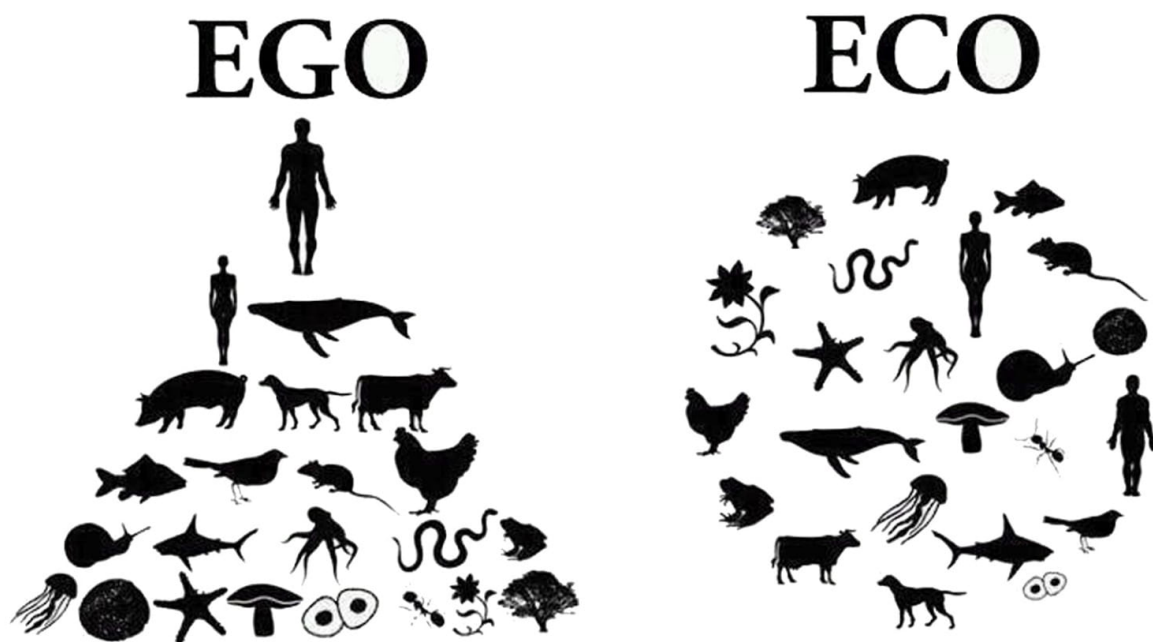


Environmental ethics in video games

How video games *Equinox* and *Everything* embody the transition from an anthropocentric to an ecological worldview



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Abstract

The climate crisis is an increasing problem, and in 2021 the Dutch government promised 35 billion euros over the next ten years to fight it. To, at least partly, solve the climate crisis, scholars argue that humans need to abandon an anthropocentric worldview where humans dominate the natural world. A good place to make people adopt, or at least make them think about, new ways of seeing the relationship between humans and non-humans is through mainstream media since it is the primary site for constructing meanings about the environment. A medium that could especially help the rhetoric of green media is that of video games. Video games can contribute to an understanding of and instruction in ecological issues and in shaping environmental or ecological awareness as they are active (the player must actively do things) and interactive (once the player has made choices, the game is now developed in a way that sets certain parameters that affect future gameplay). In this thesis the games *Equinox* and *Everything* are analysed to understand how they represent the transition from an anthropocentric to an ecological worldview. Using utilitarian environmental ethics and deep ecology and Flanagan and Nissenbaum's model for values in games the two games were systematically researched. This thesis found that the transition from anthropocentric to ecological is not a monotonous transition, but that it can be represented in different ways. Resulting from this research are two of those forms, an active way where players create nature to understand the interconnectedness of different species and their environment, and a passive way where players explore nature to understand the interconnectedness. Concludingly, one cannot speak of *the* transition from anthropocentric to ecological since this transition can take different shapes or forms.

Keywords: Environmental ethics, Videogames, Anthropocentrism, Green Media

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1. Introduction

On Wednesday 15 December 2021, the new Dutch government presented their coalition agreement for the next term. In this coalition agreement the government promised 35 billion euros in the next ten years to fight climate change, according to the agreement “The Netherlands want to be the frontrunner in the fight against global warming”.¹ This huge financial effort shows that governments finally start to address climate change as a serious problem. To, at least partly, solve the complex problem of climate change, scholars argue that we need to abandon the anthropocentric worldview, where humans are above nature, and adopt a view where humans are part of nature. Western Anthropocentrism – which has been the standard so far in modern civilizations – has caused two crises: (1) the environmental crisis, which is an array of interlinked problems like drastic increase in carbon dioxide emissions, radiation, use of plastic, land degradation, deforestation, loss of biodiversity, and over-exploitation resulting in climate change; and (2) an ethical crisis as humans struggle to reconceive their relationship with non-humans others or at least “try to find the moral compass to put a halt to our exploitative relation to the natural world”.² Against this backdrop, many recognize a need for new modes of theorizing and living that would abandon human exceptionalism and anthropocentrism and instead focus on an ecological worldview with multi-species communities of which the human is only a part.³

A good place to make people adopt, or at least make them think about, new ways of seeing the relationship between humans and non-humans is through mainstream media. Meister and Japp argue that mainstream media is the primary site for constructing meanings about the environment.⁴ They continue, however, this is detrimental since mainstream media mostly amount to images and narratives that generally demote nature into serving human gratification, consumerism, and commodification.⁵ Sturgeon adds to this that “the natural world is repeatedly presented as something to conquer, claim and control”.⁶ Parham, however, argues that within mainstream media there are also non-anthropocentric messages. These green media try to connect ecological principles to the mainstream audience.

Cover Image: Acatherine, from: <https://www.redbubble.com/i/art-print/ECO-vs-EGO-by-acatherine/23499165.1G4ZT>

¹ NOS Nieuws, “Klimaat, Kinderopvang, Hoger Minimumloon: De Plannen Uit Coalitieakkoord,” NOS, 2021, <https://nos.nl/collectie/13884/artikel/2409601-klimaat-kinderopvang-hoger-minimumloon-de-plannen-uit-coalitieakkoord>.

² Cielemecka, Olga, and Christine Daigle. 2019. “Posthuman Sustainability: An Ethos for Our Anthropocentric Future,” *Theory, Culture & Society* 36 (7-8): 68. <https://doi.org/10.1177/0263276419873710>

³ *Ibid.*, 69

⁴ Meister, Mark and P. M. Japp, *EnviroPOP: studies in environmental rhetoric and popular culture*. (Westport: Praeger Publishers, 2002): 2.

⁵ *Ibid.*, 6-7

⁶ *Ibid.*

Nevertheless, the rhetoric of green media often fails to persuade the mainstream audience.⁷ This is because environmental messages can evoke boredom or didacticism, modes such as apocalypticism and tragedy alienates people and can make them feel powerless, hero figures encourage people to rely on others, and standard framing (e.g., polar bears and Arctic collapse) lead to the belief that these problems are distant and irrelevant to humans.⁸

A medium that could help the rhetoric of green media is that of video games. Video games can contribute to an understanding of and instruction in ecological issues and in shaping environmental or ecological awareness. One reason why video games are suitable to educate players on complex problems like climate change is that they can simulate real-world environments and allow for experimentation. Alenda Chang compares them to mesocosms – controlled environments used in climate research because of their ability to reproduce key properties of certain ecosystems, which can then be experimented on.⁹ In chapter 2.2.1. the medium specificity of video games will be discussed more elaborately. Video games are, thus, ‘mini-ecosystems’ which replicate certain aspects of the real-world which can be experimented with, they are “objects that facilitate passage between the material and seemingly immaterial contexts of the physical world and virtual playspace”.¹⁰ The room for experimentation and the interactivity encourages players to be both creative and strategic in coming up with solutions to problems. Therefore, they are useful tools for proactively thinking about the future and making sense of complex system models.¹¹

Many modern video games have large and diverse environments in which the player can roam freely. These environments are used as major selling points of these games because of the amount of effort that is put into them, for example *Red Dead Redemption II*¹², where the website states: “The diverse habitats and climates of *Red Dead Redemption II* are home to around 200 species of animals, birds and fish, all of which behave and respond to their environment in a unique way.”¹³ However, the inner workings of these ecosystems are still opaque and it is therefore difficult to assess to what extent their ecosystems have been made to accurately simulate real world behaviours.¹⁴ Two games where the workings of ecosystems

⁷ Parham, John, *Green Media and Popular Culture: An Introduction*. (London: Palgrave Macmillan, 2016). <http://doi.org/10.1007/978-1-137-00948-7>

⁸ *Ibid.*, 33

⁹ Chang, Alenda Y., *Playing Nature: Ecology in Video Games* (Minneapolis, MN: University of Minnesota Press, 2019): 19

¹⁰ *Ibid.*, 11, 19-20

¹¹ Kelly, Shawna, and Bonnie Nardi. 2014. “Playing With Sustainability: Using Video Games to Simulate Futures of Scarcity”. *First Monday* 19 (5): 1. <https://doi.org/10.5210/fm.v19i5.5259>.

¹² Rockstar Studios (2018). *Red Dead Redemption II*. [multi-platform]. Rockstar Games.

¹³ Rockstar Games, “Wildlife,” *Red Dead Redemption 2*, <https://www.rockstargames.com/reddeadredemption2/features/wildlife>.

¹⁴ Mattias Heint et al. (University of Gothenburg, 2021), pp. 1-50, 1. <https://odr.chalmers.se/handle/20.500.12380/304170>

are very clear, are *Equilinox*¹⁵ and *Everything*¹⁶. Therefore, at first glance, they allow for their players to learn about ecosystems and how organisms in it are connected. This thesis adds to research on eco-games since these games were barely the topic of previous research on this topic, or even at all. Furthermore, this thesis adds on literature about abandoning an anthropocentric worldview by researching how the transition from anthropocentrism to ecological is represented in games. Generally, scholars conclude that humans need to consider non-humans, for example Treves, Santiago-Ávila, and Lynn concluded their article *Just Preservation* (2019) with: “Very simply, our proposal embraces the entitlement of all life to have a say in the globe-girdling exploits of current human adults.”¹⁷ This thesis will build on conclusions like this and analyse what a transition from an anthropocentric worldview to an ecological one could be represented textually in video games.

As argues before, popular media is the main place where people construct their opinion about the environment, and video games are especially efficient tools for learning this paper will look at how games can play a part in the awareness of environmental ethics. The research question of this paper will therefore be: *‘How is the transition from anthropocentric to ecological, which is an important principle of environmental ethics, represented in Equilinox and Everything?’* To answer this research question, it will be divided into several sub-questions: *“What are environmental ethics?”*, *“How can the media specificity of games help educate their players on a more environmental worldview?”*, *“How are environmental ethics represented in the affordances of Equilinox and Everything?”*, *“How are environmental ethics represented in the representation of animals in Equilinox and Everything?”*

The second chapter elaborates on the different theoretical framework used in this paper. An overview will be provided of the environmental ethics and the relation between video games and ethics. In the third chapter the used method will be explained, and a more detailed scope of the games will be given. In chapter four *Equilinox* and *Everything* will be analysed, and the fifth chapter will conclude the analysis.

¹⁵ ThinMatrix (2018). *Equilinox*. [Windows, MacOS, Linux]. ThinMatrix.

¹⁶ O’Reilly, David (2017). *Everything*. [multi-platform]. Double Fine Productions.

