

Spring 2020

## The Baroque in Games: A Case Study of Remediation

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DOI: <https://doi.org/10.31979/etd.n9dx-r265>

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THE BAROQUE IN GAMES: A CASE STUDY OF REMEDIATION

A Thesis

Presented to

The Faculty of the Department of Art History and Visual Culture

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Masters of Arts

By

Stephanie E. Thornton

May 2020

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The Designated Thesis Committee Approves the Thesis Titled

THE BAROQUE IN GAMES: A CASE STUDY OF REMEDIATION

by

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## ABSTRACT

### THE BAROQUE IN GAMES: A CASE STUDY OF REMEDIATION

by Stephanie E. Thornton

This thesis presents a case study for the remediation of baroque painting by some contemporary video games. Video games such as *Horizon Zero Dawn* borrow illusionistic techniques, the motif of the labyrinth, and the use of the total work of art as presented in certain baroque paintings. These characteristics are modified and represented within the new medium in an effort to heighten immediacy and create an immersive experience for the audience. This thesis discusses the process of remediation in detail and then analyzes how video games—and *Horizon Zero Dawn* in particular—remediate illusionistic techniques like linear and atmospheric perspective. Then, the analysis focuses on the remediation of the baroque labyrinth. Finally, the thesis analyzes the total work of art present in this case study of baroque painting and video games and how the former media improved upon the latter. Within the context of this case study, this thesis finds that certain video games borrow illusionistic techniques, the labyrinth motif, and the total work of art from baroque painting and repurpose these aspects in the new medium.

## ACKNOWLEDGEMENTS

First and foremost, I would like to express my deepest gratitude to my committee members, Dr. Dore Bowen, Dr. Anthony Raynsford, Dr. Anne Simonson, and Dr. Christy Junkerman. Your guidance and assistance with the research and the writing of this thesis has been invaluable. Thank you all for your constant support, hard work, patience, and enlightening lessons.

I would next like to thank my family. Thank you to all of my grandparents: to Thalia and Ron Virden, for your love and financial support and to Marilyn and Darrell Ireland, for your wisdom and affection. Thank you to my parents, Tom Thornton and Elaine Thornton, and their partners, Terri Hass and Garold Baucum, for always being there for me and supporting me in every way possible. I would not be the person I am today without any of you.

Finally, I would like to thank my sister and best friend Jennifer Thornton. You listened to my convoluted ideas, guided me through difficult moments, and undertook the daunting task of being my reader for this thesis. You have always been there for me no matter what, and—for that and so much more—I dedicate this thesis to you, Jenn.

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## Introduction

The focus of this paper is not the gradual change of art over time but instead the impact of one period in art history on a digital medium, in this case the impact of baroque painting on contemporary video games. This thesis examines how video games borrow directly from baroque painting in both obvious and subtle ways through a process called remediation, a theory of new media proposed by Jay David Bolter and Richard Grusin in their book *Remediation: Understanding New Media*. It argues that contemporary video games relate to baroque painting in their use of illusionistic techniques, labyrinthine structures, and the total work of art. This analysis will focus on the 2017 game *Horizon Zero Dawn* by Guerrilla Games as a specific example of contemporary video games.<sup>1</sup> For comparison, this game will be studied beside an example of baroque art in order to create a case study that demonstrates the remediation occurring between these two media. This example will be Pietro da Cortona's ceiling fresco *The Triumph of Divine Providence* (1632-1639).

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<sup>1</sup> *Horizon Zero Dawn*™ ©2017-2020 Sony Interactive Entertainment Europe. Published by Sony Interactive Entertainment Europe Ltd. Developed by Guerrilla. "Horizon Zero Dawn" is a trademark of Sony Interactive Entertainment Europe. All rights reserved.



Figure 1. Pietro da Cortona, *The Triumph of Divine Providence*, 1632-1639, Fresco, Courtesy of the Gallerie Nazionali di Arte Antica, MIBACT - Bibliotheca Hertziana, Instituto Max Planck for the History of Art/Enrico Fontolan.

*Horizon Zero Dawn* is an open world, action role-playing game (RPG)<sup>2</sup> with a narrative that takes place nearly one thousand years in the future, placing it firmly in the genre of science fiction. The world has been able to recover from an apocalypse and the remaining humans now live in tribal societies among animal-like machines that prowl the ruins of the Old World. Players take control of a young woman named Aloy, the hero of this story. Aloy was raised as an outcast without a mother. Her desire to know why she was a motherless outcast drives her to compete in a coming of age ceremony not only to erase her status as an outcast but also to find the answers to her questions. Of course, this is not as simple as she thought. The ceremony is attacked by masked cultists and Aloy is

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<sup>2</sup> See Appendix A for more information on action RPG games and other video game terminology.

given the task of finding these men. As she travels, Aloy discovers what happened to the Old Ones—a swarm of renegade robots destroyed all life on earth—and learns that the cultists do the bidding of a machine called HADES. This machine seeks to reactivate the robot swarm, and Aloy is the only one who can stop it. As Aloy also learns, a woman named Elisbet Sobeck was able to develop artificial intelligence that would deactivate the robot swarm and repopulate the earth by cloning existing life forms. Aloy is unique as she is a clone of Sobeck and is able to bypass the DNA scans in Old World ruins. This inevitably leads Aloy to the master override she needs to disable HADES and stop another global extinction event.<sup>3</sup>

While this may seem like an unlikely comparison, there are many similarities between baroque painting and video games. The first similarity is the use of illusionism, also known as *trompe l'oeil*.<sup>4</sup> Seventeenth-century paintings and video games rely on illusionistic techniques to provide a sense of depth.<sup>5</sup> Both painters and game developers want to satisfy the viewer's desire for immediacy by producing a believable illusion of reality. Furthermore, both baroque paintings and video games can be considered a “total work of art,” or *Gesamtkunstwerk*. This will be defined more in a later chapter, but for now it can be understood as multiple art forms coming together to create a single art work. This is more apparent in video games, which combine art, music, writing, and acting to give life to the final product, but many baroque paintings had literary and performative aspects as well. Finally, labyrinths are also featured frequently in both

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<sup>3</sup> For a more in depth discussion of the plot of *Horizon Zero Dawn*, see Appendix B.

<sup>4</sup> French for “deceive the eye.”

<sup>5</sup> Seventeenth-century painters also used stucco, architectural surroundings, and frames to increase the illusion of depth in their works.

seventeenth-century painting and video games. Where video games feature literal mazes players must navigate, baroque paintings offer visual ones that often require an advanced knowledge of iconography to solve. These labyrinths were most often traversed by heroes as part of a larger narrative, which in itself functions as a labyrinth.

Not only does *Horizon Zero Dawn* serve as an excellent example of a contemporary video game, it also represents all of the above points of comparison. Many developers in the video game industry are working towards photorealism and a sense of naturalism in their games. As I argue in this thesis, this trend is causing developers to recycle baroque illusionism in order to add that extra sense of reality and feed the desire for immediacy. As a contemporary video game, *Horizon Zero Dawn* is no exception. It combines art, music, writing, and acting—to name but a few art forms—to create a total work of art to further enhance immediacy. This game also includes the labyrinth, as it takes form in the twisted ruins, dead ends, and bustling foreign cities featured during game play. Just as these labyrinthine ruins and cities turn back into one another, so does the plot of the game, creating many knots that begin where they end.

RPGs like *Horizon Zero Dawn* are fairly common in the industry today and are one of the most popular genres,<sup>6</sup> though many different genres and stories exist. *Horizon Zero Dawn* is unique and appealing for a variety of reasons, one of which is that it contains a female protagonist. In an industry that largely features male protagonists, it is still rare to come across a female hero; however, this trend is slowly changing. There was a similar

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<sup>6</sup> According to GamingScan.com, the Entertainment Software Association reported RPGs as the third most popular video game genre sold in 2018. 11.3% of games sold in 2018 were RPGs, with shooters at 20.9%, and action games at 26.9%. For more information on 2018 video game statistics, visit <https://www.gamingscan.com/gaming-statistics/>.

discrepancy in the depictions of women in the late-sixteenth and seventeenth centuries. In her essay “Idol or Ideal? The Power and Potency of Female Public Sculpture,” Geraldine A. Johnson discusses the presence and systematic removal of statues of women in Florence.<sup>7</sup> Unfortunately, many of these statues were “believed by at least some male viewers to be the cause of civic misfortune and, in each case, the solution to the implicit threat to the dominant patriarchy was to remove the offending image from its place of prominence.”<sup>8</sup> For example, this was the fate of Donatello’s *Judith Beheading Holofernes*, which was replaced with Michelangelo’s *David*.<sup>9</sup> While it is difficult to say if female video game characters are met with the same level of superstition, there are significantly less female protagonists than male protagonists. The game journalism site Polygon reported that at 2018’s Electronic Entertainment Expo (E3)<sup>10</sup> 24% of the 118 games presented featured male protagonists while only 8% featured female protagonists, with 50% of games featuring multiple genders.<sup>11</sup> This thesis does not analyze *Horizon Zero Dawn* or *The Triumph of Divine Providence* using a feminist viewpoint, but the presence of a female protagonist in a video game is worth noting as relatively unique.

To further add to its appeal, *Horizon Zero Dawn* comments on current world issues through the lens of a post-apocalyptic society set one thousand years in the future. It does so by featuring ancient artifacts like audio and text files left behind by the people of the

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<sup>7</sup> Geraldine A. Johnson, “Idol or Ideal? The Power and Potency of Female Public Sculpture,” in *Picturing Women in Renaissance and Baroque Italy*, ed. Geraldine A. Johnson and Sara F. Matthews Grieco (Cambridge: Cambridge University Press, 1997), 222-245.

