

Remediation and Refunctionalization of Natural Spaces in Video Games: Perspectives, Patterns, and Impact on Society

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INTRODUCTION

The ecological impact of the creation, distribution and consumption of video games is becoming a priority in the agendas of both scholars and professionals. Given the urgent difficulties that humankind faces about climate change, pandemics, and other crises, involving games in the discourse can be seen as controversial, or even trivial (Abraham 2022). However, video games are nowadays a massively pervasive medium and can reach millions of players at once. The way they communicate and represent certain aspects of sustainability, ecology or environment reflects shared cultural values and imaginary.

It has been observed how video games can convey messages in many ways (Bogost 2008; 2010; Frasca 2001) by teaching (Squire 2006) or even introducing the players to new topics (Rollinger 2020). Perhaps the optimism about the *potential* of video games in fixing all the problems of this world (McGonigal 2012) is somehow excessive, but their cultural influence is undeniable. Mainstream video games, just as other media, have an impact that can be either positive or negative (de Kerckhove 1991) on the – often – millions of players who access them.

This research project focuses on video games for mass entertainment, with two main goals. First, is to understand which values are being conveyed through gameplay, narrative, or audiovisual representation, and what collective imaginary do games contribute to construct. The second goal of this research is to reflect on the possible design choices that can convey messages of sustainability, according to the UNESCO Sustainable and Development Goals (UNESCO 2015).

ECOLOGY AND GAMES

As Abraham noted (2022), the urgent priority for both video game industry and game scholars should be to find a way for reducing carbon emissions. Without a significant shift, video game production, distribution and consumption will continue to have a huge impact on the planet. This would require a drastic and quick change in the production line that certainly is not impossible, but at the same time is unrealistic at this moment.

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The focus of this research, is not on what video games *can do* in an optimistic worldview in which gaming itself is the solution to all problems. It studies what video games already do by subverting narratives and combating entrenched cultural constructs (Chang 2019). By examining which collective imaginaries, ideas and values are conveyed by popular videogames, we can trace the origins of such ideologies and observe their construction.

To pursue this goal, the research project takes into consideration a number of popular video games of the past decade. The reasoning behind this choice is that commercial titles can pursue the basic goals of so-called *ecogames* (Raessens 2019), while reaching a broader user base. Therefore, they can convey certain values in entertaining contexts (Owen 2013) and be appealing also to players not initially predisposed to receive messages on the topic.

The project recognizes that it is unrealistic to precisely assess with an objective and definitive method what impact video games have on players. They are such a broad front that it seems optimistic and depersonalizing to group them all together. Video game players have uneven demographics, they come from all sorts of sociocultural backgrounds, and do not always share the same ideologies, skills, or knowledge.

While we cannot understand with immediate certainty the medium's clout, we can assess its structures, its dynamics, and its language. By understanding this, we can observe what rhetoric video games convey and which collective imaginary they contribute to construct. Therefore, it would be possible to address that language, shifting it to avoid dangerous values to be conveyed through video games.

METHODS AND APPROACH

This research project takes into consideration a number of popular video games released from 2011 to present time. Combining various hermeneutic approaches of game analysis (Kłosiński 2022), it is possible to observe what language the medium has developed in representing nature, environment and sustainability.

At the time of writing this paper, there are over thirty games observed, including *Horizon Zero Dawn* (Guerrilla Games 2017), *Sid Meier's Civilization VI* (Firaxis Games 2016) or *The Last of Us* (Naughty Dog 2013) just to name a few. The selection criterion is based on a combination of sales, popularity, awards, or media exposure. All analyzed games are catalogued in a mediography specifically made to keep track of research results.

The analysis covers all the possible aspects of nature representation, with special attention to the following UNESCO Sustainable and Development Goals:

- 6 – Clean water and sanitation
- 7 – Affordable and clean energy
- 11 – Sustainable cities and communities
- 12 – Responsible consumption and production
- 13 – Climate action
- 14 – Life below water
- 15 – Life on land

Places, creatures, ways of interaction have all symbolic meaning when represented in media (Tarzia 2009; Calabrese e Ragone 2016), and they often reflect shared needs,

values and fears of a culture. In video games, this representation can be either narrative, audiovisual, or procedural (Bogost 2010), a language and an imaginary that are shared by different cultures, both Western and non-Western. This makes video games an ideal field of research to find which values, fears, and needs are diffused in the contemporary popular culture.

FINDINGS AND FUTURE RESEARCH

This study, which is still in progress, has already produced several interesting results. In particular, the research has confirmed so far what has been noted on the symbolic functions of natural places (Tarzia 2009), and it showed how video games add procedural features that often make such functions explicit. For example, the Bonfires in the *Dark Souls* series (FromSoftware 2011) starting from the need for save points typical of video games, make explicit the symbolic value of stopping places in Western fantasy narratives.

However, nature, ecology and environment are themes that find their way into video games from various angles. For this reason, the corpus of analysis is also including games that are not explicitly related to these topics, such as *Cyberpunk 2077* (CD Projekt RED 2020), *God of War* (Sony Santa Monica 2018) or *No Man's Sky* (Hello Games 2015). Consumption of resources, hunting, recycling, and other mechanics have offered interesting insights.

Many games, such as the *Assassin's Creed* most recent episodes (Ubisoft Montreal 2017; Ubisoft Quebec 2018) offer rewards or achievements for hunting, not related to the narrative or the game's underlying theme, effectively encouraging violence-based human-nature interaction. At the same time, however, they probably highlight nostalgia for primordial, simpler, less mediated eras (Chang 2019, 163). Other games, however, include side quests and more or less explicit references to the importance of cleaning drinking water sources to prevent the spread of disease: *Dishonored* (Arkane Studios 2012) is among the most interesting examples in this regard.

The results of this ongoing research can emphasize how nature, environment and ecology are perceived in modern times. With particular attention to the UNESCO Sustainable Development Goals, this project aims to help understanding what video games are doing to communicate sustainability on a large scale. After that, it would be possible to construct a framework of design that could convey a more sustainable set of values, alongside a much-needed paradigm shift in the production line.

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