¹⁷ Treves, Adrian, Francisco J. Santiago-Ávila, and William S. Lynn, “Just Preservation,” *Animal Sentience* 4, no. 27 (January 2019), <https://doi.org/10.51291/2377-7478.1505>, 17.

2. Theoretical framework

This paper contains two theoretical frameworks to substantiate the research and its findings, this chapter will elaborate on them. The first framework, in chapter 2.1., is that of ‘eco vs ego’ where environmental ethics will be discussed and how they provide clear focus points for the analysis. In 2.2., the second framework on video games and their relation to ethics can be found. This framework will also include and discuss the media specificity of video games. Thereafter, it will explore how video games can embed values and how they can educate their players.

2.1. Ego vs Eco

Thinking about the natural environment and human’s place in it is called environmental philosophy. The shift from an anthropocentric to an ecological worldview is discussed in many different fields within environmental philosophy: Posthumanism (Haraway, 2006; Parham, 2015; Bolter, 2016), Social Ecology (Bookchin, 1996), Dark Ecology (Morton, 2016), and ethics (Singer, 1993; Dregson, 1995; Taylor, 2011). Because the scope of this paper is limited, and the field of environmental philosophy is very broad it will not focus on the entirety of philosophical philosophy. This paper will focus on two major theoretical fields within environmental philosophy: utilitarian environmental ethics and *deep ecology*. Utilitarian environmental ethics is chosen because it is the unofficial ethical theory of public policy in the Western world and, increasingly, in global policy as well.¹⁸ Moreover, environmental debates are very often framed in utilitarian terms, since there are often many different, and competing, interests. A utilitarian desire to balance competing interests to reach an optimal outcome seems an obvious ethical approach.¹⁹ Deep ecology is chosen because it has been used to describe a variety of nonanthropocentric theories and it provides a foundation on which later nonanthropocentric and environmental movements built.²⁰ In chapter 2.1.1. an historical overview of the relationship between humans and nature from a philosophy perspective will be given to contextualise the environmental ethics. Chapter 2.1.2. and 2.1.3. describe utilitarianism and deep ecology respectively, giving more information about these theoretical fields. Finally, chapter 2.1.4. takes a closer look at the representation of animals in video games.

¹⁸ Joseph R. DesJardins, *Environmental Ethics: An Introduction to Environmental Philosophy*, 5th ed. (Boston, MA: Wadsworth, 2013), 33

¹⁹ *Ibid.*, 36-37

²⁰ *Ibid.*, 207-208

2.1.1. Anthropocentrism and the Western Tradition

To talk about the shift from anthropocentrism to a more ecological view, there first needs to be an understanding of the dominant anthropocentric worldview and why it is the standard in Western society. The belief that humans are superior to nature and only have an instrumental relationship with it can be found throughout the history of Western society. Multiple important traditional Western philosophers deny that any direct moral relationship between humans and the natural environment exists. According to most ethical theories within the Western Tradition only humans have moral standing, and therefore these ethical theories are anthropocentric. When making an environmental decision, thus, the ethical person needs to ask only how that decision affects humans.²¹ The start of anthropocentrism – and the ecological crisis that results from it – is often placed at the end of the sixteenth century, the cradle of modern science and technology, and philosopher Francis Bacon is generally named as the most eloquent voice on this topic.²² Bacon argued that to create technology there must first be knowledge of the world, which is generated by “torturing” the natural world to reveal its secrets. This “inquisition of nature” leads to knowledge of the natural world, and knowledge leads to technological power in the service of *philanthropia* (love for humanity). By increasing knowledge through experimentation, humans extend their dominion over nature.²³ Pietro Omodeo argues that “at the turn of the Modern Age, the image of nature was reduced to that of a passive resource.”²⁴ The recent environmental debates bring Bacon’s work back to the foreground, especially the theme of humans mastering nature.²⁵ Callicott and Frodeman agree that the start of anthropocentrism can be found in the works of Bacon, but add that contemporary philosopher Descartes was also an important figure in the foundation of anthropocentrism:

The anthropocentrism of these two founders of modern science and technology has governed the spirit of Western science and technology and is now a dominant theme throughout the modern world. If anywhere, it is here that the intellectual and practical roots of the environmental crisis may be found.²⁶

²¹ *Ibid.*, 98-99

²² Naomi Klein, *This Changes Everything: Capitalism vs the Climate* (New York, NY: Simon & Schuster Paperbacks, 2015), 170-176.

²³ J. Baird Callicott and Robert Frodeman, eds., *Encyclopedia of Environmental Ethics and Philosophy Part I & II* (Farmington Hills, MI: Gale, 2009), 1:87-1:88

²⁴ Pietro Daniel Omodeo, “Bacon’s Anthropocene: The Historical-Epistemological Entanglement of Power, Knowledge, and Nature Reassessed,” *Epistemology & Philosophy of Science* 58, no. 3 (2021): pp. 149-170, <https://doi.org/10.5840/eps202158350>, 151.

²⁵ *Ibid.*, 152

²⁶ Callicott and Frodeman, *Encyclopedia of Environmental Ethics and Philosophy Part I & II*, 1:87.

Descartes was a philosopher famous for his dichotomy between humans and other beings in the natural world. In Cartesian philosophy there are two substances, ‘minds’ and ‘bodies’, where the mind includes thinking, sensation, and consciousness. The body includes everything which is physical and spatial. Descartes did not deny, however, that plants and animals were alive, he denied that they were anything more than machines without a mind, without a conscious. Anything which is only a physical thing can be treated without concern for its wellbeing.²⁷ After Bacon and Descartes, the anthropocentric worldview was seen in other philosophical works. In his book *Environmental Ethics: An Introduction to Environmental Philosophy* (2013) Joseph DesJardins points to influential German philosopher Immanuel Kant and his deontological ethical theory.²⁸ Kant, just like Descartes, also only considered humans since they are rational beings that can make autonomous decisions, free from natural necessities.²⁹ Kant distinguished humans, as being autonomous, as ‘subjects’ from other physical and spatial matters as heteronomous beings, as ‘objects’. Kant argued that the natural world exists to serve human beings and that our moral duties towards nature are only indirect. But not every behavior against animals is acceptable because we have indirect moral duties to humans through animals, according to Kant, if cruel behavior enters our life – when we treat animals cruelly – it will only grow and worsen and it will make it more likely we treat other humans cruel, breaking with our moral duty.³⁰

Where most debates concerning anthropocentrism point to the late sixteenth century for its beginning, DesJardins argues that anthropocentric thoughts can be seen earlier in western philosophy. Throughout western philosophical history, DesJardins names four prominent philosophers who contributed to this anthropocentric Western Tradition: Aristotle, Aquinas, and as discusses above, Descartes and Kant.³¹ He thus agrees with other authors that Descartes and Kant were important philosophers which all had anthropocentric beliefs, but he adds that the anthropocentric Western tradition is way older than the sixteenth century. He even argues that Aristotle and Aquinas are “the two philosophers most closely associated with this tradition”.³² Aristotle stated that plants exist for the sake of animals, and that all animals exist for the sake of man. Tame animals for the use of food and wild animals to provide clothing and tools. He continues: “Since nature makes nothing purposeless or in vain, it is undeniably true that she has made all animals for the sake of

²⁷ *Ibid.*, 1:213-1:214; DesJardins, *Environmental Ethics*, 98-99

²⁸ DesJardins, *Environmental Ethics*, 99

²⁹ Sandel, Michael, “Justice: What's The Right Thing To Do? Episode 06: ‘MIND YOUR MOTIVE’,” YouTube video, 2:48-3:43, 4:35-4:44, September 9, 2009, https://www.youtube.com/watch?v=8rv-4aUbZxQ&ab_channel=HarvardUniversity

³⁰ *Ibid.*

³¹ DesJardins, *Environmental Ethics*, 98-101

³² *Ibid.*, 98

man”.³³ Thirteenth century philosopher Aquinas placed the same argument in a theological context: “For animals are ordered to man’s use in the natural course of things, according to divine providence. Consequently, man uses them without any injustice, either by killing them or employing them in any other way.”³⁴ Aristotle and Aquinas believed, like Kant, that only humans have moral standing because they possess an intellect, or the capacity to reason. Throughout history, the dominance of man over other natural elements has been emphasized by numerous philosophers, also before the late sixteenth century. Concludingly, in Western philosophy and tradition there are many ideas that encourage the anthropocentric worldview, where humans are superior to nature and therefore justified in dominating it.³⁵

2.1.2. Utilitarianism and environmental ethics

An ethical theory that stands out from this anthropocentric Western tradition is that of utilitarianism. In utilitarianism an action is either good or bad based on its utility. Founding father of utilitarian Jeremy Bentham described utility as:

[T]he property of something whereby it tends to produce benefit, advantage, pleasure, good, or happiness (all equivalent in the present case) or (this being the same thing) to prevent the happening of mischief, pain, evil or unhappiness to the party whose interest is considered.³⁶

If the amount of happiness that comes from an act is greater than the amount of pain, the act is considered good but if the pain outweighs the happiness the act is considered bad.³⁷

Bentham, unlike the philosophers mentioned above, did not only consider humans but every sentient being. Bentham argued that the interests of every sentient being should be considered since they are capable of feeling pleasure and pain, which is the principle of utilitarian ethics. He famously stated: “The question is not *Can they reason?* or *Can they talk?* but *Can they suffer?*”.³⁸ Hereby Bentham extends moral consideration to include all living things that have the capacity to feel pleasure and pain.

For contemporary utilitarian Peter Singer, the moral consideration of animals is not enough, he proposes the principle of equality: “No matter what the nature of the being, the principle of equality requires that the suffering be counted equally with the like suffering of

³³ Singer, Peter, *Practical Ethics* (Cambridge: Cambridge University Press. 1993), 267

³⁴ Thomas Aquinas, *Summa Contra Gentiles*, ed. English Dominion Friars (London: Burns and Oates, 1924), book 3, pt. 2.

³⁵ DesJardins, *Environmental Ethics*, 101

³⁶ Bentham, Jeremy, *An Introduction to the Principles of Morals and Legislation* (1823 [1789]), 1

³⁷ *Ibid.*, 7

³⁸ *Ibid.*, 144

any other being”.³⁹ Here, Singer addresses what he refers to as speciesism: discrimination against or exploitation of certain animals species by human beings, based on an assumption of mankind’s superiority.⁴⁰ Singer’s principle of equality rests on the argument that animals, just like humans, have interest both in avoiding pain and suffering and in experiencing happiness.⁴¹ Therefore, however, Singer does not attribute intrinsic value to non-sentient natural elements like plants, wilderness, or rocks. The inclusion of non-sentient natural elements in environmental ethics is currently still debated. Non-sentient natural elements are traditionally only considered if they affect the happiness of pains of sentient beings (e.g., wilderness must only be preserved because it is a great source of entertainment for humans or because it is the living environment of animals). Philosopher Albert Schweitzer argues to attribute intrinsic value to non-sentient organisms – and not just instrumental value – since they have, just like humans, a will-to-live, even if they cannot communicate this.⁴² Taylor also defended such a view, arguing that every living thing is pursuing its own good in its own way and therefore “we are ready to place the same value on their existence as we do on our own.”⁴³ This view is, however, critiqued by stating that plants and trees do not have a conscious and are therefore not capable of enjoying pleasure and fearing pain. Therefore, there is no point in considering them morally, for it is not known what their desires are.⁴⁴ Furthermore, with the absence of conscious interests to guide us, there is no way of assessing the relative weights to be given to the flourishing of different life forms. Singer explains:

Is a two-thousand-year-old Huon pine more worthy of preservation than a tussock of grass? Most people will say that it is, but such a judgment seems to have more to do with our feelings, [...] than with our perception of some intrinsic value in the flourishing of an old tree that is not possessed by a young grass tussock.⁴⁵

To attribute non-sentient life with moral consideration is still debated amongst philosophers. Therefore, the focus in this paper will be on sentient nonhuman beings.