<sup>8</sup> Ibid, 232.

<sup>9</sup> Ibid, 231.

<sup>10</sup> E3 is the industry’s largest trade show of the year, where major and minor developers alike present upcoming projects.

<sup>11</sup> Colin Campbell, “The Number of Women Protagonists in E3 Games Still in Single Digits,” *Polygon*, June 22, 2018, accessed May 16, 2020. <https://www.polygon.com/e3/2018/6/14/17465102/women-protagonists-video-games-e3>.

2060s. These are called datapoints in the game, and they detail climate change related disasters (such as New Zealand sinking into the ocean and the last grizzly bear dying), the recognition of corporations as people to the point where one can become president of the United States, and the hubris and greed of man leading to the end of the world. Baroque painters also delighted in painting moral stories, such as mankind's hubris and sins leading them to an inevitable demise.<sup>12</sup> These paintings would serve as warnings to viewers in much the same way *Horizon Zero Dawn* serves as a warning to its players. As video games mature as a medium, their developers are beginning to embed cautionary tales about various contemporary and moral issues within their games, just as seventeenth-century painters did.<sup>13</sup>

These connections—illusionism, labyrinths, and the total work of art—between baroque painting and video games will be discussed using the idea of remediation. This complex theory will be discussed more fully in chapter two, but for now it can simply be defined as the borrowing and repurposing of one medium into another. Video games borrow and take aspects from baroque art—such as illusionism, labyrinths, and the total work of art—and change them in order to fit the new medium. This change can be gentle, with very little being altered, or aggressive, with the source material having been so altered it can hardly be seen. All these changes are made to satisfy a desire for

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<sup>12</sup> An example of this would be the Ovidian narratives that decorated the Torre de la Parada. In the introduction of their book *Rubens, Velázquez, and the King of Spain*, Aneta Georgievska-Shine and Larry Silver stated that these paintings served as moral lessons to King Philip IV in addition to addressing his taste in art. One of the paintings in the Torre de la Parada depicted Prometheus, who stole fire from the gods and was punished.

<sup>13</sup> The 2019 game *GreedFall* (Focus Home Interactive and Spiders) similarly addresses important issues like exploitation of native populations (in this case through colonization) and the impact of human industry on the environment, largely as a result of greed.

immediacy. Immediacy is what occurs when the medium is hidden in order to create the effect of an unmediated experience. Ultimately, this attempt to hide the medium often draws attention to it. This awareness of the medium and the artist's hand in it is called hypermediacy and is often characterized by a "windowed" appearance, not unlike a computer interface. Both immediacy and hypermediacy are dependent on each other and are key aspects of remediation. Likewise, remediation will be used to explain the similarities in use of illusionistic techniques, inclusion of the labyrinth, and the creation of a total work of art in both video games and baroque painting.

To review, the argument presented here is that contemporary video games borrow from baroque painting through the process of remediation. This can be seen through the similarities in illusionistic techniques, the use of the labyrinth, and the creation of a total work of art. It is important to note that nowhere is this thesis referring to all baroque painting and all video games at once, nor is the claim that all video games remediate baroque painting. What is being presented here is a case study that will not apply to each individual piece of baroque painting or to every contemporary video game. Rather, the aim of this case study is to prove there is a relationship between these two very different media. This case will be made using the theory of remediation, along with iconographical and semiotic readings of the work discussed.

Baroque paintings, much like video games, are not singular objects meant to be viewed in quiet isolation. Instead, they are part of much larger immersive environments that engage multiple senses. Viewers of these paintings would engage with them both emotionally and physically, arguably in much the same way a modern player engages

with a well constructed video game. Furthermore, time does not exist in a vacuum, and paintings from centuries ago can influence even the most technologically advanced media of our modern age. In the effort to create viewer immersion, game development teams draw from their predecessors, such as the baroque artists, and use related strategies to create engaging contemporary video games.



## Chapter 1: Discussion of Sources

Baroque art and video games come from different eras. Thus, it is not surprising that in neither field of research do the two coincide in any significant way. This thesis argues, however, that there is evidence that video games remediate certain aspects of baroque painting (and not that video games *are* neobaroque), although the literature on the neobaroque has proven critical to understanding of the relationship between these two media. Scholars such as Omar Calabrese<sup>14</sup> and Angela Ndalianis<sup>15</sup> use video games as examples in their larger discussions on the neobaroque, as will be discussed in this chapter. Key texts on the neobaroque will also be discussed in this chapter, particularly those that pertain to video games. Likewise, the literature that inevitably led to the theory of remediation—or the representation of one medium into another—will also be analyzed.

The artists of the baroque era sought to evoke both an emotional and a physical response in their viewers, usually by appealing to the senses. Drama, movement, and tension were important qualities in baroque art. In addition, baroque art placed a great emphasis on grandeur and had a tendency to blur the distinctions between various art forms, creating what later became known as a *Gesamtkunstwerk* or total work of art.<sup>16</sup> These same qualities manifest in the neobaroque. Ndalianis defines the neobaroque as a postmodern movement that “combines the visual, the auditory, and the textual in ways

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<sup>14</sup> Omar Calabrese, *Neo-Baroque: A Sign of the Times*, trans. Charles Lambert (New Jersey: Princeton University Press, 1992).

<sup>15</sup> Angela Ndalianis, *Neo-baroque Aesthetics and Contemporary Entertainment*, (Cambridge:MIT Press, 2004).

<sup>16</sup> Gauvin Bailey and Jillian Lanthier, “Baroque,” *Grove Art Online*, July 20, 2004, accessed May 12, 2020, <https://doi-org.libaccess.sjlibrary.org/10.1093/gao/9781884446054.article.T006459>.

that parallel the dynamism of seventeenth-century baroque form, but that dynamism is expressed in the late twentieth and early twenty-first centuries in technologically and culturally different ways.”<sup>17</sup> While neobaroque artists strive to evoke dramatic emotional responses in their viewers as their baroque predecessors did, they do so in a way that employs twentieth and twenty-first century technologies within the cultural context of these times. One example of this technology is the video game. Many contemporary video games seek to excite the player with rushes of adrenaline during intense moments or move her to tears as two beloved characters say a final goodbye. The plots and game play can be dramatic and tense. Also, most video games employ multiple art forms that blend together flawlessly to create a single work. These games seek to immerse the player, but also make her aware of the medium at the same time. Video games borrow these qualities from the baroque and represent them in a twenty-first century medium.

Omar Calabrese’s *Neo-Baroque: A Sign of the Times*, translated by Charles Lambert, is a crucial text in the field of neobaroque. While neobaroque is not Calabrese’s original term—he credits it to Gillo Dorfles who in turn borrowed it from another author—he proposes a line of thinking that scholars after him, such as Ndalians, follow. According to Calabrese “if we are able to notice ‘similarities’ and ‘differences’ between phenomena that appear to be extremely distant from each other, this means that there is ‘something behind them.’ That, beneath the surface, an underlying form permits comparison and connection.”<sup>18</sup> As such, Calabrese looks for the baroque in everything from art to television and, of course, video games. Because the first version of his book was

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<sup>17</sup> Ndalians, *Neo-baroque Aesthetics and Contemporary Entertainment*, 5.

<sup>18</sup> Calabrese, *Neo-Baroque*, xiii.

published in 1987, which is barely fifteen years after the first commercial video games were available, Calabrese's discussion on video games is limited. Nevertheless, it lays the foundation for further dialogue on the medium's relation to the neobaroque. Here, Calabrese discusses video games in the context of knots and labyrinths, both common motifs in early video games, which I will discuss later in relation to my case study of *Horizon Zero Dawn*. Calabrese briefly cites *Digger* and *Tron* as notable labyrinthine games and considers how these games respect "the requisites of a labyrinth (getting lost, theoretical myopia, movement)."<sup>19</sup> His discussion then turns to labyrinths as structural motifs and utilizes the example of television shows like "Dallas," where the episodes simultaneously add to a larger plot while also functioning as stand-alone stories, to support his point. While Calabrese could not add video games to this discussion at the time due to the simplistic narratives present in the medium, many contemporary video games can now serve as suitable examples.

After discussing the labyrinth in this instance, Calabrese then turns his brief discussion to video games and to how they embody the figure of the knot, which he claims is represented in the "finite series of frames"<sup>20</sup> that compose each game. A frame refers to a single static image that is part of a larger sequence of images played back in quick succession, such as in film. In video games, a frame can also refer to the area of the game that is visible on the screen. Typically, players are able to control their character within this frame and must reach the edge of the screen or complete all tasks within the current frame before advancing to the next. Calabrese claims that "the various frames are

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<sup>19</sup> Ibid, 135.

<sup>20</sup> Ibid, 135-36.

connected to each other and the final frame is inevitably linked to the initial frame. The journey, which appears to move from one segment to another in a single line that begins at the beginning and ends at the end, is in fact circular, with each frame representing a knot in the process of being unwound.”<sup>21</sup>

This idea of the labyrinth in video games, and the thread of the neobaroque as a whole, is picked up again in 2003 by Angela Ndalianis in *Neo-Baroque Aesthetics and Contemporary Entertainment*. Ndalianis draws from many of Calabrese’s ideas to make the argument that “mainstream cinema and other entertainment media are imbued with a neo-baroque poetics.”<sup>22</sup> As such, she compares baroque art to late twentieth- and early twenty-first-century media to establish the parallels between the two eras. Her goal is not to claim that the current era is a double of the baroque era. Rather, she addresses the similarities that have arisen despite differences in technology and social conditions. Both Ndalianis and Calabrese argued that the neobaroque is not a “new” baroque or a perfect duplicate. Instead, the neobaroque expresses the visual, auditory, and textual aspects of media in a manner unique to the technology and cultures of the late twentieth and twenty-first centuries. Therefore, modern technology and culture are the key differences between the baroque and neobaroque.

