventory.

But is it still possible to live sustainably in *Minecraft* or any of the other examples? And how do we judge this? The factors that emerge most clearly from the comparative critical play conducted here are those of primary subsistence. In *Subnautica*, it is impossible to play for more than half an hour without catching fish or collecting coral, as they are the only sources of fresh water in the early game. Plant-based living only becomes a possibility once the player builds the first sea vessel and finds an island. *The Long Dark* sidesteps this issue by spreading out prepared food throughout the environment. While *Subnautica* is set in an ocean on a foreign planet, *The Long Dark* takes place on a rural Canadian island with numerous settlements, which, although deserted, still provide sufficient canned and dried food to sustain a cautious player's avatar—which, though not sustainable

Figure 3.4: A small sustainable farm built in forty-five minutes in *Minecraft*.

living as such, allows the player to keep destructive interactions with the environment to a minimum.

The situation is more complex in *Minecraft* and *ARK*, not the least because in these examples, players need to construct shelter early on. In *Minecraft*, one can build a primitive shelter within minutes after starting a new game with the avatar's bare hands, and plant-based subsistence with a small ecological footprint is possible. Starting a completely new game in a randomly generated world with standard parameters, I reached such homeostasis within forty-five minutes of playtime. After that point, I built an earthen hut with a trench around it to keep monsters at bay and cultivated a wheat field adjacent to a small pond (see Figure 3.4). For tools and materials, I had to fell two trees. They produced enough wood for tools, torches, a workbench, and other necessities, as well as providing saplings to plant four trees close by. Avoiding fights by only venturing out in the daytime and never straying far from the hut, my avatar stayed well-satiated, reducing my need for foraging to a bare minimum. While such behavior is hardly the orthogame of *Minecraft*, it is possible, and it provides the basis for a relationship to the environment based on care (Möring 2014, 8).

Repeating this experiment in *ARK* led to completely different results. In *Minecraft*, blueprints for new craftable items are readily available, while in *ARK*, they need to be unlocked by gathering experience points and progressing through levels. This minor difference has a major effect: initially, the *ARK* avatar only knows how to craft paper, a stone pickaxe, and a torch. At level three, they learn how to craft primitive clothes, and at level four, they learn how to build primitive structures with thatch. Building a shelter after

half an hour of play is possible. Establishing a self-sustaining settlement, however, cannot be achieved in *ARK* until much later in the game. Only at level twenty-six can an avatar learn how to build a medium-sized crop plot, which is the prerequisite for cultivating corn, potatoes, and other highly nutritious food. To reach level twenty-six, the player must gather 3,250 experience points, eighty times as many as for level four and equivalent to building eighty wooden houses or killing fifty *Tyrannosaurus rexes*. Until then, the avatar depends either on gathering berries, scavenging carrion, or hunting. The decisive factors for sustainability that emerge through this experiment are *Minecraft*'s decoupling of crafting skills and level progress, and its subsistence model that allows the player to actually conserve the avatar's strength and thus reduce the need for food, giving them time to build a small farmstead and harvest its crops before dying of hunger. Hunting animals for food is possible in all four examples, and it always is the most easily available and most nourishing source of sustenance. Inexperienced players of all examples will find plant-based alternatives more difficult, and the game structure of *Subnautica* makes eating fish all but inevitable in the beginning. The notable exception is *The Long Dark*, which, as mentioned, suggests living off canned and preserved food. In the tutorial section of the single-player campaign, it nonetheless teaches the ability to catch rabbits. While the game suggests that it might be prudent to use them for their meat and pelt, the player is given the choice to kill or release even the first animal they catch (see Figure 3.2). This opens up the option for vegan play that is impossible in games like *Ark* with its prevalent use of hide as a crafting material.

Caring differently with and without other players

The comparison between games produced rich insights about what behaviors are possible in them. Suggested play styles and goals come, however, into focus best through comparing solo and cooperative play. The single-player only structures of *The Long Dark* and *Subnautica* spell out their goals unambiguously: in both cases, the player character is stranded in an inhospitable place and needs to get back to civilization. In both cases, there is a complicating factor connected to a care structure: in *The Long Dark*, player character Will has to rescue his ex-wife, Astrid; in *Subnautica*, player character Ryley is infected with an alien illness, for which he needs to find a cure before returning, so as to not infect humanity. The scope of both endeavors is different, though: Will's journey spans only several days

or weeks at most, while he travels through the frozen remains of mining and fishing towns, whereas Ryley has to gather the materials and the knowledge to manufacture a spacecraft, which not only takes inevitably longer, but also involves building one or several temporary bases. *The Long Dark* frames its interaction with the environment thus as a travel experience, while *Subnautica* suggests for its player the role of a nomad.

While *Minecraft* and *ARK* also have an endgame, they are more elusive and even more difficult to achieve. In both cases, creating at least longer lasting settlements with cultivated plant life and even livestock is all but inevitable. In *ARK*, human interference with wildlife can result in benefits for the animals: most species can form families, herds, or packs with each other and humans, which give bonuses, making them stronger and more resilient, allowing them to defend themselves as well as nearby friendly animals (see Figure 3.3). As such, both games rather suggest a pastoral lifestyle. The relationship to these virtual creatures can be completely utilitarian and one-sided; yet both *Minecraft* and *ARK* implement some simple means to stimulate a care relationship with the animals, most poignantly the animals' constant effort at making eye contact. Additionally, *ARK* allows players to communicate with tamed animals, not only in terms of pragmatic commands, but in some cases (*Hyaenodon*, *Lystrosaurus*) by petting them. In direct comparison, *Minecraft* offers less direct communication. It is, however, no longer correct that a player "may kill or ignore mob enemies, for example, but players cannot communicate meaningfully with them" (Bull 2014, 94). Pet creatures such as cats and parrots as well as wild animals such as pandas—most of them added to *Minecraft* since 2019—can be interacted with, eliciting a wide variety of reactions. While these acts of communication just as well as the ones with the game's human-like creatures, the villagers, are primitive, they are nonetheless meaningful.