³⁹ Singer, *Practical Ethics*, 50

⁴⁰ Callicott and Frodeman, *Encyclopedia of Environmental Ethics and Philosophy Part I & II*, 2:278.

⁴¹ *Ibid.*, 2:246

⁴² Singer, *Practical Ethics*, 248

⁴³ Paul W. Taylor, *Respect for Nature: A Theory of Environment Ethics* (Princeton, NJ: Princeton University Press, 2011), 128.

⁴⁴ Singer, *Practical Ethics*, 249

⁴⁵ *Ibid.*, 248-249

2.1.3. Deep ecology

In 1973 Norwegian philosopher Arne Naess introduced the term deep ecology, when he distinguished it from shallow ecology.⁴⁶ In the shallow ecology movement humans are committed to fight against pollution and resource depletion, but only for the health and wellbeing of “people in developed countries”, and therefore it is still anthropocentric, and Eurocentric.⁴⁷ Naess’ deep ecology movement where the underlying issues of pollution and resources depletion – the dominant anthropocentric worldview – are addressed. In deep ecology humans see themselves as only a part of nature and they value the flourishing of non-human others.⁴⁸ Naess composed eight practical principles to articulate the central ideas of the movement, they serve as a core around which the broad deep ecology movement can be unified:

1. The flourishing of human and nonhuman life on earth has intrinsic value. The value of nonhuman life-forms is independent of the usefulness they may have for narrow human purposes.
2. The richness and diversity of life-forms are values in themselves and contribute to the flourishing of human and nonhuman life on earth.
3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.
4. Present human interference with the nonhuman world is excessive, and the situation is rapidly worsening.
5. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease.
6. Significant change of life conditions for the better requires changes in policies. These affect basic economic, technological, and ideological structures.
7. The ideological change is mainly that of appreciating life quality (dwelling in situations of intrinsic value) rather than adhering to a high standard of living. There will be a profound awareness of the difference between big and great.
8. Those who subscribe to the foregoing points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes.⁴⁹

⁴⁶ Naess, Arne. 1973. “The Shallow and the Deep, Long-Range Ecology Movement: A Summary.” *Inquiry: An Interdisciplinary Journal of Philosophy and the Social Sciences* (16): 95–100.

⁴⁷ *Ibid.*, 95

⁴⁸ Alan Dregson, “The Deep Ecology Movement,” *Trumpeter* 12, no. 3 (1995): pp. 1-7, 3.

⁴⁹ These eight principles are directly quoted from: Callicott and Frodeman, *Encyclopedia of Environmental Ethics and Philosophy Part I & II*, 1:210

The most important ones for this research are the well-being and flourishing of human and non-human life on earth have value independent of the usefulness of the non-human world for human purposes (principle 1). And additionally, the richness and diversity of life forms contribute to the realization of this flourishing and are also values in themselves (principle 2). Humans have no right to reduce the richness and diversity except it is to satisfy the *vital* humans needs.⁵⁰ Just like Singer, Naess argues that every being has an equal intrinsic value: “the equal right to live and blossom is an intuitively clear and obvious value axiom.”⁵¹ Moreover, deep ecology denies human special moral consideration, they are not just nonanthropocentric, but *anti*-anthropocentric.⁵² Deep ecology considers more than just animals in their philosophy. It also considers plants, ecosystems. However, for the scope of this paper the focus will be on animals.

2.1.4. The representation of animals

For this thesis the representation of animals is important, firstly, since the environmental ethics discussed earlier predominantly concerns animals, as they are sentient beings. Secondly, representation is important because human understanding of animals is shaped by representations rather than by direct experience.⁵³ Moreover, representation of animals leads to identification with animals and greater identification leads to more positive perceptions of animals.⁵⁴ This connects with the argument from Meister and Japp that most people form their opinion of the natural world through popular media mentioned earlier. Jański provides a model detailing the representation of animals in video games. He presents two categories: functional and visual representations. The former divides animals according to their role in the game and, consequently, how players can interact with them. The latter focuses on the type of video game the animals are in, and how that influences their visual representation.⁵⁵ The first category includes five different functions animals can have in digital games: (1) animals as enemy, where animals attack the protagonist. Killing these enemies is often rewarded with experience points and/or loot; (2) animals as background, here animals are just in the game to make the environment more believable; (3) animal as hero, this is mostly deployed when the playable character/protagonist is an anthropomorphised animal; (4)

⁵⁰ Dregson, *The Deep Ecology Movement*, 3-4

⁵¹ Naess, *The Shallow and the Deep*, 96

⁵² Watson, Richard A. 1983. “A Critique of Anti-Anthropocentric Biocentrism.” *Environmental Ethics* 5(3): 245–256.

⁵³ Steve Baker, “Animals, Representation, and Reality,” *Society & Animals* 9, no. 3 (2001): pp. 189-201, <https://doi.org/10.1163/156853001753644372>, 190.

⁵⁴ Sarah Gradidge and Magdalena Zawisza, “Toward a Non-Anthropocentric View on the Environment and Animal Welfare: Possible Psychological Interventions,” *Animal Sentience* 4, no. 27 (January 2020), <https://doi.org/10.51291/2377-7478.1558>, 2.

⁵⁵ Krzysztof Jański, “Towards a Categorisation of Animals in Video Games,” *Homo Ludens* 1, no. 9 (2016): pp. 85-101, 91.

animal as companion, where the player is accompanied by an animal and can often bond with it through mechanics; and (5) animals as tools, here animals are merely used instrumentally (e.g., for combat, transport, or for raw materials) in the Cartesian way.⁵⁶

The second category contains four visual representations: (1) actual representations, where animals are both represented in a realistic matter and (are intended to) look like animals in the physical world, both living or extinct; (2) legendaries, here the animals are not meant to be realistic animals but are inspired by myths, legends, and human imagination; (3) extrapolations, similar to legendaries in the sense that the animals are not realistic, however, they are not inspired by myth or legend but depict alien fauna; and (4) hybrids, here human and animal traits are combined through animals that are anthropomorphised or humans that are animalised.⁵⁷ This framework will allow me to understand how animals are represented in *Equinox* and *Everything* and how any preconceptions about animals exist in the games. Furthermore, it will help reveal how the environmental ethics are translated into the games and in what way they can contribute to more ecocritical modes of thinking.⁵⁸

2.2. Video games and ethics

In this second framework the specificity of games will be discussed to understand how video games can help their players adopt to a more ecological worldview (see chapter 2.2.1.). Secondly, in chapter 2.2.2., the relation between video games and ethics will be discussed, and which specific affordances of video games make them suitable to address ethical questions.

2.2.1. Medium specificity of video games

Just as discussed earlier, the rhetoric of conventional climate communications often fails to persuade. Joost Raessens argues that conventional climate communications raise three barriers that lead to a state of denial. The first barrier is that global warming is framed as being distant in both space and time. The second barrier is when global warming is framed as a doom scenario, this causes people to believe that there are no solutions which causes depression and alienates people as they feel powerless. Lastly, the third barrier is when global warming is framed as not compatible with our values.⁵⁹ Parham adds another framing, a fourth barrier, seen in conventional climate communication, namely that of hero figures. In

⁵⁶ *Ibid.*, 91-92

⁵⁷ *Ibid.*, 93

⁵⁸ *Ibid.*, 95

⁵⁹ Joost Raessens, "Ecogames: Playing to Save the Planet," in *Cultural Sustainability: Perspectives from the Humanities and Social Sciences*, ed. Torsten Meireis and Gabriele Rippi (Abingdon, Oxon: Routledge is an imprint of the Taylor & Francis Group, earthscan, 2020), pp. 232-245, 233-234.

these narratives one person or a small number of people save the world from environmental disaster, this encourages people to rely on others and not take any action themselves.⁶⁰

A medium that offers a solution to these three barriers, is that of video games. One reason why video games can contribute to an understanding of environmental issues and awareness is because they can simulate real-world environments and scenarios and allow for experimentation. Alenda Chang states that video games are mesocosms, mini ecosystems, which replicate certain aspects of the real-world which can be experimented with. She argues that games offer “less didactic, less moralizing, and therefore less off-putting ways to encourage people to consider environmental problems and their solutions.”⁶¹ She continues that games have the ability to make often abstract and distant threats very real and operable, countering both apathy (e.g., “I live in Amsterdam, why should I care about a hole in the ozone above the South Pole?”) and paralysis (e.g., “It is already too late to find solutions to climate change”).⁶² The room for experimentation results in two affordances of video games that further emphasizes the utility of video games in thinking about complex problems like climate change. On the one hand the room for experimentation makes video games very active: players must actively participate and become part of the action; therefore, they can influence the scenario in the video game (e.g., in *Elden Ring*⁶³ the choices made by the player will affect which ending the game has).⁶⁴ On the other hand, the interactivity encourages players to be both creative and strategic in coming up with solutions to problems (e.g., in *Frostpunk*⁶⁵ players must manage a city and keep it warm on a post-apocalyptic Earth). Therefore, games are useful tools for proactively thinking about the future and making sense of complex system models.⁶⁶ James Paul Gee also states that video games are capable of educating their players on complex problems as they are more active (the player must actively do things) and interactive, although he calls it reflexive (once the player has made choices, the game is now developed in a way that sets certain parameters that affect future gameplay).⁶⁷ He goes further by stating that video games not only offer opportunity for experimentation and strategic thinking, but they require the player to “learn and think in ways in which [he] is not adept.”⁶⁸

Discussions on the different types of video games mostly fall into two camps: gameplay and narrative. The gameplay considers the rules of the game, this is what

⁶⁰ Parham, *Green Media and Popular Culture*, 33

⁶¹ Chang, *Playing Nature.*, 15

⁶² *Ibid.*

⁶³ From Software (2022). *Elden Ring*. [multi-platform]. From Software & Bandai Namco

⁶⁴ Parham, *Green Media and Popular Culture*, 210

⁶⁵ Jakub Stokalski (2018). *Frostpunk*. [multi-platform]. 11 bit studios & Merge Games

⁶⁶ Kelly and Nardi, *Playing with Sustainability*, 1

⁶⁷ Gee, James P., *What Video Games Have to Teach Us about Learning and Literacy* (New York, NY: Palgrave Macmillan, 2003): 58

⁶⁸ *Ibid.*, 5

distinguishes games from other media, the fact that it is a code: “computer games are different from other media because they move past the mere visualisation of data to procedural or algorithmic embodiment.”⁶⁹ The activity (player input) and interactivity (how the game reacts on this player input) is all coded into the rules of the game. The result of the interactivity leads to variable outcomes in video games: they are a media which, like other media, contains fixed events (e.g., a cutscene), but can also have multiple outcomes which result from player choices, hence the room for experimentation.⁷⁰ According to King and Krzywinska the narrative of video games relies heavily on narrative frameworks of cinema, namely through audio-visual features (e.g., framing of images and *mise-en-scène*) which can be analysed in terms similar to those used in film.⁷¹ However, they continue: “The manipulation of these qualities is what provides orientation for the player, [and] establishes meaningful contexts and resonances within which gameplay occurs.”⁷² Thus, the narrative itself is not specific for video games, but the player’s ability to manipulate the narrative – and the way the narrative is framed (e.g., camera controls) – is. Jesper Juul differentiates between two types of games, games of *progression* (where players follow a pre-set rules and a strict narrative script) and games of *emergence* (where players choose their own actions in a world full of narrative possibilities).⁷³ Adam Chapman distinguishes three types of games, *deterministic story structures*, which relates to games of *progression*; *open-ontological story structures*, which relates to games of *emergence*; and *open story structures*, which are somewhere in between the previous two.⁷⁴ The importance of the dichotomy of gameplay and narrative will be further elaborated on in chapter 2.2.2..