One example of a technological and cultural medium that sets the baroque and neobaroque apart is, of course, video games. Ndalianis is responsible for perhaps the best analysis of the (neo)baroque aesthetics in contemporary video games, because video

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<sup>21</sup> Ibid, 136.

<sup>22</sup> Ndalianis, *Neo-Baroque Aesthetics and Contemporary Entertainment*, 5. By using the word poetics, Ndalianis is applying Aristotle’s terminology to the neobaroque. She is borrowing this idea to address the criteria of what makes the neobaroque “neobaroque” in much the same way that Aristotle put forth the structure and requirements of a tragedy in his *Poetics*.

games serve as crucial examples in her arguments. While not all of her arguments focus on video games, such as her discussion on seriality, her points can still be applied to the medium. Also, Ndalianis provides one of the first discussions of video games in relation to the seventeenth-century through the lens of neobaroque theory. I expand upon her argument by directly examining the relationship between video games and baroque painting using remediation, which is a concept that Ndalianis addresses but does not fully employ. Because of the advancements in the last fifteen years since the publication of *Neo-Baroque Aesthetics and Contemporary Entertainment*, this topic needs to be revisited and reanalyzed with contemporary video games. With this thesis, I contribute to this effort to expand upon the analysis of video games as remediation in an art historical context.

Much like Calabrese, Ndalianis discusses video games in the context of the labyrinth, but she does so alongside her discussion of intertextuality. In this argument, she compares Pietro da Cortona's *Divine Providence/The Glorification of Urban VIII*—more colloquially known as the Barberini ceiling and referred to as *The Triumph of Divine Providence* in this thesis—to the 1993 video game *Doom* and its 1994 sequel, *Doom II*. While the Barberini ceiling is not a literal labyrinth one traverses physically, it is still a labyrinth of the mind. As such, “the complex iconographic program in the Barberini Ceiling, in conjunction with its formal structure and intertextual array, was a source of great confusion for the audiences in the seventeenth century.”<sup>23</sup> The iconographic program of the ceiling, developed by both Cortona and the poet Francesco Bracciolini,

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<sup>23</sup> Calabrese, *Neo-Baroque*, 86.

contains an “interpretive puzzle” that the audience has to solve in order to exit the maze.<sup>24</sup> Naturally, the iconographic maze was easier to navigate for the more educated viewer.

Ndalianis argues that the *Doom* games function in much the same way—except more literally in its presentation of the labyrinth. *Doom* is a first-person shooter game<sup>25</sup> that places the player in a maze full of demons, where the goal is to survive the monsters and find a way out. The various labyrinths that make up both *Doom* and *Doom II*'s many levels are “multidirectional labyrinths, and players must make choices between paths within each level.”<sup>26</sup> Ndalianis furthers her comparison between *Doom* and the Barberini ceiling by saying, “The interactive possibilities of computer technology produce an illusion of more direct immersion into a labyrinth than was available to Cortona and other artists of seventeenth-century baroque.”<sup>27</sup> While this is debatable, both seventeenth-century viewers of Cortona’s ceiling and twentieth century players of *Doom* needed to be literate in the medium they interact with in order to solve the labyrinth. Educated baroque viewers would have had to know the iconography present in the ceiling just as a *Doom* player would understand how video games work in order to successfully navigate the labyrinth. This game, like many others “positions itself within the array of conventions and traditions from which it emerges” and draws upon.<sup>28</sup>

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<sup>24</sup> Ibid, 87.

<sup>25</sup> Also known as FPS. The player is put in the position of the main character of the game. The main character is only partially visible and players can typically only see a weapon and the hand holding it during actual game play. This is opposed to a third person game, where the player character is visible.

<sup>26</sup> Ndalianis, *Neo-Baroque Aesthetics and Contemporary Entertainment*, 102.

<sup>27</sup> Ibid, 102.

<sup>28</sup> Ibid, 111.

Both Calabrese and Ndalianis build upon the ideas French philosopher Christine Buci-Glucksmann proposes in *Baroque Reason: The Aesthetics of Modernity*.<sup>29</sup> Here, Buci-Glucksmann discusses the works of several writers to explore modernity with its various conditions and analyze the origins of modern aesthetics. While Buci-Glucksmann does not use the term neobaroque, her approach to analyzing the works of nineteenth- and twentieth-century philosophers through a discussion of baroque aesthetics has made a profound impact on the field and the texts discussed above. While artists and authors in Latin America were repurposing the baroque to reclaim their identities in a post-colonial world, Buci-Glucksmann analyzes the baroque aesthetic in European authors such as Walter Benjamin and Charles Baudelaire.<sup>30</sup> *Baroque Reason* proposes the idea of seeing the baroque in the postmodern—which are both “held together by a fascination with artifice, especially montage and allegory, and both are inclined towards a profound melancholy mentality.”<sup>31</sup> Buci-Glucksmann understands modern society as a new version of baroque society, particularly regarding baroque absolutism and how it works in conjunction with everyday consumption to create a passive audience. Her “analysis of baroque reason, feminism, the depravity and nihilism of Baudelaire’s poetry and Benjamin’s celebration of allegory is best understood within this broad analysis of capitalism and reason as forms of domination and exploitation.”<sup>32</sup>

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<sup>29</sup> Christine Buci-Glucksmann, *Baroque Reason: The Aesthetics of Modernity*, trans. Patrick Camiller (London: Sage Publications, 1994).

<sup>30</sup> Walter Benjamin was a twentieth-century author and philosopher from Germany. Charles Baudelaire was a French poet, essayist, and art critic from the mid-nineteenth century.

<sup>31</sup> Buci-Glucksmann, *Baroque Reason*, 11.

<sup>32</sup> *Ibid*, 16.

After comparing baroque and postmodern society, Buci-Glucksmann also discusses the motif of the labyrinth in terms of the baroque aesthetic. This primary baroque image of the labyrinth was “based upon deception, complexity and artificiality.”<sup>33</sup> Likewise, “the pervasive sense of political catastrophe, the collapse of tradition and the emergence of an uncertain and destructive present”<sup>34</sup> that came out of the baroque took the form of the labyrinth in the arts. This same labyrinth makes itself known in many video games. As such, there is a suggestion that video games reflect the absolutist and catastrophic past baroque artists represented in labyrinthine forms. While this may be true for some games that discuss difficult or poignant world issues, such as *Horizon Zero Dawn*, I find this is still a growing trend in the industry as a whole.

The idea of video games maintaining a connection to past forms, such as baroque art, is not exclusive to neobaroque theory. This idea is present in the literature on new media, such as in *Remediation: Understanding New Media* by Jay David Bolter and Richard Grusin, a work cited by Ndalianis in *Neo-Baroque Aesthetics and Contemporary Entertainment*. *Remediation* provides readers with a means of understanding *how* video games can retain a connection to past forms. In this regard, the book primarily focuses on the relation between video games and its immediate predecessors, television and film, and how video games remediate aspects such as real-time action and narrative from these media. Also, Bolter and Grusin discuss how video games are affected by both immediacy and hypermediacy. Video games seek to immerse players while simultaneously making them aware of the medium. With these analyses working in conjunction with the larger

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<sup>33</sup> Ibid, 23.

<sup>34</sup> Ibid, 23.



discussion of remediation, it is possible to see how video games retain a connection to baroque painting and how immediacy and hypermediacy affect both forms.

As *Remediation* is a critical text in this thesis, it is important to understand the origins of this theory of borrowing. The book looks to Marshall McLuhan, who, in *Understanding Media: The Extensions of Man*,<sup>35</sup> argues that “all technologies are extensions of our physical and nervous systems to increase power and speed.”<sup>36</sup> What is most important for the purposes of this chapter, and the thesis as a whole, is McLuhan’s discussion on medium. According to McLuhan, “the ‘content’ of any medium is always another medium. The content of writing is speech, just as the written word is the content of print, and print is the content of the telegraph.”<sup>37</sup> Following this approach, there is always another medium to be found in any other given medium—an idea reflected in the theory of remediation.

Another component of remediation borrowed from McLuhan is that of hybrid media. He says that “the hybridizing or compounding of these agents offers an especially favorable opportunity to notice their structural components and properties.”<sup>38</sup> By combining media, it becomes possible to see what makes each medium unique. McLuhan continues, “what I am saying is that media as extensions of our senses institute new ratios, not only among our private senses, but among themselves, when they interact among themselves. Radio changed the form of the news story as much as it altered the

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<sup>35</sup> Marshall McLuhan, *Understanding Media: The Extensions of Man*, (Cambridge: MIT Press, 1994).

<sup>36</sup> *Ibid*, 90.

<sup>37</sup> *Ibid*, 8.

<sup>38</sup> *Ibid*, 48-49.

film image in the talkies. TV caused drastic changes in radio programming...<sup>39</sup> Here, the impact of one medium on another is observed: any one medium can translate into another, and yet the traces of this transformation are often retained though in an altered form. This, again, features in the theory of remediation, which discusses the recycling of one medium into another and the impact this repurposing of a medium has on a new medium.

In a rather complicated manner, Marshall McLuhan discusses the combinations of media and the influence one medium has on another. This argument's impact on Bolter and Grusin is readily apparent, to the point where the title of their book is an echo of its predecessor. In their book *Remediation: Understanding New Media*, Bolter and Grusin propose the theory of remediation, or "the representation of one medium in another,"<sup>40</sup> and its two underlying logics: immediacy and hypermediacy. This will be discussed in depth in the next chapter, but for now immediacy can simply be defined as the desire to hide the medium and hypermediacy can be defined as the desire to make it known. Working from ideas first advanced by McLuhan, Bolter and Grusin argue that a new medium will work from a previously established medium, but display it in an entirely new way. Perhaps the best example of this is a painting on a museum website. Even though the painting is represented in high resolution so the viewer can see every brushstroke as well as if the painting was physically in front of them, it is not the same. The new medium, in this case the website, has taken the painting and digitized it. The

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<sup>39</sup> Ibid, 53.