These (para)social interactions with the game environment I would not have experienced through solo play. After playing *Minecraft* and *ARK* extensively in single-player survival mode, I played both games with my life partner. In terms of Yee's player motivation types (Yee 2006), she prefers socializing and role-playing, while I am rather attracted to advancement and discovery. Playing together, we explored each other's preferences, led by the more experienced player: in *ARK*, I would lead her on travels to map the island and advance to higher levels, while in *Minecraft*, she would introduce me to interactions with villagers and initiate building projects not for purpose but for role-play. Additionally, we experienced how in the early phases of introducing the other to a game we were familiar with, our protective instincts for the well-being of the other would sometimes

Figure 3.5: A fortified village built in co-op play in *Minecraft*.

dominate play behavior. In *ARK*, where vegetation is often very dense and lower-level avatars are vulnerable even to small predators, I would find myself disrupting attempts at sustainable play by deforesting the environs of our shelter so we would see attackers early enough to flee from them. These differences in our initial approaches to the games and our gradual adaptation to the other's actions led inevitably to discussions, reflections, and comparisons between both the games and our play styles.

Exploring environmentally responsible play together, our cooperative play gravitated towards Yee's category of "relationship" (defined primarily by finding and giving support to other players) in both games: In *ARK*, we would create increasingly more diverse herds of animals that would benefit from each other in various ways, while in *Minecraft*, our implicit mission became to find villages and help them thrive. Figure 3.5 shows a village several in-game months after our arrival, with a protective wall, fields, and a park. The cohabitation with the villagers is even in the then-current version of the game (1.15.2) rudimentary and mostly based on trade of goods and services, yet still affectively charged.

Conclusion

This chapter, while modest in its methodological claims, has demonstrated how critical play practices are enmeshed in both the subtleties of the game systems they engage with, the researcher's own player identity, and the resulting view on the game system as it emerges from their own personal

play behavior. Which specific interactions with the simulated natural environment the game allows or disallows, incentivizes or disincentivizes, cannot be judged without taking into account the preferences and abilities, wishes and traits of the empirical player. While this is to some extent true for all game analyses, it becomes pivotal in a value-conscious approach like ecocriticism. *Minecraft* produced in the course of this differential analysis an even more nuanced value system of the human role within the natural environment than previous studies give it credit for.

The result is not a method, per se, and some observations are rather anecdotal. Yet, as Sean Cubitt has argued, anecdotes are particularly valuable for ecological thinking and amount to a method:

> As method, anecdotes require differences and disjunctures that produce encounters, a category that includes not only encounters with texts but with technologies and with other people and places in situations and socio-historical conjunctures at the complex micro- and macro-scales where social forces, biographies, geography, and history converge as conditions for action. (Cubitt 2020, 7)

Accordingly, the cooperative play phase of these familiar games shaped my understanding of them, modified my play behavior in them, and taught me lessons about my own instinctive behavior in them that I did not experience in hundreds of solo play hours. The comparison between games and players brings out differences and possibilities, thus encouraging, if not outright provoking, conversation about these differences.

Such an approach to digital games as tools of reflection can be facilitated in a classroom situation. Middle school and high school students tend to play games in their free time and inviting them to engage in show-and-tells, shared play experiences and discussions, or other forms of integration of their favorite games in class can be guided by simple prompts for reflection and discussion like the ones used here, by any teacher without the need for in-depth familiarity with the games in question. The learning outcome would, of course, not primarily be knowledge about the natural environment or environmentally responsible behavior, but it might include understanding of personal motivations and individual environmental values. Comparing game systems and player experiences in an ecocritical framework has three potentials: 1) Players compare their behavior towards the simulated natural environment with each other, sparking reflection of individual practices; 2) players compare their perceptions of the adequacy of nature representation in games, sparking knowledge exchange about and reflections on facts about the natural environment; and 3) players

discuss the simplifications of real situations through simulation, drawing attention to interdependencies and complexities, and promoting system thinking. The reflection on individual and collective experiences of interdependence with a virtual environment renders larger contexts of coexistence tangible: "[C]ollectivity signifies the conscious choosing of a coexistence that already exists whether we think it or not" (Morton 2010, 278).

Empirical tests would, of course, be necessary to evaluate several factors (e.g., corpus coherence, granularity of research questions, group sizes) and to develop a robust didactic concept. This chapter should, however, have demonstrated that small differences of games, players, and player configurations can productively be taken into focus without involved analytical methods and hold promise for teaching otherwise hard to convey (yet ecologically crucial) skills like system thinking.

Ludography

ARK: Survival Evolved. 2017. Studio Wildcard. Multiplatform.

The Long Dark. 2017. Hinterland Games. Multiplatform.

Minecraft. 2011. Mojang Studios. Mojang Studios, Xbox Game Studios, Sony Interactive Entertainment. Multiplatform.

Subnautica. 2018. Unknown Worlds Entertainment. Multiplatform.

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