2.2.2. Ethics in video games

Ethics and video games is no novel topic in game theory. In their book *Values at Play in Digital Games* (2016) Mary Flanagan and Helen Nissenbaum argue that digital games have values embedded in them, not only in their themes but also in their design.⁷⁵ Some games are consciously about ethical themes, but all games – whether conscious or unconscious – have values embedded in their design choices. Miguel Sicart calls this the *system* of a computer game: the rules created by the procedural design.⁷⁶ This system is an important ethical

⁶⁹ Parham, *Green media and Popular culture*, 209

⁷⁰ Juul, J. (2001). “Games Telling stories” *The International Journal of Computer Game Research* 1 (1): 1-12.

⁷¹ King, Geoff, and Tanya Krzywinska, “Film Studies and Digital Games,” *Understanding Digital Games*, 2006, pp. 112-128, <https://doi.org/10.4135/9781446211397.n7>, 115.

⁷² *Ibid.*

⁷³ Jesper Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds* (Cambridge, MA: The MIT Press, 2011), 71-79.

⁷⁴ Chapman, Adam, *Digital Games as History: How Videogames Represent the Past and Offer Access to Historical Practice* (New York, NY: Routledge, Taylor & Francis Group, 2018): 128-131

⁷⁵ Mary Flanagan and Helen Nissenbaum, *Values at Play in Digital Games* (Cambridge, MA: MIT P., 2016), 8-10.

⁷⁶ Sicart, Miguel, *The Ethics of Computer Games* (Cambridge: MA, 2011), 21-23

element in video games since it forces players to act certain ways through the rules.⁷⁷ While playing video games players, as moral agents, learn to become ethical, the values which are embedded in games will help players understand what is considered good and bad behaviour (e.g., if the player is rewarded for violent behaviour, the player will consider violent behaviour as good).⁷⁸ Flanagan and Nissenbaum provide a framework to understand in what way values are embedded in the game's design, and how they are communicated to the playing audience.⁷⁹ Focusing on values within games is important since games do not only reflect and embody but also stimulate, activate, or reinforce beliefs and values in their players.⁸⁰ According to game scholar Navarro-Remesal, the study of values embedded in games is important since they make normative statements: some actions make players win and some actions make players lose.⁸¹ He exemplifies: "if a system rewards us for hunting, it is implicitly approving of hunting[...]; if it penalizes us for stepping on some flowers, it is implicitly defending caring for them."⁸² Thus, the game's rules and affordances (or 'system' in Sicart's terms) is an important ethical element in video games.

Sicart, however, notes that the system is not the only ethical part while playing video games but that the players are "creative, engaged, ethical agents."⁸³ Here, Sicart refers to his own critique on proceduralism, a concept coined by Ian Bogost which is defined as: "a technique for making arguments with computational systems and for unpacking computational arguments others have created."⁸⁴ Proceduralism is interested in the way arguments – and therefore values – are embedded in the rules of the game and how these rules are communicated to and understood by the player. Sicart argues that the assumption behind proceduralism is that the meaning of games only resides in the formal systems of the game, and that "what players do is to reconfigure the meanings embedded in the rules defined by the designers. Playing, then, becomes accepting *and learning from* the system-based message embedded in the game [emphasis in original]."⁸⁵ This understanding of games leads to the idea that to design ethical experiences through games is to codify ethical arguments into the game's code. When playing according to those rules, players will be "politically affected, or persuaded."⁸⁶ However, Sicart states that play is more than engaging

⁷⁷ *Ibid.*, 22, 23

⁷⁸ Flanagan and Nissenbaum, *Values at Play in Digital Games*.

⁷⁹ *Ibid.*, 33-72

⁸⁰ *Ibid.*, 3

⁸¹ Navarro-Remesal, Victor. 2019. "Pixelated nature: ecocriticism, animals, moral consideration, and degrowth in videogames" *Dossie Comunicação, Mídia, Videogames* 26 (02): 15

⁸² *Ibid.*

⁸³ Sicart, *Ethics of Computer Games*, 4

⁸⁴ Ian Bogost, *Persuasive Games: The Expressive Power of Videogames* (Cambridge, MA: MIT Press, 2010), 3

⁸⁵ Sicart, Miguel, "Against Proceduralism," *Game Studies* 11, no. 3 (December 2011), http://gamestudies.org/1103/articles/sicart_ap?utm_source=tech.mazavr.tk&utm_medium=link&utm_campaign=article%201/.

⁸⁶ *Ibid.*

with the rules of the game, it is a creative, productive experience and that players can be reflective by abandoning the rule system. He argues that play is much messier than playing for goals and achievements since players affect the game with their virtues: “Players are creative, engaged, value-driven agents who engage in play with their own values as part of what helps them configure their experience.”⁸⁷ Thus, players are morally aware, and they are capable of reflecting on their actions in the game world. This reflective ability serves as a moral reasoning tool while playing the game. The moral reasoning tool every player possesses comes from their own cultural history as a player and their cultural upbringing as a person.⁸⁸ This resembles what Gee calls the *real-world identity*, where the identity of the players as a person influences the choices they make in the game-world.⁸⁹ In the relation between ethics and video games the system and the player are important ethical elements. This paper, however, will primarily focus on the ‘system’ of the two video games (nevertheless, it is important to understand that studying video games also involves the players, I will come back to this in chapter 3 when I discuss my role as player-researcher, and in chapter 5 when I discuss the limitation of this thesis). The framework proposed by Flanagan and Nissenbaum contains fifteen elements which embody values and thus produce meaning for the player: Narrative premise and goals; Characters; Actions in Game; Player Choice; Rules for interaction with other players and nonplayable characters; Rules for interaction with the environment; Point of view; Hardware; Interface; Game engine and software; Context of play; Rewards; Strategies; Game maps; Aesthetics.⁹⁰

This research will not analyse all fifteen elements but only five where selected because they concern the rules and affordances of the game: (1) *Narrative premise and goals*, this element is about the story of the game and what goal, or goals, the player is pursuing, what happens along the way, and in what way events are ordered. This element is important since it shows what the implied good behaviour is (e.g., is the goal exploiting the natural world or finding a balance with it);⁹¹ (2) *Actions in game*, this element discusses the affordances of a game. What can a player do, or make the playable character do? These are mostly common actions such as walking or jumping. This element is important since it helps understand through which affordances *Equinox* and *Everything* could embed environmental ethics;⁹² (3) *Rules for interaction with the environment*, although originally this element only concerns non-sentient natural elements, this paper primarily focuses on the interaction with animals. This element looks at the possible interaction between player and the environment,

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*, 63

⁸⁹ Gee, *What Video Games Have to Teach Us about Learning and Literacy*, 55

⁹⁰ Flanagan and Nissenbaum, *Values at Play in Digital Games*, 33-34

⁹¹ *Ibid.*, 35

⁹² *Ibid.*, 41

and how does the player get rewarded, or punished, for these interactions;⁹³ (4) *Rewards*, self-explanatory this element focuses on how and for what actions the player is rewarded in the game. This is important since it reveals which actions and accomplishments are valued in the game;⁹⁴ and lastly, (5) *Aesthetics*, this element focuses on the audio-visual representation of in-game elements. What is portrayed in a realistic way and what is more abstract?

Aesthetics is important because it shows which aspects of the game are valued (e.g., in *Final Fantasy III*⁹⁵ the characters are relatively realistic while the natural world is more abstract).⁹⁶

This framework will help analyse how the environmental values mentioned in the first framework above are embedded in the games' rules and aesthetics and how they influence the game experience of the player (e.g., what can the player do and what not, what do animals look like). Analysing how these values are embedded in the games helps to understand how their players are becoming aware of worldviews other than anthropocentrism.

⁹³ *Ibid.*, 51

⁹⁴ *Ibid.*, 63

⁹⁵ Square Co. Ltd. (1990). *Final Fantasy III*. [multi-platform]. Square Co. Ltd.

⁹⁶ Flanagan and Nissenbaum, *Values at Play in Digital Games*, 69-70

3. Method

In this chapter the method that will be used to analyse *Equilinox* and *Everything* will be discussed, it will start with an introduction to textual analysis for games as described by Fernández-Vara in her book *Introduction to Game Analysis*.⁹⁷ After this introduction this chapter will elaborate on how the described theoretical framework of Flanagan and Nissenbaum provide focus points during the analysis. The framework of Flanagan and Nissenbaum, as described in chapter 2.2.2., will be incorporated into the model of Fernández-Vara to allow analysing *Equilinox* and *Everything* on embedded environmental ethics. Thirdly, I will reflect on myself as a player-researcher and how my own biases and experiences help me to understand and analyse the game and how these biases and experiences influence my findings. Lastly, this chapter will elaborate on the playstyle that is used to focus on the embedded values in the games and reflect on how this playstyle can influence the results.

To analyse how environmental ethics are represented in *Equilinox* and *Everything*, I will use a textual analysis. The textual analysis in this research is based on the one as described by Fernández-Vara in her book *Introduction to Game Analysis*. She describes three interrelated areas: context, game overview, and formal aspects. Each of these areas consists of a series of building blocks that can be selected by researchers to conduct their analysis.⁹⁸ The context comprises the circumstances in which the game is produced and played and how these affect the way in which players can interpret the game as a text. Building blocks that fall in the area of context are for example genre, technological context, playing audience, and the context inside the game.⁹⁹ The game overview focuses on the content, the features that distinguishes it from other games, and how the game is appropriated and transformed by the community. Building blocks that among others comprise the game overview are rules and goals, mechanics, the story, and the fictional world. This area relates to Sicart's focus on the player as an important aspect of meaning making in games (see chapter 2.2.2).¹⁰⁰ Lastly, the formal aspects refer to the 'system' of the game (i.e., the rules) and how the 'system' is represented to the player. The building blocks that fall in the area of the formal aspects are rules of the world, values, mediation between game and player, and representation. This area relates to Bogost's procedural rhetoric and how the rules of the game constitute meaning making in games (see chapter 2.2.2).¹⁰¹ Figure 1 shows how the three areas of Fernández-Vara's model relate to each other: a player plays a

⁹⁷ Clara Fernandez-Vara, *Introduction to Game Analysis* (New York: Routledge, 2015).

⁹⁸ *Ibid.*, 13-17

⁹⁹ *Ibid.*, 59-60

¹⁰⁰ *Ibid.*, 88

¹⁰¹ *Ibid.*, 122

game within a certain context. For this thesis, only the game is elaborately analysed, and the context will shortly be discussed. Like mentioned in chapter 2.2.2. the player is an important ethical element of the game; however, players will not be part of this analysis, I will only, later on in this chapter, reflect on myself as a player-researcher.