<sup>40</sup> Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media*, (Cambridge: MIT Press, 2002), 45.

painting is still present on the website, but not in its original form, no matter how faithful the digitized copy is. It is now depicted in pixels rather than pigment.

Each of the authors discussed in this section contributes to the discussion in this thesis. Most notably, Bolter and Grusin contribute the theory of remediation, which is a critical component of this argument. Buci-Glucksmann introduces the idea of comparing modern forms to the arts of the baroque era, which enables authors such as Calabrese and Ndalianis to write about the neobaroque. In addition, Ndalianis and Calabrese provide a precedent for discussing video games in the context of the neobaroque and, by extension, the baroque. Finally, Ndalianis compares the labyrinths in the *Doom* series to Cortona's *The Triumph of Divine Providence*, though does not do so using the theory of remediation like I do. Each of these authors references and cites the ones who came before, creating a clear line of scholarship. By writing this thesis I intend to further this vein of research and contribute to these arguments by studying the direct relations between baroque painting and video games in a specific case study. In doing so, I will also be contributing to the literature about remediation by providing a case study that analyzes the remediation occurring between the distant art forms that are video games and baroque painting.

In the next chapter I define remediation, focusing on how this idea allows for a comparison between baroque painting and video games in a way that adds to the literature just described. While Calabrese and Ndalianis discuss video games in their work, and while both authors take a broad look at neobaroque aesthetics in a variety of media, neither of the authors centers their analysis around the idea of remediation, though

it is discussed. Here, I focus solely on specific examples of baroque painting and video games through the lens of remediation. By writing this thesis, I hope to expand the literature on video games in an art historical context. I also hope to provide a deeper understanding of both baroque painting and video games, and more specifically the relationship between these two complex forms.

## Chapter 2: Remediation and Illusionism in Video Games

This chapter will define remediation and its two underlying logics in order to show how contemporary video games, with *Horizon Zero Dawn* as an example, remediate elements that are common to baroque painting. Following, there will be a discussion on illusionism, also in terms of remediation, and then a final comparison will be made between a screenshot of *Horizon Zero Dawn* and Pietro da Cortona's ceiling fresco *The Triumph of Divine Providence*. In sum, I will be arguing that video games like *Horizon Zero Dawn* remediate baroque illusionistic techniques to satisfy the desire for viewer immediacy by creating illusions of reality to immerse the player in the game.

First, it is important to discuss why the remediation in video games is worthy of study. Video games have long been considered a “low” art form, if they are considered an art form at all. When this medium is analyzed as art, it is often isolated and studied outside of the context of any other art forms despite the fact that video games can be classified as total works of art. As such, the impact of art history on video games is overlooked. It is important to consider what video games remediate from art history and not exclusively in terms of digital media. By doing so, not only can video games be better understood as an art form, but the arts of the past can be known through what they contribute to the present. This, in turn, leads to a better understanding of both media. In the case of video games remediating baroque painting, this recycling of baroque techniques not only provides a connection of video games to the greater history of art but also allows contemporary players to experience what the baroque has contributed to modern media. In addition, this elevates the status of video games as an art form and

encourages further study of the medium as such. Furthermore, it is important to acknowledge that the art of the past does not exist solely in the past and continues to have an impact on the media of today.

With this in mind, remediation is a theory pioneered and discussed by Jay David Bolter and Richard Grusin in their book *Remediation: Understanding New Media*. According to the authors, remediation is when one medium is represented in another,<sup>41</sup> and is fueled by the desire for immediacy and hypermediacy within media objects. In remediation, each medium incorporates and builds upon its predecessors, resulting in the evolution of media through history. Furthermore, this theory has two underlying logics: immediacy and hypermediacy.

Immediacy, also known as transparent immediacy, is when a medium appears to be nonexistent. In any case of immediacy, the medium should cease to exist and leave viewers with what is being represented—almost as if they are looking into another world or an extension of their own. This is likely a familiar idea, as the desire and resulting push for immediacy has been prominent in visual and verbal representation in the West since at least the fifteenth century. Because of this push for immediacy, artists have developed new techniques and media in order to achieve the degree of immediacy they sought. For example, artists from the Renaissance acquired immediacy through techniques like linear perspective, which is used in digital technologies.

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<sup>41</sup> Ibid, 45.

In order to understand the immediacy present in contemporary digital media such as video games, it is important to remember the ways that painting achieved immediacy.<sup>42</sup> There is little doubt that linear perspective was one of the most influential inventions in the history of art, and it resulted from desire for immediacy. However, perspective was insufficient to achieve this alone. The artist not only had to have an understanding of and be practiced in this technique, he also had to conceal his brush strokes and any other signs of human intervention in the work. The process of painting, so important in contemporary art, was put second to the perfection of the final product; any hint of the artist's hand would ruin the illusion. As a result of such careful polishing, the painting allowed viewers to look upon what could be an extension of our own reality or a view of a different world as naturalistic as our own.

As these techniques were refined, linear perspective and smooth brushstrokes became insufficient for the never ending desire for immediacy. Artists continued to improve on these techniques, eventually creating entire rooms of illusion where the viewer could almost literally become a part of the world painted on the walls and ceiling. The *trompe l'oeil* ceilings of the seventeenth century fused real architecture with painted space that seemed to continue well beyond the confines of the building—often into heaven itself. Such complex paintings make the surface disappear if viewed from the correct angle and location, and this created a strong sense of immediacy. Ironically, such immediacy heightened the presence of the artist in the work because a great amount of skill was

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<sup>42</sup> Ibid, 5-24.

required to make the medium, and therefore the artist's hand, disappear.<sup>43</sup> An excellent example of this would be Pietro da Cortona's ceiling fresco *The Triumph of Divine Providence* (1632-1639), more commonly known as the Barberini Ceiling. When viewed in any position, Cortona's fresco seems to extend the room into the sky and beyond, into heaven.

This fresco was commissioned by Pope Urban VIII (formerly known as Maffeo Barberini) to decorate the ceiling of the main audience hall in his palace. The fresco contains allegorical figures that are located in five divided scenes. In the center panel, these allegories proclaim Urban VIII's triumph over fate and time due to divine providence and his adherence to the religious virtues of faith, hope, and charity. The four surrounding panels are allegories for his wisdom, strength, dignity, and moral knowledge. The composition of these figures and the architecture all move the eye toward the center panel through a stereotypically baroque use of steeply foreshortened figures and gestures. As is the case with other illusionistic ceilings, the *trompe l'oeil* nature of this fresco heightens the immediacy of the image. When viewed from nearly any position in the room, the faux architecture seems to extend the walls past the vault and into the heavens. The viewer below becomes a part of the scene above, immersed in this labyrinthine proclamation of Barberini glory. For a moment, the medium is forgotten and all that exists is the magnificent world above. However, even the best illusion is not perfect and viewers will at some point notice the imagery in the fresco is a fabrication.

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<sup>43</sup> Ibid, 25.



The desire for immediacy in the twentieth and twenty-first centuries is dominant in computer graphics, which use and build upon these older techniques. For example, digital graphics create illusionistic spaces by using perspective to create images in a mathematically perfect way. This is done through the use of contemporary linear algebra and projective geometry. The automaticity of digital graphics further improves upon the immediacy of painting in the sense that images are delivered almost on command and give viewers a nearly instantaneous sense of contact with the image.<sup>44</sup>

If immediacy is one side of a coin, hypermediacy is the other side, where it functions as both a counterpart and a contrast. In fact, the two logics depend on as much as oppose one another. Where immediacy is the desire to make the medium disappear, hypermediacy is where the medium makes itself readily apparent to viewers. This awareness of the medium can vary from the subtle to the obvious depending on the work and goals of the artist, but its presence serves to remind viewers of their desire for immediacy. While immediacy expresses itself through transparency, hypermediacy expresses itself through multiplicity. Immediacy tries to erase this representation or make it automatic, whereas hypermediacy acknowledges the acts of representation and makes them readily visible. Also, immediacy prefers unified spaces where hypermediacy prefers a much more varied space that results in a windowed effect.