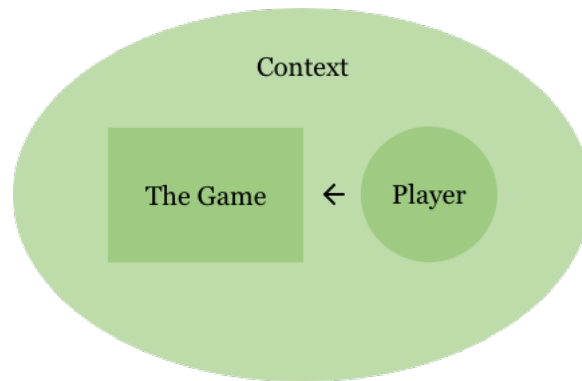


Figure 1: visual representation of Fernández-Vara's model

The focus of this research is the transition of the anthropocentric worldview to an ecological worldview, especially on the relationship between humans and animals. At the start of chapter 4.1 and 4.2 a short introduction of *Equilinox* and *Everything* respectively will be given to provide some more context concerning genre, context inside the game, and the economical situatedness of the development of the game. Since this thesis focuses on the 'system' of the games and not the players, the game overview is not completely analysed. However, building blocks like 'rules and goals' and 'mechanics' will be analysed to give both an overview of the basic features of the games and to analyse them on environmental values. These building blocks will be analysed using the 'narrative and goals', 'actions in game', and 'rules for interaction with the environment' elements from the framework of Flanagan and Nissenbaum. This will help to gain an understanding how *Equilinox* and *Everything* embed environmental ethics in their rules and affordances. The focus of this analysis will be on the formal aspects of the two games, the building blocks that are mainly important are 'rules of the world', 'values', and 'representation'. 'Rules of the world' focuses on what players can and cannot do in the game and how the player is encouraged or discouraged to do those things.¹⁰² This formal element will help to gain insight how the games spread an ecological worldview through their affordances. The elements 'actions in game', 'rules for interaction with the environment', and 'rewards' will help to analyse this formal element. According to Fernández-Vara what is considered good or bad in the rule set can express values.¹⁰³ The

¹⁰² *Ibid.*, 123

¹⁰³ *Ibid.*, 131

formal aspect of ‘values’ will help understand which and how the values of environmental ethics are embedded in the affordances of *Equilinox* and *Everything*. This formal aspect will be analysed with the elements ‘narrative and goal’, ‘rules for interaction with the environment’ and ‘rewards’ from the framework of Flanagan and Nissenbaum. Lastly, the representation of a game helps to create feeling, expresses themes, and contributes to the narrative of the game. This formal aspect will help analyse how animals are represented in the games and what values there are in this representation. The representation will be analysed by using the ‘aesthetic’ element from Flanagan and Nissenbaum and Jański’s framework for animal representation in video games. Figure 2 graphically shows how the areas of Fernández-Vara are linked with elements from Flanagan and Nissenbaum’s model and Jański’s model to help analyse them.

Fernández-Vara	Flanagan and Nissenbaum
<i>Game overview</i>	
Rules and goals	Narrative & Goals + Rules for interaction with the environment
Mechanics	Actions in game + Rules for interaction with the environment
<i>Formal Aspects</i>	
Rules of the world	Actions in game + Rules for interaction with the environment + Rewards
Values	Narrative & Goals + Rules for interaction with the environment + Rewards
Representation	Aesthetics + the model from Jański

Figure 2: Linking the model of Fernández-Vara and Flanagan and Nissenbaum

Fernández-Vara argues that the player-researcher is also part of the text, and therefore of the textual analysis.¹⁰⁴ Vught & Glas add that the player should not only consider the contexts within the game, but also the context of himself.¹⁰⁵ They explain that researchers should acknowledge their position as researcher and player alike, and should “reflect on how our cultural, social, economic and historical situation feeds into our understanding of the game as process”.¹⁰⁶ Therefore, I will take the time to reflect on myself as a player, a scholar, and how this could affect both my research and my interpretation of the games. I am an experienced gamer, so finding my way in *Equilinox* and *Everything* came very natural to me.

¹⁰⁴ *Ibid.*, 7

¹⁰⁵ Vught, Jasper van and René Glas. 2018. "Considering Play: From Method To Analysis", *Transactions Of The Digital Games Research Association* 4: 228. doi:10.26503/todigra.v4i2.94.

¹⁰⁶ *Ibid.*, 229

Although I mostly play open-world role-playing games and shooters, to which neither *Equinox* nor *Everything* belong, I still felt very comfortable playing them. My inexperience with games such as *Equinox* and *Everything* caused me to play the games multiple times before I started analysing them to get familiar with its workings and goals. As a scholar I mostly focus on researching games and the values that are embedded in them. Furthermore, I am a proponent of equal treatment of animals and the protection of the environment in a general way, this could cause biased interpretations of the way environmental ethics are represented in the game. Elements which might not be as environmental as they are, might seem so to me and I might be a bit harsh on critiquing the games on the incorporation of environmental ethics.

To focus the gameplay on the transition from anthropocentric to ecological in *Equinox* and *Everything* the *implied player* playstyle as described by game scholar Espen Aarseth will be used.¹⁰⁷ The implied player can be seen as a role for the player made by the game, a “set of expectations that the player must fulfil for the game to exercise its effect.”¹⁰⁸ Playing as an implied player is about doing what the game wants, or at least expects, the player to do. Playing this way will help understand how the game intends to educate their players on an ecological worldview.

¹⁰⁷ Espen Aarseth, “I Fought the Law: Transgressive Play and the Implied Player,” *DiGRA 2007: Situated Play Proceedings*, 2007, pp. 130-133, https://doi.org/10.1057/9781137429704_13.

¹⁰⁸ *Ibid.*, 132

4. Analysis

In this chapter both *Equilinox* (chapter 4.1.) and *Everything* (chapter 4.2.) will be analysed on embedded environmental ethics according to the three different areas (context, game overview, formal aspects) as described by Fernández-Vara in chapter 3. The analysis of the games will be done according to the five selected elements from Flanagan and Nissenbaum's model in chapter 2.2.2., which will be used to analyse the building blocks of game overview and formal aspects which were selected in chapter 3. Both chapter 4.1. and 4.2. will start with a short introduction of the game to provide context on the genre, context inside the game, and the economical situatedness of the game (first area of the textual analysis), after that the five elements will be analysed. Within 'narrative and goals' the games will be analysed on what goals drive the playable character, what is the player pursuing, and what will the player have accomplished when the game is won. At 'actions in game' the focus will be on what the player can make the playable character do and what other actions are possible in the game, and the perspective in the game. The third element, 'rules for interaction with the environment', will look at the kind of interactions that is allowed between the player and the in-game environment, how these interactions are encouraged or discouraged, and what resources are available to the player. Fourth, 'Rewards', looks at what actions are rewarded, what these rewards look like (e.g., points or lives), if some actions are rewarded more than others, and if some actions are punished. Lastly, 'aesthetics' concerns the way aspects of the game look and sound like. The focus of this element will be on the animals in both games. After analysing both games, they will be compared in chapter 4.3. to systematically show the similarities and differences between *Equilinox* and *Everything* and to understand how the transition from an anthropocentric worldview to an ecological one could be represented.

4.1. Environmental ethics in *Equilinox*

In this section the game *Equilinox* will be analysed according to the method described in chapter 3. First a short introduction will be given to provide some context on the genre, context inside the game, and the economical situatedness of the game. Afterwards, the five elements will each be analysed to gain an understanding of how environmental values are embedded in the game's 'system'. In 4.1.1. through 4.1.5. the narrative and goals, actions in game, rules for interaction with the environment, rewards, and aesthetics will be analysed respectively.

Equilinox is a nature simulator developed solely by indie game designer Karl Wimble which was released in 2018. The player starts out with an empty, barren world which only contains some terrain and water, in this world he can place plants and animals to create and maintain their own ecosystems. If the player keeps the animals healthy and happy, he will be

rewarded with points which can in turn be spent on placing more plants and nature, or to genetically modify current species and evolve them to unlock more plants and animals.¹⁰⁹

4.1.1. Narrative and goals

In this section *Equilinox* will be analysed on what goals drive the playable character, what the player is pursuing, and what will the player have accomplished when the game is won. The analysis of the game's goal is important since it gives an insight in the game's embedded values (e.g., if the goal of the game is to build a dominating empire it values other values than a game where the goal is to manage a city in a post-apocalyptic world).

Equilinox does not communicate to the player what the end goal of the game is, but as soon as the game is started the player is notified to open the 'tasks' tab to see the first task and get started. The first task is to begin a new ecosystem by buying grass from the plant shop and plant in anywhere in the world (see figure 3). Organisms can be bought in either the plant or animal shop with Diversity Points, the currency in *Equilinox*. When the first tuft of grass has been planted, it takes a couple of second for it to grow to full size. After the first task is completed, the player will be rewarded with a new quest and Diversity Points. After this first one, tasks become increasingly harder throughout the game: from "evolve a buttercup and two other plants" to "have a turtle eat a coconut 5 times and tropical seaweed 5 times". Although the game never explicitly states that the goal of the game is to create and maintain a diverse ecosystem, these tasks certainly steer the player towards that goal. The tasks are unlocked in a fairly linear manner, the player must complete one task before another one unlocks, however, there is no time limit on the tasks so the player can freely explore the

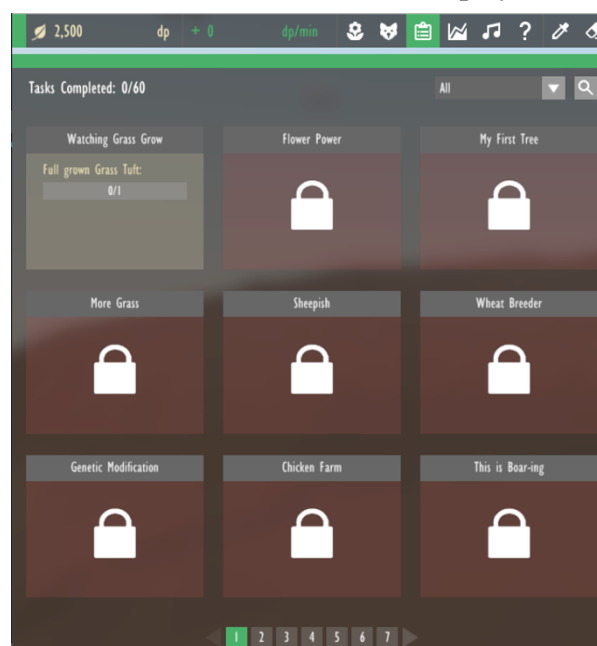


Figure 3: First task in *Equilinox*

¹⁰⁹ Karl Wimble, "Equilinox - About," Equilinox, 2015, <https://equilinox.com/about/>.

environment and his ecosystem without progressing the tasks. Furthermore, some tasks unlock multiple tasks so the player can choose which tasks to focus on first before turning to others. The narrative of *Equinox* is never interrupted with cutscenes, which are commonly used to include ecological reflection in gameplay.¹¹⁰ Because of the lack of cutscenes, the framing narrative (that part of the narrative which cannot be changed by gameplay) is very limited, giving the player a lot of agency. The only way in which *Equinox* is framing the narrative is through framing controls (the rules that limit and determine the game elements which can be combined) and the guidance of focus that the tasks provide.¹¹¹ The goal of *Equinox*, to create a diverse ecosystem, is continuously part of the gameplay and the narrative.