As stated above, immediacy and hypermediacy are intertwined; even if one is not readily apparent, that does not mean it is not present at all. Historically, immediacy has been the dominant logic, at least in Western art, which has resulted in hypermediacy

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<sup>44</sup> Ibid, 26-27.

developing a subversive means of expressing itself that both acknowledges and undercuts the desire for immediacy. Hypermediacy does exist in more traditional, unified media, such as works like *trompe l'oeil* ceilings where the illusion of reality is easily stretched or ruined altogether. The *Wunderkammer* of the baroque era, with its multiplicity of forms, is another example of seventeenth-century hypermediacy. These cabinets of curiosity often had multiple small paintings of subjects like fish or exotic wildlife inserted in the panels of drawers or doors. This created a windowed effect not unlike that of contemporary computer interfaces. This phenomenon is even present in baroque oil paintings, where artists such as Jan Vermeer showed the world as being made of many different representations, due to a fascination with mirrors, windows, paintings within paintings, and maps. This fascination led to many paintings having a windowed effect characteristic of hypermediacy. One example of this would be Vermeer's *The Love Letter* (1669-1670). The scene is viewed through a door, as if the viewer is spying on the young woman and her handmaiden. Within this room hang two paintings, both landscapes with low horizon lines. The room framed by the door is one window and the paintings within function as two other windows, making this a prime example of baroque hypermediacy. Even in these instances of hypermediacy, transparent immediacy has always remained dominant, repeatedly repressing hypermediacy but also guaranteeing its return almost every time. Despite its presentation of hypermediacy, *The Love Letter* increases viewer immediacy by putting her in the scene. She is looking through the door and watching the delivery of a love letter occur. Even though this painting features hypermediacy, immediacy is the dominant logic. To reiterate, hypermediacy is where the medium is

acknowledged through the multiplication of spaces and redefinition of their relationships. As such, viewers are meant to enjoy the acknowledgement of the medium.<sup>45</sup>

Ultimately, video games such as *Horizon Zero Dawn* straddle the line between immediacy and hypermediacy. On one hand, developers strive to make their virtual worlds as immersive as possible. This results in high definition settings that look naturalistic, even if they are fantastical. Additionally, the use of techniques like motion capture makes the expressions and movements of people and animals as believable as possible. In such cases, game developers seek to erase all trace of their hands in the final product.<sup>46</sup> This is true for *Horizon Zero Dawn*, which features 4K high definition graphics.<sup>47</sup> These graphic capabilities work in conjunction with motion capture to create a world and its inhabitants that appear very similar to our own. People, plants, and animals all move and look strikingly real even though they are digital constructs. On the other hand, the medium itself is foregrounded, creating a sense of hypermediation. In *Horizon Zero Dawn*, a heads-up display<sup>48</sup> is laid over the view of the world and displays the player's health bar, equipped items, abilities, or a compass with marked objectives. Also, players are able to "pause" the game or open their inventory at any time, which results in a window that fills the entirety of the television screen. While the pause menu is open, for example, the player is unable to interact with the rest of the game and can only take actions within the pause menu until she closes it.

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<sup>45</sup> Ibid, 34-42.

<sup>46</sup> It is important to remember that this is not true of all games. Some developers elect for a more stylized look for their games rather than trying to make them look as naturalistic as possible.

<sup>47</sup> This is only possible if the game is being played on the PlayStation 4 Pro. The standard PlayStation 4 only supports 1080p high definition. *Horizon Zero Dawn* was one of the first PlayStation games to feature 4K high definition graphics and was promoted alongside the PlayStation 4 Pro.

<sup>48</sup> For more about heads-up displays, see Appendix A.

I will now compare *The Triumph of Divine Providence* by Pietro da Cortona and a screenshot of the landscape in *Horizon Zero Dawn*. These two specific examples were selected for a number of reasons. *Horizon Zero Dawn* is a science fiction game made in the last five years. As a result, this game uses contemporary game development technologies that better displays the capabilities of the medium than an older game would. While this example is by no means representative of the entire medium, *Horizon Zero Dawn* is representative of the science fiction, action, and RPG genres, as it includes many of the characteristic features of each.<sup>49</sup> From a visual standpoint, *Horizon Zero Dawn* has vibrant colors and landscapes similar to those featured in baroque paintings. In addition, science fiction and fantasy games like this one blend the fantastic and the real, which echoes a similar blend present in baroque ceiling frescoes. Cortona's *The Triumph of Divine Providence* extends the space of the Gran Salone into the heavens, where a host of mythological figures float overhead. This specific fresco was selected because it displays an astounding illusion of depth. There is also the dynamic composition and poses that exist within the realm of possibility without being over exaggerated. These figures are featured in scenes of chaos and strife where heroic men and women overcome their challenges and defend the world from giants and beasts, all common aspects of *Horizon Zero Dawn*. Additionally, some of these traits are also featured in other *trompe l'oeil* frescoes such as Guercino's *Aurora* (1621-1623) in the Casino Ludovisi in Rome or the later *Triumph of the Name of Jesus* by Giovanni Battista Gaulli (1672-1685) within the Il Gesù, also in Rome. Finally, both of the examples used in this thesis were selected

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<sup>49</sup> See Appendix A for more information.

for their use of perspective, illusion, labyrinths, and the total work of art. In addition, *Horizon Zero Dawn* and *The Triumph of Divine Providence* both use vibrant colors, landscapes, and naturalistic figures to aid immersion. These two works are linked by these similarities and characterized by their differences. By making this comparison, I will show how video games like *Horizon Zero Dawn* remediate the illusionistic techniques of baroque paintings. The argument in this chapter will focus primarily on the creation of depth and the use of various techniques to heighten the immediacy of the final image.



Figure 2. “Plateaus,” *Horizon Zero Dawn*, Sony Interactive Entertainment, LLC and Guerilla Games, 2017, Screenshot, Taken by the author February 3, 2020.

As described earlier, Pietro da Cortona’s *The Triumph of Divine Providence* is a fresco painting that covers the entire vault of the Gran Salone in the Palazzo Barberini, located in Rome. The painting features numerous figures and painted architecture that

extends the walls of the room into the heavens. This illusionistic architecture splits the composition into five different sections, a central panel and four different panels for each side, with the corners predominantly occupied by sculpted figures leaning against the columns. The figures in this painting are not neatly confined to these sections and in many places overlap the architecture and threaten to enter the space of an adjacent scene. In addition, the figures are composed in such a way as to mirror the upward motion of the columns, which establishes a general movement toward the center and enhances the illusion of depth. Despite this, there are many different ways to enter the painting and even more paths through it, creating a labyrinth of visual pathways.

To begin, the central part of this painting is where the painted architecture opens up into the heavens. Here, several divine figures float on clouds while three others support a laurel wreath surrounding the bees of the Barberini coat of arms. A figure places golden keys on top of the wreath while another holds the papal tiara aloft. A frieze decorated with festoons, *putti*, and golden medallions attempts to separate this heavenly scene from the four other scenes taking place in between the columns. Despite this, several figures on clouds overlap the frieze, invading the central space and adding to the sense of depth. In fact, many figures in each of the four sides threaten to or actually escape their designated space, often overlapping the sculpted figures that form the columns.

One of these four additional scenes depicts the goddess Minerva fighting the giants, who run or fall to the ground in dramatic response to the goddess's might. This overlapping of bodies complements the depth in the background, where a rocky landscape fades into the grey obscurity of atmospheric perspective. Moving clockwise to

the next scene, it is equally chaotic. Many figures here are at war or preparing weapons on an anvil. Despite the disarray, three women sit calmly on a cloud that floats in front of the chaos and the frieze, nearly entering the central space. The next scene in the rotation features Hercules defending women, children, and the elderly from a sphinx that is attempting to escape into the next panel. Two figures float above the panicked crowd, gesturing toward Hercules and an imminent peace. Finally, the last scene features a bacchanal in which Silenus, satyrs, and other miscreants celebrate in a lush garden. Two figures float on a cloud in front of and away from this scene, nearly entering the space of the heavens. As in Minerva's scene, the garden here recedes into the background until there is little left to discern but grey shapes.

The screenshot, "Plateaus," selected for this comparison features Aloy moving along the edge of a plateau northeast of Meridian, one of the cities in the game. While the game features multiple different climates, from forests like America's Pacific Northwest to jungles that belong in South America, this visual of a desert canyon and plateaus provides a long reaching view of the game's landscape and the illusion of depth therein. The rocky plateau Aloy runs along features sparse brush, a stark contrast to the desert foliage on the right. There, viewers can see grasses as well as cacti and short, shrub-like trees. Beyond these plants are numerous rock formations partially shrouded by an evening fog. The light of the setting sun bathes the landscape in a warm red light and casts the canyon walls to the right in shadow. As the view recedes into the distance, the detail of the plateaus become less clear and the color turns from vibrant red-brown to an unsaturated grey-blue. The plateaus further in the distance are little more than colored shapes which

become progressively lighter until they almost blend with the sky. Near the middle of the far distance, a tower raises high into the air as only a grey rectangle against the blue, purple, and pink sky.

Despite a nearly four hundred year gap in time, the two disparate mediums of baroque painting and video games share a reliance on illusion to enhance immediacy. Illusionism was an important visual strategy for baroque artists, just as it is for contemporary game developers. In painting, this process is historically understood as “the attempt to make images that seemingly share or extend the three-dimensional space in which the spectator stands.”<sup>50</sup> By today’s standards *trompe l’oeil* “denotes work where the intention is that something should seem not so much represented as substantially present.”<sup>51</sup> Convincing illusions are subject to viewer perception and what can trick the eye. For example, three-dimensional painted illusions lose their effect when seen up close. As such, many of the most successful illusions are present in baroque ceilings, like Cortona’s *The Triumph of Divine Providence*, Andrea Pozzo’s *Glorification of Saint Ignatius* (1685-1694), or other paintings meant to be viewed from afar. Both ceilings use linear perspective to create an illusion, but Pozzo’s must be viewed from a very specific point whereas Cortona’s can be properly viewed from many angles. Ultimately, the *Glorification of Saint Ignatius* offers a more convincing illusion at the cost of versatility in viewing angles. When designing a fresco, painters would direct the light source in the painting to align with the light source in the room as well as extend the existing architecture into the painted space. Those

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<sup>50</sup> “Illusionism,” *Grove Art Online*, 2003, accessed November 1, 2018, <https://doi-org.libaccess.sjlibrary.org/10.1093/gao/9781884446054.article.T039956>.

<sup>51</sup> *Ibid.*



painting on canvas would often build frames that reflected the architecture receding inside the painting to create an illusion. Additionally, artists would use other devices such as a foreshortened arm reaching out or a ledge and its contents jutting into viewer space to suggest depth.

As can be seen, both the ceiling fresco and the screenshot display an excellent illusion of depth on a two dimensional surface. This is achieved through a variety of techniques, the most notable of which being perspective. Both Cortona's ceiling and *Horizon Zero Dawn* use linear and atmospheric perspective to heighten the sense of depth in the imagery, and therefore enhance the immediacy of the image. The screenshot described above provides an excellent example of the atmospheric perspective present throughout the game. As the landscape recedes into the distance, the plateaus steadily start to lose their color and their definition before being reduced to only blue-grey outlines on the horizon. Cortona employs similar atmospheric perspective in the backgrounds of each scene, most notably the section with Minerva, where the background soon becomes a grey mass of indistinguishable shapes. Linear perspective is extensively used in Cortona's fresco, as can best be seen by the columns supporting the open ceiling where the heavenly scene takes place. All four of the corners converge on a single point at the center of the composition leading the eye into the illusion. While not quite as obvious, the screenshot of *Horizon Zero Dawn* is equally reliant on linear perspective. Underneath the textures and three-dimensional shapes is a computer calculated linear perspective, constantly adjusting to the programmed vanishing point. This provides an illusion of

linear depth closer to the more subtle kind viewers are used to seeing in the natural world, whereas Cortona's use of linear perspective is far more dramatic.

Naturally, these are two different media and employ these techniques in different ways. First and foremost, digital media have an advantage over painting when calculating linear perspective. While the linear perspective in Cortona's fresco is quite accurate, the computer generated perspective in *Horizon Zero Dawn* is likely even more accurate and was calculated at a much faster rate. However, Cortona arguably uses linear perspective more effectively in his painting, and this use speaks volumes about his mastery of the medium. The use of linear perspective in *The Triumph of Divine Providence* is dramatic and is a prime example of what this technique looks like when properly employed. While linear perspective is present in *Horizon Zero Dawn*, it is difficult to recognize. Instead, the game emphasizes atmospheric perspective to create an illusion of depth. As has been seen, Cortona uses this form of perspective as well, but to a lesser degree than *Horizon Zero Dawn*.

In order to further achieve the illusion of depth, painters and game developers employ other techniques such as foreshortening and anamorphosis, as they are critical to a successful use of linear perspective. Foreshortening consists of the artist adjusting the size of an object in relation to where it is located. For example, an arm reaching toward the viewer's space will be severely distorted and compacted, whereas one that runs parallel to the picture plane would not and would instead look more like an arm should. Anamorphosis functions in a similar manner, though it consists of the distortion of an

object in order to appear “correct” when approached from certain angles.<sup>52</sup> While video games are displayed on screens, which can really only be viewed properly from the front, animators make use of anamorphosis to save time and data space when creating their illusions through an aggressive remediation of baroque techniques. Most characters and large objects in *Horizon Zero Dawn* and other games are animated in the round and fully three-dimensional with most of the surrounding landscape supporting this illusion. When it comes to small, complicated objects such as branches, leaves, flowers, and grass, the animators created a two dimensional form in the shape of one of those objects, for example a branch. When placed properly and viewed from afar, the illusion of a dead bush is very convincing, but when viewed up close it is apparent that each branch is just a two dimensional shape. As the camera moves around these branches, the shapes will distort until they disappear entirely, only to reappear again when the camera moves. Anamorphosis is dependent on altering the angle the viewer approaches the image from. In this instance, there is not one specific angle to approach the dead bush; it is best seen from afar. However, some of the two-dimensional branches are meant to be seen directly and distort as the player moves around. As with baroque art, the illusion is effective from afar or from a certain perspective, but up close or from the wrong angle it is very clear the object is artificial.

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<sup>52</sup> Ibid.



Figure 3. “Anamorphosis in a Dead Bush,” *Horizon Zero Dawn*, Sony Interactive Entertainment, LLC and Guerrilla Games, 2017, Screenshot, Taken By Author September 10, 2017.

Using such methods, Cortona distorted the figures and architecture in the fresco to make it seem like the viewer is looking up at the figures, though not so much that these forms were changed beyond recognition. As was discussed earlier, *Horizon Zero Dawn* primarily uses anamorphosis in small, detailed objects like a shrub or in large, distant objects that do not need to be fully rendered in order to decrease the game’s loading time. Foreshortening in this game is used to express depth in a manner similar to Cortona’s fresco, though the key difference is *Horizon Zero Dawn* uses three-dimensional, digital models. As a result, the foreshortening present in the game is less drastic unless a character is actively reaching towards the surface of the screen. Regardless, this technique does add to the first-person experience of the game by threatening to break the picture plane and enter the player’s space.

Again, different media use the same techniques in different ways to suit both the medium and the audience. Cortona readily employs foreshortening in *The Triumph of Divine Providence* to make the figures seem as if they are above the viewer. While his use of foreshortening is not as dramatic as is seen in Pozzo's figures in the *Glorification of Saint Ignatius*, it nevertheless successfully enhances the depth of the image. The same cannot be said for *Horizon Zero Dawn* which employs foreshortening but not to any great extent, instead reserving this technique for dramatic effect in a few cut scenes.<sup>53</sup> This is more of a feature of first-person games, where the player is put in the position of the main character and only sees that character's hands. Regardless, foreshortening is used in instances where the player zooms in while aiming Aloy's bow. The camera gets very close to Aloy, almost entering a first-person perspective, and her outstretched arm and bow are slightly distorted to suggest depth.

In regards to anamorphosis, *Horizon Zero Dawn* employs this technique in a way that is fairly different from what viewers tend to understand as anamorphosis. The game still relies on the viewer's angle of approach, but the individual parts of an object each have their own angle. Primarily, this technique is used in conjunction with atmospheric perspective to create depth. The ruin in the far distance of the screenshot is little more than a two-dimensional shape but still contributes to the depth of the scene. Cortona uses anamorphosis in a more traditional manner, but not to any extreme extent. The artist carefully designed his fresco to be viewed from many different angles without any

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<sup>53</sup> A cut scene is a scene in a video game that develops the plot, often without player interaction. These are usually located at key points in a game, such as when a player has made an important discovery or the plot has taken an unexpected turn.

distortion. However, the design is not infallible as there are oblique angles where the illusion fails. Regardless, the illusion of depth in *The Triumph of Divine Providence* is dependent on viewing angles and the viewer's angle of approach due to its use of anamorphism.

As part of a means to satisfy the desire for immediacy, video games like *Horizon Zero Dawn* remediate the illusionistic techniques in works like Cortona's ceiling and present them in a new medium. Developers and players alike want to heighten the immediacy of video games and do so through a variety of means. Recent developments in graphics technology—such as motion capture and the increased memory and processing power of computers—have led to such a high quality of animation that the characters and environments in a video game seem almost real. The advent of motion capture has allowed for more naturalistic animation as developers are able to capture the movements of live actors using special suits and equipment and translate these motions into the three-dimensional world. Also, characters are given facial expressions and accompanying body language that, in conjunction with an actor providing fully voiced lines, breathe life into the cast of a video game. All of these techniques, coupled with advanced textures that make hair and clothes look as natural as our own, create the illusion of real people in another world on the other side of the screen. This is further heightened with the growing trend not only to use celebrities as face models, such as Aloy being modeled after Dutch actress Hannah Hoekstra, but also to animate their likeness into the game.<sup>54</sup> Suddenly, the

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<sup>54</sup> Games like *Death Stranding* (Kojima Productions, 2019) and *Cyberpunk 2077* (CD Projekt, 2020) feature actors like Norman Reedus, Mads Mikkelsen, and Keanu Reeves whose likenesses are faithfully animated into the game.

player is an integral part of a world that seems very much like our own, as it features “real” people the player no doubt recognizes. Such immersion creates an increased illusion of reality, which in turn positively impacts the overall immediacy of the medium.

Likewise, baroque painters employed similar strategies to heighten the immediacy of their paintings. Many painters would often include self portraits or portraits of others, such as a model, in their paintings, further enhancing the illusion of life by adding recognizable figures. In addition, the seventeenth century has become known for its love of the dramatic, and as such many baroque painters would exaggerate the expressions and poses of their figures to heighten the drama of the scene. Because of this, the figures in the paintings seem more like actors on a stage, and therefore more lively, than those of previous eras. Cortona’s figures in *The Triumph of Divine Providence* are dramatically posed and, while they may not be recognizable as real people, they can be identified by educated viewers as allegories of different virtues.

Despite the similarities, both works approach immediacy in their own way. *Horizon Zero Dawn* relies on interactivity to enhance player immediacy. While Cortona’s fresco is interactive in its own right, video games offer a unique form of interactivity. The player actively controls the character and furthers the plot of the game through her actions. This, then, makes the player emotionally invested in what happens within the game, and she becomes immersed. Frescoes lack this degree of hands-on interaction and instead rely on viewer belief to enhance immediacy. While one can certainly appreciate Cortona’s skill and enjoy his composition, belief in the heaven he is depicting can only help immerse the viewer in this work. This fresco was painted for the pope in his family

palace and, naturally, the intended audience would have believed in this heaven. Belief and cultural issues often inform viewing and, as such, a religious, baroque audience would have experienced Cortona's illusion more fully than an agnostic, contemporary viewer would.

Finally, there are a few additional components to this comparison that are crucial to the compositions and enhance immediacy in their own way. The figures are rendered in a naturalistic and believable way, though the poses in Cortona's fresco and the movements in *Horizon Zero Dawn* may be exaggerated for dramatic effect. The crucial difference here is that Cortona painted two-dimensional figures to appear three-dimensional while the developers of *Horizon Zero Dawn* created computer generated three-dimensional figures. While both are displayed on a two-dimensional surface, only *Horizon Zero Dawn* employs actual three-dimensional figures. The landscapes and environments in both works are subject to accurate lighting and multiple light sources. Few differences exist in this regard beyond the vibrant and varying choices of light color in *Horizon Zero Dawn*. Depending on the time of day, the game can be lit by deep red sunlight, the pale yellow of afternoon, or the silvery light of the full moon. When a work includes naturalistic figures and lighting, it becomes easier for a viewer to be immersed in the world presented to them. Moreover, these aspects serve to assist in the illusion of depth, especially lighting without which the illusion would be far less successful.