4.1.2. Actions in game

This second section the focus will be on what the player can make the playable character do and what other actions are possible in the game, and the perspective in the game. Analysing the different actions that the player can make – or make his character do – offer insight in which actions are valued in the game, and which are not.

The basic affordances of *Equinox* are that of the camera control. The camera is hanging above the map and the player can move, rotate, and zoom with the camera to navigate through his ecosystem. This elaborate control of the camera allows the player to not only see the environment from above but also from below. Golding argues that the ‘from above’ perspective turns the player into a *strategist* that treat nature as configurable and implies that nature can be controlled and conquered by humans. A ‘from below’ perspective turns the player into *tacticians* which are more aware of their surroundings and see themselves as part of their environment.¹¹² Besides controlling the camera, the player can place both plants and animals if he has enough Diversity Points to purchase them. Besides placing organisms, the player can also remove, follow (only for animals), control (only for animals), or transplant them. When taking control of an animal, the player can walk it around and make it make sound. Transplanting will let the player take a plant or animal and place it elsewhere on the map. Both controlling and transplanting contributes to the anthropocentric worldview since it gives of the message that the player (i.e., humans) can decide where nature grows and where animals go. However, the game does not encourage the player to either control or transplant species, transplantation is even discouraged since the player has to pay a high amount of Diversity Points to transplant an organism. The placing of

¹¹⁰ Navarro-Remesal, *Pixelated nature*, 15

¹¹¹ Chapman, *Digital Games as History*, 119

¹¹² Golding, Daniel. 2013. “Putting the player back in their place: Spatial analysis from below.” *Journal of Gaming & Virtual Worlds* 5 (2): 121-123 https://doi.org/10.1386/jgvw.5.2.117_1

plants and animals is encouraged by the game since almost every task revolves around placing new species, this is not always done by purchasing since players can also evolve new species by selectively breeding existing species. The player can for example breed daisies on their colour, and when he has a yellow daisy, he can evolve it into a buttercup. Some species have multiple requirements before they can be evolved into another species (see figure 4).

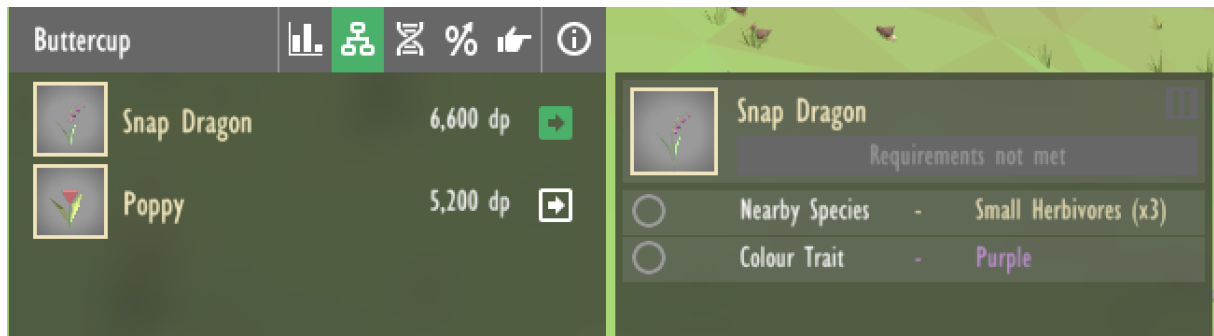


Figure 4: The Buttercup has to meet two requirements before it can evolve into a Snap Dragon

4.1.3. Interaction with the environment

The third section will look at the kind of interactions that is allowed between the player and the in-game environment, how these interactions are encouraged or discouraged, and what resources are available to the player. Values are often at play in the ways games afford and regulate interaction with other elements of the game, in this case the environment. These interactions with the environment are important since the scope of this thesis concerns environmental ethics.

In *Equilinox*, interaction with the environment is no uncommon phenomenon. Players constantly place new plants and animals in the environment, and the environment reacts to the actions of the player. As discussed before, plants and animals can be bred and evolved to unlock new species, but animals can also show signs of hunger and disease, in this case the player has to react to keep the animals from dying and the disease from spreading. This is an example of the transition from anthropocentric to ecological since the player has to actively take care of the ecosystem to guarantee its continuity. There are no resources in the game that can be extracted or exploited from the natural world, and resources can also not be scavenged from the natural world. The only resource in the game is the Diversity Points that can be earned by either completing tasks or having a diverse ecosystem. However, animals and plants can in some situations also be seen as resources, or at least as means to specific ends, for example when they are requirements to evolve a specie. In this scenario the required plants and animals could be a resource, but they are not extracted, exploited, or consumed from the natural world and they also do not serve human gratification or consumerism. Thus, the animals and plants, if resources at all, cannot be seen as resources as

in most games where natural elements are exploited from nature to be used as crafting material for human gain.

4.1.4. Rewards

Fourth, 'Rewards' looks at what actions are rewarded, what these rewards look like (e.g., points or lives), if some actions are rewarded more than others, and if some actions are punished. Analysing rewards is important because it reveals what kind of accomplishments are valued and which are not.

In *Equilinox* the player is rewarded for completing tasks, which revolve around creating new species or have a certain number of a specific specie. Rewards in *Equilinox* mainly consist of two things: Diversity Points and unlocking new species and tasks. Diversity Points are rewarded in two ways: they can be given to the player as a reward for completing tasks or players can passively earn them by having healthy and happy animals. Both ways of earning Diversity Points value a diverse ecosystem where animals – and their surroundings – are being looked after. The wellbeing of animals can be seen in their status tab (see figure 5), where the player can get insight in the animal's health, hunger, habitat info, liked and disliked species, and how happy it is with its environment. Since there are 60 tasks in the

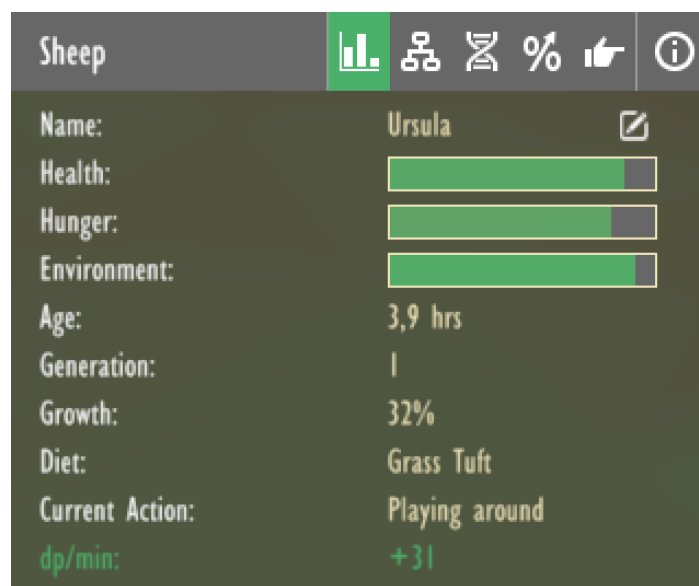


Figure 5: Status tab of animals

game, the player can be rewarded a limited amount of Diversity Points this way, however, in the passive way of earning Diversity Points there is no limit. As long as the player has healthy animals he will earn a certain number of points per minute, of course this means the player has to maintain his ecosystem, so the animals do not get hungry or sick. These Diversity Points can then be spent in the Plant or Animal shop to place more species, selectively breed species to increase or change specific traits, or even evolve existing ones into new ones. The fact that players can infinitely earn Diversity Points and can use them to inexhaustibly add

animals and plants can both be critiqued and praised. On the one hand, scholars agree that ecological games should not focus on “infinite accumulation” because that stimulates an exploitative worldview but should “reward moderation”.¹¹³ On the other hand, placing many animals in an environment that cannot support them will balance itself out and restore the balance in the environment. According to Kelly and Nardi, this is a form of moderation, they state: “Finitude means that growth-based ideals will eventually collapse. A more realistic alternative is to think in terms of [...] cyclical patterns of abundance: growth and scarcity interspersed in a sustainable way.”¹¹⁴ New tasks and species are rewarded to the player after completing other tasks and also help the player to create a diverse ecosystem. In short, both rewards value a diverse ecosystem and reward the player with means to extend his ecosystem.

4.1.5. Animals and aesthetics

Lastly, ‘aesthetics’ concerns the way aspects of the game look and sound like and will be focused on animals in the game. The representation of animals is important, Baker argues, since for most people their understanding of animals is shaped by representations rather than by direct experience.¹¹⁵

Animals in *Equinox* do not look realistic, just like the rest of the environment they have a low rendered polygon aesthetic and instead of walking they do little bounces to move around. On the background there is relaxing, almost lo-fi music playing, the songs that rotate can be selected in the music menu. The animals themselves also occasionally make noises, or the player can force them to make sound by clicking on them. When it is night, the animals fall asleep and they will wake up when the sun rises again, their behaviour is realistic in this way. In Jánski’s second categorisation the animals in *Equinox* fall under the *actual representations* as they represent existing living animals, and they are intended to look like members of specific animal species in the physical world.¹¹⁶ However, the animals do not fit in one of the roles of the first categorisation, as they are neither enemy, background, hero, companion, nor tool. Naturally they sometimes adopt one of these roles temporarily, for example, when the player is focusing on one specific animal the other animals are reduced to the background, but this stops when the player is not focusing on one specific species anymore. Further, when a fox attacks and eats a chicken it becomes an enemy to that chicken, and this is true for every prey and predator in the game. However, the animals do not become enemies to the player. A situation where this could be interpreted this way is when an animal gets sick, because when an animal gets sick it can infect other animals that

¹¹³ Navarro-Remesal, *Pixelated nature*, 17

¹¹⁴ Kelly and Nardi, *Playing With Sustainability*, 7

¹¹⁵ Baker, *Animals, Representation, and Reality*, 190.

¹¹⁶ Jánski, *Towards a Categorisation of Animals in Video Games*, 93

are close, in this scenario the sick animal becomes a threat – or enemy – to the entire ecosystem and therefore is an obstacle for the player. However, mostly animals are independent entities that walk in the ecosystem where they rely on others and others rely on them, an ‘animals as protagonist’ role would be more appropriate to the animals in *Equilinox*. Jánski’s ‘animal as hero’ comes closest to this but this only accounts for anthropomorphized characters which mimic human movement and action.

4.2. Environmental ethics in *Everything*

In this section the game *Everything* will be analysed according to the method described in chapter 3. First a short introduction will be given to provide some context on the genre, context inside the game, and the economical situatedness of the game. Afterwards, the five elements will each be analysed to gain an understanding of how environmental values are embedded in the game’s ‘system’. In 4.2.1. through 4.2.5. the narrative and goals, actions in game, rules for interaction with the environment, rewards, and aesthetics will be analysed respectively.