In this chapter, the theory of remediation was defined as the recycling of one medium into another through the logics of immediacy (to hide the medium) and hypermediacy (to make the medium known). These theories were used to analyze baroque illusionism and



the techniques used in creating these illusions as presented in both *trompe l'oeil* ceilings and contemporary video games. What was discovered through the comparison of Cortona's *The Triumph of Divine Providence* and *Horizon Zero Dawn* was many of the techniques used in baroque painting have been remediated in some video games. Both these examples make use of linear and atmospheric perspective as well as techniques like foreshortening and anamorphosis. Moving forward, the next chapter will look at another aspect of baroque art that video games recycle: the labyrinth.

### **Chapter 3: Labyrinths and Heroes**

In the previous chapter I discussed the theory of remediation and how video games like *Horizon Zero Dawn* remediate illusionistic techniques from baroque paintings like Pietro da Cortona's *The Triumph of Divine Providence*. This was done by comparing the fresco to a screenshot of a landscape from the game. In this chapter, I will continue to use remediation to discuss how *Horizon Zero Dawn* and similar games recycle the baroque motif of the labyrinth as discussed by the authors Omar Calabrese and Angela Ndalians. Because heroes feature prominently in video games and often traverse dangerous labyrinths, this case study will also discuss the hero's journey, a pattern of plot composition, which is itself in the form of a labyrinth as observed by Joseph Campbell. Once these ideas have been defined, I will make a comparison between the labyrinths present in Pietro da Cortona's *The Triumph of Divine Providence* and in *Horizon Zero Dawn*, demonstrated through a screenshot of one of the many directional choices within the city of Meridian. By doing so, I will demonstrate that video games similar to *Horizon Zero Dawn* feature the baroque labyrinth through the use of figurative and structural labyrinths.



Figure 4. “Meridian,” *Horizon Zero Dawn*, Sony Interactive Entertainment, LLC and Guerrilla Games, 2017, Screenshot, Taken by the author February 3, 2020.

A labyrinth is a network of irregular and complicated passages that are difficult to navigate, not unlike a maze. The idea of the labyrinth was not a creation of the baroque era. This form was prominently featured in a series of ancient myths surrounding the Minotaur,<sup>55</sup> and appeared frequently in art and literature during the centuries between its first appearance and the baroque. The labyrinth has become a baroque form as “wherever the spirit of loss of self, of shrewdness, of acuteness, raises its head, we find, inevitably, the labyrinth...,”<sup>56</sup> which were meant to reflect the confusion and difficulties such

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<sup>55</sup> To summarize these myths, the wife of King Minos had become infatuated and mated with a bull, a union that created the Minotaur. Minos, who was furious at his craftsman Daedalus for aiding the queen, forced Daedalus to build the labyrinth that would house the Minotaur. Over the years, Minos would demand tribute from the people under his control, who would send sacrifices to the labyrinth that would feed the Minotaur. Theseus and Ariadne were such tributes. Daedalus and Ariadne both helped Theseus through the labyrinth (Daedalus with his instructions, Ariadne with her thread) and Theseus was able to slay the Minotaur.

<sup>56</sup> Calabrese, *Neo-Baroque*, 132.

occurrences instill in people. By “baroque,” Calabrese is referring to “a more universal, metahistorical baroque”<sup>57</sup> whose motifs are not confined to the seventeenth century, but rather extends both into antiquity and forward into the twentieth century. For the purposes of this discussion, the focus will be on the seventeenth-century baroque and how it relates to the twenty-first century.

Regardless of his broad view of the baroque, Calabrese offers a full chapter discussing labyrinths and knots, as was briefly addressed in chapter one. To begin, “the labyrinth is the most typical figurative representation of an *intelligent complexity*,” and that all things based on the labyrinth—myths, games, etc.—have “two intellectual features: the pleasure of becoming lost when confronted by its inextricability...and the taste for solving something by the concentrated use of reason.”<sup>58</sup> This “*ambiguous complexity*” offers a certain challenge that “begins with the pleasure of becoming lost and ends with the pleasure of discovering where we are.”<sup>59</sup> Those trying to solve the labyrinth must be “myopic,” which, in Calabrese’s terms, means they must recognize they cannot see and must learn to see differently.<sup>60</sup> Of course, this process requires movement through the labyrinth in order to solve it. As such, the “requisites of a labyrinth” are as follows: “getting lost, theoretical myopia, [and] movement.”<sup>61</sup>

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<sup>57</sup> Ibid, 132.

<sup>58</sup> Ibid, 131.

<sup>59</sup> Ibid, 132-33.

<sup>60</sup> Myopia is another term for nearsightedness, but it can also refer to a lack of imagination, foresight, or intellectual insight. Calabrese is referring to not being able to see the paths of the labyrinth and also to the need to adopt a different approach and use one’s intellect or imagination in a new way to solve the labyrinth.

<sup>61</sup> Calabrese, *Neo-Baroque*, 135.

Labyrinths and knots appear as both figurative motifs and as structures, which Calabrese elaborates on through a series of examples. By figural motif, Calabrese is describing the actual presence of a labyrinth or maze-like figure in the work being analyzed. For example, the author cites *Tron* and *Digger*, video games in which the player must traverse actual mazes in order to successfully complete the game. By structures, Calabrese is referring to the labyrinth not as a physical structure but as an intangible one: something that dictates how, for example, the plot of a television show is written. While some television shows have a larger plot line, many of their episodes can be understood as stand-alone stories. He explains “the viewer who attempts to read the series behaves exactly as he would in the labyrinth. Each episode is a section of the entire structure, which can be read and understood in isolation, but also in the context of the whole and, although it never arrives, of a potential end.”<sup>62</sup> Calabrese does not use video games as an example in his discussion on structure, but the above can be applied to many contemporary games featuring multiple different quest lines<sup>63</sup> of varying importance to the main story, as is the case with *Horizon Zero Dawn*.

To elaborate, figurative labyrinths are literal mazes and have been featured in games for decades. Just like other labyrinthine forms, they can be unicursal or multicursal. Unicursal labyrinths have only one path to follow without any dead ends, but it is traditionally the longest possible path from start to finish. Multicursal labyrinths more closely resemble the stereotypical maze with multiple possible directions and many dead

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<sup>62</sup> Ibid, 138.

<sup>63</sup> Examples of games that use multiple quest lines include: the *Mass Effect* series (BioWare, 2007-2017), the *Dragon Age* series (BioWare, 2009-2014), *The Elder Scrolls V: Skyrim* (Bethesda, 2011), and *GreedFall* (Spiders, 2019).

ends.<sup>64</sup> In games like *Horizon Zero Dawn*, which are open world, these labyrinths appear in many forms, such as dungeons and large cities, if not actual labyrinths. While these dungeons often have an entry and exit point, how direct they are can vary from ruin to ruin. Some may be unicursal with only a few added side paths that quickly become dead ends, encouraging the player's exploration with hidden treasures. Occasionally these side paths will loop once more into the main path, creating a knot and a simple multicursal labyrinth. Still, other dungeons may be more complex multicursal labyrinths, with dead ends and looping paths meant to confuse players and reward the ones brave enough to explore. Typically, these digital labyrinths loop back to the beginning by allowing the player to return to the entrance via a hidden door or a high, out of reach space that is inaccessible unless the labyrinth has been conquered. The underground ruins in *Horizon Zero Dawn* are more unicursal. However, there are multicursal labyrinths in the form of large cities like Meridian where there are many paths to a destination and an equal number of dead ends.

In regards to structural labyrinths in *Horizon Zero Dawn* and similar games, this labyrinth takes the form of a hierarchy of quests and tasks for the player to complete. Typically, there is a main series of quests to provide the overarching plot which must be completed in a specific order to finish the story. Next in the hierarchy is a series of side quests, which the player does not have to complete but should because these quests add considerably to the main plot and introduce important characters. Following those are missions, which have very little plot relevance but do serve to give the player an

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<sup>64</sup> Ndaljianis, *Neo-Baroque Aesthetics and Contemporary Entertainment*, 81-83.

understanding of the game's world and the struggles of its inhabitants. Finally, there are errands, which are exactly as they sound: quests of little importance where all the player has to do is to acquire an item and deliver it. Aside from the main quest, these can usually be completed in any order and whenever the player desires, creating a structural labyrinth within the plot of the game with a multitude of different paths.

Some baroque paintings feature figural labyrinths as well, such as Pietro da Cortona's ceiling, *The Triumph of Divine Providence*. Ndalianis offers an analysis of the figural labyrinth within this ceiling fresco and how it relates to video games like the original *Doom* series, as was summarized in chapter one. Recall that the composition of this ceiling is divided into five parts, each featuring a different scene and iconographic program. As Ndalianis observes, "the work has no obvious beginnings and endings; instead, it is possible to enter the work at any of its multiple 'narrative' points. Once 'inside,' the viewer travels along paths that provide multiple choices."<sup>65</sup> One could enter at any point in the composition and follow the figures up and around, into the center panel, and back out again, becoming engaged in Calabrese's "labyrinth-as-game."<sup>66</sup> This could be done multiple times, as there is not one single path to traverse in the multicursal, figural labyrinth of *The Triumph of Divine Providence*.