Everything is a reality simulation game solely developed by digital artist David O’Reilly, released in 2017. In *Everything* the player travels through the universe and sees it from different points of view. The game focuses on reality as a phenomenon of interdependent systems where thousands of things perceive, think, and interact with each other. The player can play as literally everything in the game, from bacteria to solar systems. Continued exploration will lead the player to unseen environments, containing new sights, sounds, things, thoughts, and abilities.¹¹⁷

4.2.1. Narrative and goals

Just like *Equilinox*, *Everything* does not communicate its goal explicitly to the players. When just starting the game, as a camel, one of the things around the player says that: “It is hard to imagine things are here for each other, that is because you only see things from a camel’s perspective” and continues with “this is not about giving you something different to see but giving you a different way of seeing.” The game itself does not have a condition that must be met, as in a way to win, but the goal is to teach the player something, a new way of looking at the world and see the interconnectedness and interdependence of all organisms. This goal, or message, is present in the minute-to-minute gameplay as the player is encouraged to transform into as many different things as possible and bond with them. When players play as a thing and move around with them, they bond with that thing and add them to a compendium of some sort, the completion of this compendium seems a secondary goal in the

¹¹⁷ David O’Reilly, “Everything,” *Everything*, 2017, <https://www.davidoreilly.com/everything>.

game. During the game the player can find little pieces of audio from speeches by Alan Watts, an English philosopher, where he talks about the part humans have in nature, that humans must look at nature from different perspectives, and the interconnectedness of all organisms, one of the audio fragments for example states:

The relationship between the environment and the organism is transactional. The environment grows the organism, and in turn the organism creates the environment. The organism turns the sun into light, but it requires there be an environment containing a sun for there to be an organism at all. And the answer to it simply is they're all one process.¹¹⁸

In *Everything*, the game is also never interrupted by cutscenes, and the framing narrative is therefore limited, like in *Equinox* the players have great agency and is only limited by the framing controls.¹¹⁹

4.2.2. Actions in game

Transforming is the biggest action in the game as the player frequently transforms into new things to bond with them, players can transform into things that are close by and can either transform in something bigger or smaller (ascending or descending). When players transform into a thing that thing becomes the player character (i.e., the character that the player controls) and the player sees the world from that thing's perspective. When the player is small enough, he can descend into another perspective on the environment, for example when the player is a rock, he can descend into the perspective of small animals like insects very close to the ground and experience a whole new environment (e.g., when the player descends from a camel to a worm he will start to see numerous small things that were invisible to him when he was a camel, like small plants and other small insects). When the player gets even smaller, he can enter the dimension of bacteria and experience their environment. The same goes for ascending, when the player is a big tree for example, he can enter the environment of continents and see other continents that were invisible to him when he was just a camel. When the player ascends further, he can control the planet he was just walking on and travel to other planets and the sun, in short levels can be characters and characters can be levels. Next to transforming the player can also make sounds (sing) to other members of the same thing around him, this will cause them to sing back and will speed up the bonding process with the thing the player is currently controlling. When close to

¹¹⁸ Alan Watts Organization, "Everything, the Alan Watts Talks," Alan Watts Organization, September 13, 2017, <https://alanwatts.org/everything/>.

¹¹⁹ Chapman, *Digital Games as History*, 119

members of the same thing the player can add them to his party and control them all at once, they will move in the same direction and stay close to each other. With this party the player can then dance – a ritual where they move around in circles – and once every couple of seconds the player can spawn a new member of the thing he is controlling, the dancing, thus, is basically a reproduction mechanism. The camera position of *Everything* cannot be changed and maintains a third-person perspective the whole time, this third-person perspective generates less immersion with the game – and therefore its values – than a first-person perspective would.¹²⁰ The fact that the player zooms in and out when he changes environments does allow for a ‘from below’ perspective and therefore makes him more aware of his environment.¹²¹ Furthermore, when moving, the third-person perspective almost becomes a first-person perspective for some things, creating higher immersion.¹²²

4.2.3. Interaction with the environment

In *Everything* the player can interact with the environment in many ways. Firstly, things that are not controlled by the player can think, and these thoughts can be read by the player by coming close and interact with the thing. These thoughts often endorse the message of the game, the thought of a squirrel I encountered for example stated: “you are one note in a symphony that was waiting to be played since the beginning of time.” This thought emphasizes that everything in the world is part of a bigger whole, is connected to the rest of that whole, and that it should work together with the rest of that whole. The world of *Everything* has no resources to build or trade anything and the natural world can therefore not be exploited for human gain. Where in *Equinox* it could be argued that animals in some cases where tools (e.g., to evolve other species), in *Everything* animals are never used as tools. As discussed earlier, the player can interact with other things by transforming in them or by adding them to their party and dance. This interaction between things continues when the player stops playing, after a while of not giving an input to the game it will enter autoplay mode. Here the thing the player currently controls starts to move and freely transforms, sings, and dances with other things, this shows that without human interference (i.e., the player giving input) the world goes on, strengthening the message that humans are part of their environment and not of vital importance for its continuity. Because of the compendium the transforming, bonding, singing, and dancing interactions are encouraged by the game since they will lead to new additions to the compendium.

¹²⁰ Alena Denisova and Paul Cairns, “First Person vs. Third Person Perspective in Digital Games,” *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 2015, <https://doi.org/10.1145/2702123.2702256>, 148.

¹²¹ Golding, *Putting the player back in their place*, 121-123

¹²² Denisova and Cairns, *First Person vs. Third Person Perspective in Digital Games*, 148

4.2.4. Rewards

The player can in no way earn points or currency in *Everything*, nor is there another form of economy surrounding the nature. The game also cannot be completed, the player can just keep on playing as long as he likes, and the game can also not be won. What can be thought of as rewards are the abilities that the player unlocks as he keeps playing. At first the player can only walk and sing to other things, but as he keeps exploring, he unlocks the ability to transform to other things, dance and add members of the same thing to his group. If the player keeps on playing and adding things to his compendium he also unlocks the ability to add or remove members of the thing he is controlling to the world (e.g., if the player is a rock, he can add rocks to or remove rocks from the world), to grow or shrink in size, and to transform into things he already added to his compendium even if they are not close. Through these rewards, the player is rewarded for and encouraged to keep exploring the different perspectives and the interconnectedness of the environment. Flanagan and Nissenbaum state that optional side-quests can be seen as rewards, and the compendium in *Everything* can be seen as a side-quest – or at least to fill the compendium with, literally, everything.¹²³ This compendium does not only serve as a means to track player progression but also encourages players to keep playing and exploring new things they have not found yet.¹²⁴ This encouragement is strengthened by the way undiscovered things are represented in the game, when the player can transform to a nearby thing he has already bonded with, that thing is encircled by a white circle. When he, however, encounters a thing he has not bonded yet, it is encircled with a rainbow-coloured circle, translating the reward of finding something new to the aesthetic side of the game (see figure 6).

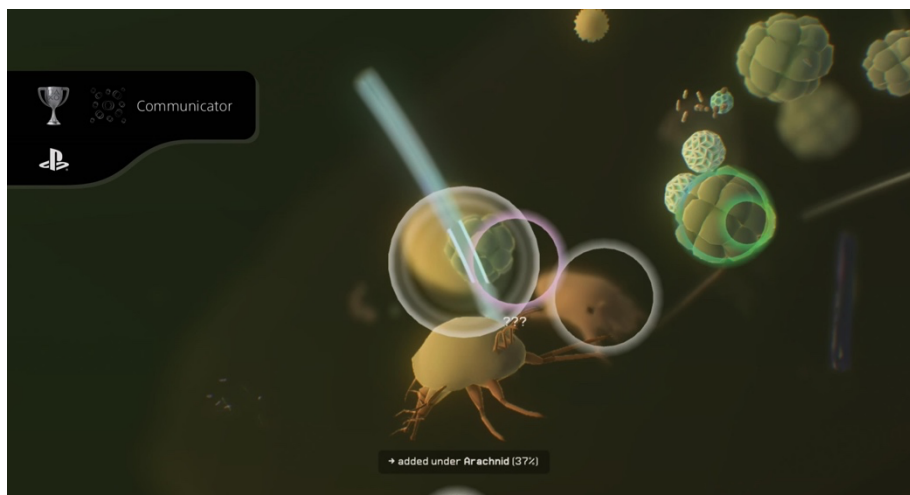


Figure 6: Undiscovered things have a rainbow-coloured circle around them

¹²³ Flanagan and Nissenbaum, *Values at Play in Digital Games*, 63

¹²⁴ Carlos Cruz, Michael D. Hanus, and Jesse Fox, "The Need to Achieve: Players' Perceptions and Uses of Extrinsic Meta-Game Reward Systems for Video Game Consoles," *Computers in Human Behavior* 71 (September 3, 2015): pp. 516-524, <https://doi.org/10.1016/j.chb.2015.08.017>, 523.

4.2.5. Animals and aesthetics

Comparable with *Equilinox* the animals in *Everything* do not look realistic as they are low rendered and they do not walk but they roll in 90-degree increments (see figure 7). On the



Figure 7: Animals move in 90-degree increments

background there is relaxing music playing, the music cannot be changed like in *Equilinox* and can also not be paused. The audio fragments of Alan Watts' lectures, which can be found at pivotal moments between new discoveries and observations in the gameplay, help *Everything* to powerfully illustrate the interconnectedness and inseparability of all things.¹²⁵ Animals can be reduced to the background, mostly when the player plays as, for example, a camel the other animals reside in the background. However, mechanics like transforming and singing easily draw other things out of the background and into the foreground. Animals, and other things, can be read as *enemies* when the player wants to add them to their compendium, but he cannot find them. Jánski's mode of 'animals as enemy' is not entirely correct to describe this phenomenon as he states that animals are an enemy when they are hostile to the player.¹²⁶ A mode that seems more appropriate is Abraham and Jayemanne's *environment as antagonist*, in this mode "the environment itself becomes an obstacle or an 'antagonist' that resists the player."¹²⁷ This scenario is very uncommon in the gameplay and, just like in *Equilinox*, an 'animals as protagonist' role would be most appropriate in *Everything* as they are independent entities that are part of multiple interconnected environments. In

¹²⁵ Alan Watts Organization, "Everything, the Alan Watts Talks," Alan Watts Organization, September 13, 2017, <https://alanwatts.org/everything/>.

¹²⁶ Jánski, *Towards a Categorisation of Animals in Video Games*, 91

¹²⁷ Abraham, Benjamin and Darshana Jayemanne. 2017. "Where are all the Climate Change Games? Locating Digital Games' Response to Climate Change." *Transformations* 30: 82. <http://hdl.handle.net/10453/121664>

Jánski's second categorisation the animals in *Everything* fall under the *actual representations* as they represent existing living animals, and they are intended to look like members of specific animal species in the physical world.¹²⁸

4.3 Transition from anthropocentric to ecological

In this paragraph *Equilinox* and *Everything* will be compared with each other to see how they transmit the message to switch from anthropocentric to ecological in the same way, and in a different way. In figure 8 (page 38) the five focus points for both games are systematically put together to compare them more easily.

Both *Equilinox* and *Everything* have a strong focus on animals and their goal is to make players aware of the interconnectedness animals have with their environment and the species in it. However, they both achieve this goal in different ways: *Equilinox* does so by learning the player how certain species evolve from other species and giving insight in the interest of animals (e.g., hunger, liked environment, disliked species), this is an active way to discover the interconnectedness by creating an environment. *Equilinox*'s goal to create and maintain a diverse ecosystem is in line with the second principle of deep ecology, where the richness and diversity of life-forms are seen as values in themselves. In *Everything* the goal is also given by gameplay affordances (e.g., transforming, ascending, and descending), but the focus is more on making the player adopt a new way of seeing the different environments around him, the player explores and collects nature (e.g., collect nature in their compendium) instead of creating it. *Everything* focuses on the first principle of deep ecology, which states that nonhuman life has intrinsic value independent of the usefulness they may have for human needs, this is seen in the thoughts, lectures, and gameplay affordances that constantly emphasize different environments and perspectives. Both do not explicitly communicate their goals to their players, allowing the players to take their time and enjoy exploring and experimenting with the natural elements. These traits of the two games (exploring and experimenting) make them very suitable for their players to adopt an ecological way of thinking.¹²⁹ Although both games are eco-games with the message to trade our anthropocentric worldview for a more ecological one, they share this message in different ways.

The focus on creating nature in *Equilinox* is also seen in its affordances and perspective, the player can place new nature to easily experiment with breeding and evolving. This aspect of the game gives player the opportunity to compare the outcomes of different choices, which is essential to make them adopt a more ecological worldview.¹³⁰ The

¹²⁸ *Ibid.*, 93

¹²⁹ Kelly and Nardi, "Playing with sustainability," 1

¹³⁰ *Ibid.*, 6

perspective of *Equilinox*, where the player is a god-like creature that hovers above the game and adds new species emphasizes the focus on creating nature. In *Everything* the player is himself part of the environment through his character and the game addresses the player directly through the thoughts of other things and lectures. The fixed third-person perspective from *Everything* does not allow the player to take a ‘from below’ perspective, Denisova and Cairns argue that playing in third person perspective “distances the player from perceiving themselves as having direct action in the game world, as they watch their character perform actions and make decisions from the viewpoint of somebody who controls the avatar.”¹³¹ They continue that this lesser sense of being in the game world is accompanied by smaller cognitive engagement with the world, and therefore its embedded values. However, the third person perspective is more effective when trying to explore as a first-person perspective restricts the player’s ability to see their surroundings within the game.¹³² This makes the third-person perspective good for *Everything*’s goal, exploration. The ability to ascend and descend into new environments does give the player a sort of ‘from below’ experience and makes the player more aware of his environment.

Both games have little or no resources in the game that can be exploited or extracted for human needs. This follows the principle of deep ecology that states that the flourishing of nonhuman life has intrinsic value independent of the usefulness they may have for human needs, and the principle that humans have no right to reduce the richness and diversity of the natural world. The only resource in *Equilinox* is actually a reward for maintaining the diversity of the natural world, Diversity Points can be used to buy and place new plants and animals. The interaction with the environment in both games also emphasizes the difference in active creation and passive exploration as players in *Equilinox* can create and shape nature (e.g., place, transplant and remove organisms), while in *Everything* players can listen to other things thoughts, sing to other things, and dance with them.

This difference is also clearly seen in the reward system of the games. In *Equilinox* the player is rewarded for creating a rich and diverse ecosystem whereas in *Everything* the player is rewarded for exploring and seeing the environment through the eyes of as many different things as possible. Since both games exclude human beings from gameplay it is hard to say if animals enjoy the same moral consideration as humans, however, in *Equilinox* players have an elaborated insight in the animals’ status, pleasures, and pains, making it easy for player to base their choices on the animal’s needs. Furthermore, the pleasure of animals is encouraged (e.g., placing them in an environment they love will increase their growth rate) and suffering of animals is discourages (e.g., prevent disease from spreading).

¹³¹ Denisova and Cairns, *First Person vs. Third Person Perspective in Digital Games*, 147

¹³² *Ibid.*, 148

Lastly, both games have a low rendered visual aesthetic in both the environment and the animals. Although they both fall in the ‘actual representation’ category of Jański’s model, the animals are not represented in a cinematic way like in *Red Dead Redemption II* for example. Their ecological message is not spread through their visual realism, but it is through their ‘system’ and gameplay that players are introduced to an ecological worldview. Both games have soft, relaxing background music, which is sometimes interrupted by lectures of Alan Watts in *Everything*. The relaxing background music matches the intensity of the games and therefore increases cognitive immersion, which in turn makes it easier for players to understand and adopt an ecological worldview.¹³³

Both *Equinox* and *Everything* focus on showing the player the interconnectedness and interdependency of animals and their environment with the aim to make players transition from an anthropocentric worldview to an ecological one. However, they try to achieve this goal in different ways, *Equinox* focuses on active creation of nature to give players an understanding of how different species are connected while *Everything* gives players this understanding by through exploration. The ‘system’ of both games supports their goal by rewarding the player for behaviour that achieves that goal (e.g., in *Everything* the player unlocks more abilities to explore when he explores). Concludingly, one cannot speak of *the* transition from anthropocentric to ecological since this transition can take different shapes or forms.

¹³³ Jiulin Zhang and Xuemei Gao, “Background Music Matters: Why Video Games Lead to Increased Aggressive Behavior?,” *Entertainment Computing* 5, no. 2 (February 5, 2014): pp. 91-100, <https://doi.org/10.1016/j.entcom.2014.01.002>, 99.

		Equinox	Everything
Narrative and goals	Goals that drive the playable character?	There is no playable character. The player hovers over the game. When the player controls an animal, he can only walk with it, so there is no specific goal the that drives the playable character.	Everything is a playable character, but they do not have a goal that drives them.
	What the player is pursuing?	Create and maintain a diverse ecosystem by placing and evolving different plants and animals. This goal is not explicitly communicated to the player, but the tasks steer towards it.	To add as many different things as possible to his compendium by exploring the environments and transforming into different things.
	What will the player have accomplished when the game is 'won'?	A diverse ecosystem.	A full compendium. Seen different perspectives and different ecosystems to gain an understanding of how everything is interconnected.
Actions in game	What can the playable character do?	There is no playable character. When controlling an animal, the player can walk, make noise, and transplant (relocate) the animal.	While controlling a thing, the player can make that thing navigate throughout the world (e.g., walk or fly), sing to other things, dance with other things in its party.
	Other available actions	Buying, placing, removing, and transplanting new organisms, evolving, breeding, camera control, control animals.	Transform, ascend and descend, bond, adding members to your party, dance with your party, change to things that are in the compendium, listen to Alan Watts' lectures.
	Game's perspective	Primarily 'from above' as a god-like creature. Elaborate camera controls allow for a 'from below' perspective.	Third person perspective which cannot be changed. However, the ascending and descending into different environments does create a 'from below' perspective of some sort.
Interaction with environment	Interactions between player and the environment	Place, evolve, transplant, and remove organisms, selectively breed organisms, prevent hunger and disease, see elaborate information on organisms in the status tab.	Listen to the thoughts of other things, sing and dance to and with other things, transform into things around you, interaction is not reliant of player input (automode).
	Encouragement or discouragement of interactions	These activities are encouraged through the tasks the player gets from the game. Removing and transplanting organisms is discouraged by the high amounts of Diversity Points needed.	Listening to thoughts is encouraged by pop-ups when close to other things. In automode the game transforms, sings, and dances, this implies that this is the right way to play the game. These

			activities are thus encouraged through automode.
	Available resources	Diversity Points for buying, breeding, and evolving species. In some cases, organisms can be resources to evolve other organisms.	There are no resources in <i>Everything</i> .
Rewards	Actions that are rewarded	Completing tasks and having a diverse ecosystem.	Exploring as many things as possible by navigating, transforming, and ascending and descending. Bonding with things by singing and dancing.
	Kind of reward	New tasks, Diversity Points, newly placed species can be 'better' if the ecosystem suits their needs.	The player unlocks new abilities, compendium gets filled.
	Punishments	Not taking care of hunger and disease will lead to organisms dying, which will cause the player to miss out on rewards.	The player is not punished in <i>Everything</i> .
Animals and Aesthetics	General audio-visual aesthetic of the game	Soft, relaxing background music. The world is low rendered and everything is polygon shaped.	Soft relaxing background music alternated with Alan Watts' lectures (no subtitles). The world is low rendered.
	What do animals look like	The animals in <i>Equinox</i> are low rendered, but an <i>actual representation</i> of animals in the real world. They bounce instead of walk. They follow a day and night pattern.	The animals in <i>Everything</i> are low rendered, but an <i>actual representation</i> of animals in the real world. They roll instead of walk.
	What do animals sound like	They make noise randomly, the player can make them make noise when controlling them.	They make noises when they sing to other things.

Figure 8: Comparing *Equinox* and *Everything*

5. Conclusion

In this thesis the representation of the transition from an anthropocentric worldview to an ecological one in *Equinox* and *Everything* was researched. The transition from an anthropocentric worldview to an ecological one is one of the core principles of environmental ethics. Understanding that every organism is connected with each other and their environment, having respect for the living world – at least the sentient organisms – and consider animals' needs equally to those of humans are prominent arguments in utilitarianism, especially Singer's principle of equality, and Naess' deep ecology. This thesis studied video games since they are active (the player must actively do things) and interactive (once the player has made choices, the game is now developed in a way that sets certain parameters that affect future gameplay), which makes them a medium that can offer solutions to problems that other media encounter in climate communications. Following a textual analysis by Fernández-Vara and the framework of Flanagan and Nissenbaum for values in games, both *Equinox* and *Everything* were researched.

The analysis showed that *Equinox* and *Everything*, although they both represent the transition from an anthropocentric to an ecological worldview, share their message in a different way. *Equinox* focuses more on a playstyle where the player has to actively create an ecosystem to gain an understanding of the interconnectedness and interdependency of organisms and their environment. *Everything* maintains a playstyle where the player needs to explore different sizes of environments – from planets in space to bacteria on a city bus – to understand what organisms are part of any given environment and how they are connected. The way of sharing their message was in both games very well supported by their 'system' (i.e., the actions players can do in the games, the interaction with the environment, the rewards, and the aesthetics of both the game world and the animals specifically). The representation from an anthropocentric worldview to an ecological one is, thus, represented in two different ways, one that focuses on creation and one that focuses on exploring. Therefore, there is no *the* transition from anthropocentric to ecological but there are multiple ways to represent this transition.

Due to the time constraints and the scope of this thesis, there are some limitations that need to be considered. First of all, this thesis only included two types of environmental ethics –utilitarian environmental ethics and deep ecology – while there are more important environmental ethics (e.g., dark ecology, posthumanism, and social ecology). The focus on the two chosen environmental ethics provided clear focus points but might also limit the findings and conclusions of this thesis. Moreover, plants were excluded from this thesis due to time constraints and since there is still debate whether or not they should be included in environmental ethics (see Peter Singer's *Practical Ethics* (1993)). However, including plants in this research might have yielded some interesting results. Secondly, the focus in this thesis

was on the ruleset, the 'system', of the two games while, as discussed in chapter 2.2.2., the player is also a big part of video games. The player, and how players interpret and process the values embedded in the games, are left out of this thesis. I did, however, discuss it so I could consider myself as a player-researcher. Lastly, my own biases and position towards the environment might have caused me to focus on specific elements of the game or interpret elements in specific ways. A researcher with a different view on the environment might interpret differently or see relationships in the games that I overlooked.

The limitations logically provide opportunities for future research. This thesis focused on two eco-games while there are a great number of other eco-games in existence. Analysing more eco-games might show if the two ways of representing the transition from anthropocentric to ecological are exhaustive, or if more ways of representing this transition are possible. Further, the effects of game where this transition is central should be researched. Is one of the two ways found in this study more effective than the other? Or are they equally effective and just different? Do players get an increased knowledge on an ecological worldview, and are they showing different behaviours on the longer term that support an ecological worldview? Future research might also include different environmental ethics to be analysed in eco-games and more topics like plants. The corpus of research could also be expanded from eco-games to commercial games to see how they represent the transition to an ecological worldview.

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