In line with Calabrese's discussion on structural labyrinths, the motifs of labyrinths and knots are also present in hero stories, as they begin the exposition, take multiple paths through the plot, and exit at the end of the narrative. The common structure of this narrative is discussed by Joseph Campbell in his work *The Hero with a Thousand Faces*.

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<sup>65</sup> Ibid, 84.

<sup>66</sup> Calabrese, *Neo-Baroque*, 135.

Here, Campbell defined the monomyth, better known as the hero's journey, which is the common structure shared through all the myths and legends in human history, including the seventeenth century. Due to its versatility, the hero's journey can be applied to the narratives of baroque painting and of video games like *Horizon Zero Dawn*.

According to Campbell, the hero's journey is "the one, shape-shifting yet marvelously constant story that we find, together with a challengingly persistent suggestion of more remaining to be experienced than will ever be known or told."<sup>67</sup>

Within every tale, the hero must venture forth from her common world into the unknown. There, she will encounter powerful forces and friends, both of whom will try to hinder or help her on her quest. The hero will come back home from her adventure with the boon or reward she set out to find and will use it to help her family, friends, or neighbors. This structure can be listed as follows:

Act One: Ordinary World, Call to Adventure, Refusal of the Call, Meeting with the Mentor, Crossing the First Threshold.

Act Two: Tests, Allies, Enemies, Approach to the Inmost Cave, Ordeal, Reward.

Act Three: the Road Back, Resurrection, Return with the Elixir.<sup>68</sup>

Here, we can see how the hero's ordinary world is overturned by a call to adventure, which she must accept even if she is hesitant. The hero then leaves her home to embark on her adventure to find what she needs to solve the problem that required her to leave. This quest often leads her into a deep dungeon guarded by a dangerous enemy. At the end of her journey, the hero returns home with a solution but is forever changed by the

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<sup>67</sup> Joseph Campbell, *The Hero with a Thousand Faces*, (Novato: New World Library, 2008), 1.

<sup>68</sup> Christopher Vogler, *The Writer's Journey: Mythic Structure for Writers*, (Studio City: Michael Wiese Productions, 2007), 6.



ordeals she survived. As with any story, there are multiple different types of characters and forces that hinder or help the hero.<sup>69</sup>

In a hero's journey, the labyrinth can take both figurative and structural form. In figurative terms, when a labyrinth is present the hero is most often the one traversing it, sometimes with allies and other times alone. In order to complete her quest, the hero may have to find her way through the labyrinth and fight dangerous beasts, the most powerful of which guards the treasure at the center. In a structural sense, the story itself is a labyrinth or a knot. The hero begins her journey at home and must venture down a path that twists and turns with the narrative. After reaching the center and retrieving what she sought, the hero must then return home, traversing the labyrinth of the story once more in order to end where she began. The linear narrative is, in fact, circular.

Aloy's story in *Horizon Zero Dawn* follows this same, labyrinthine pattern of narrative as she traverses literal labyrinths. Aloy leaves her home in Nora lands not to only answer the questions she has about her past, but also to solve the larger mystery of the attacking cultists. Her journey takes her all throughout the lands of the various tribes, making unlikely alliances and uncovering both a plot to destroy all life on earth and the dark history of the Old Ones.<sup>70</sup> As stated earlier, the quests of the game form a structural labyrinth with no set order or required path outside of the main quest line; this leaves the player free to delve into the figurative labyrinths of the many ruins and cities in the playable world. Ultimately, Aloy finds herself back where she began for the final battle.

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<sup>69</sup> For more on these archetypes see Vogler.

<sup>70</sup> For a more detailed summary of the plot see Appendix B.

For this comparison of labyrinths and narratives a screenshot that features a physical choice of direction in *Horizon Zero Dawn* was selected and previously depicted (Fig. 4). In this screenshot, Aloy is in the great Carja city of Meridian, a city inspired by ancient Mediterranean societies and the largest city in the game, which hosts a variety of twists, turns, and choices. She stands in the center of the image, with a stone well to her right and a rack of pots and vases for sale on her left. In front of her are two archways, well lit by torches in the dim evening light. The one on the left appears to go deeper into the city, where market stalls and another archway can be seen before atmospheric perspective takes effect. The archway on the right appears to end at a large wooden door, but it must be known that there is an immediate right turn past the rack of vases in the archway that will take the player in another direction. While they could not be featured in a single image, all around this town square are alleyways and streets, often with their own branching paths. These paths twist and turn into one another and sometimes dead end, making Meridian a difficult place to navigate for those without the best sense of direction.

Recall that the labyrinth of Meridian's streets is just an example of one of the many labyrinths in *Horizon Zero Dawn*. The game itself is composed almost entirely of labyrinths and labyrinthine structures and it would be difficult to discuss each and every one. Thus, the focus will be on Meridian, which is a suitable example. There are many different ways to enter this city, one of which is an elevator operated by a pulley system. Other entrances include bridges and paved streets. Despite these many different entrances, there is no right or wrong way to get to the heart of the city. This is because

each path quickly merges with other paths, looping in and out to create the knots of a multicursal labyrinth. As such, it is possible to reach important destinations in Meridian from any of the entrances or side streets. The paths differ greatly depending on the entrance used and even the player. Each player will chose a different way to enter the city and a different way to reach a destination than another player. While the traditional idea of a labyrinth is unicursal and has only one path, video games like *Horizon Zero Dawn* have created multicursal labyrinths within cities like Meridian.

*The Triumph of Divine Providence* features a labyrinth similar to the one found in Meridian. Here, the viewer can enter at any point in Cortona's composition and follow the figures from one scene to another. In some cases, the viewer may find herself quickly reaching the center panel and exiting again just as fast, only to reenter at another point. In other cases, the viewer may linger in one scene and traverse each scene in its entirety before finding herself at the center panel until she is ready to make the visual journey to the exit. Regardless, Cortona's ceiling functions in much the same way the labyrinth within Meridian does. There is not any correct way to enter the painting, nor is there a correct way to traverse and exit it. There are paths in the composition made by the poses of figures and delicate gestures to guide the eye, but there is no other additional direction. It is a labyrinth one is free to traverse in whatever manner is most pleasing. Sometimes, like in Meridian, the same eye can take different paths or find a preferred path that differs from the eye of another viewer.

In cases such as this, video games like *Horizon Zero Dawn* have remediated the labyrinths like those present in Cortona's fresco. Each individual player or viewer will

find her way to the center of the multicursal labyrinth through a variety of paths that differ from person to person and, once there, will find her way out in a similarly unique manner. This was the case for many baroque paintings, where artists would guide the eye to what they wanted their viewers to see through the gestures, positions, and gazes of the figures. Video games like *Horizon Zero Dawn* act in a similar manner, creating labyrinths of walls and streets for players to traverse, guided by the occasional sign or non-player character who is leading the player to her destination. Just as the walls of a digital city like Meridian function as a figurative labyrinth for the player, the gestures and gazes of baroque compositions also provide the viewer with a physical path through a painting.

As with all comparisons, there are some notable differences in how *Horizon Zero Dawn* and *The Triumph of Divine Providence* employ the figurative labyrinth. First and foremost, Cortona's fresco is not an obvious labyrinth. It is only when the viewer begins to traverse the various paths through the painting that she realizes its labyrinthine structure. *Horizon Zero Dawn* is more obvious in this regard, as the player needs to only look at her map or her surroundings to see she has entered a labyrinth. In addition, the game is a highly interactive medium featuring digital labyrinths the player navigates through the body of an avatar, in this case Aloy. In *The Triumph of Divine Providence*, the viewer interacts directly with the painting and travels its paths with her own eyes.

The remediation of the labyrinth extends further into the narrative presented in *Horizon Zero Dawn*. As discussed above, the main quest line of *Horizon Zero Dawn* must be completed in order, but it can also be completed by the player at any time. When not following the main plot, players are free to complete an assortment of side quests,

missions, and errands at their leisure and in any order they wish, if they wish to complete these quests at all. The information, or the narrative, provided by these quests is thus revealed to the player in the order in which the quests are completed; it is not unheard of in open world games to learn an important piece of information before it is formally introduced later. While *Horizon Zero Dawn* features a structural labyrinth, *The Triumph of Divine Providence* does not. One could argue there is an overarching narrative in the various scenes that compose the painting, but they primarily exist to extol the virtues of Maffeo Barberini and his family. Even within individual panels that do feature a narrative—such as the one depicting Minerva’s battle against the giants—the narrative is relatively linear and in no way resembles the structural labyrinth present in *Horizon Zero Dawn*.

Labyrinthine plot lines are characteristic of RPGs and are the result of the remediation of traditional narratives into an interactive medium. A traditional narrative is usually linear and is experienced from start to finish with no deviations, as in a book or a mythological painting like Rubens’s oil sketch of *Apollo and the Python*. While some video games are able to stay true to linear narratives, open world RPGs like *Horizon Zero Dawn* or *The Elder Scrolls V: Skyrim* encourage player freedom too much to adhere to traditional narrative structures. Instead, the writers of these games create multiple different plot lines that can be experienced, or not, by the player in any order they wish. For example, in *Skyrim* players can halt their progress of the main plot at any time to follow other plot lines, such as the ongoing civil war between empire loyalists and

Skyrim nationalists.<sup>71</sup> The same is true in *Horizon Zero Dawn*, as has already been discussed. A traditional plot line would not suffice in a game that focuses on player freedom. As such, writers remediated the linear narrative to create a structural labyrinth of different narratives within a greater plot.

In this chapter, two different forms of the labyrinth were defined: the figurative and the structural. The remediation of these structures became clear through a comparison of Cortona's *The Triumph of Divine Providence* and the plot and environment of *Horizon Zero Dawn*. Both works present figurative labyrinths in the forms of paths the viewer and player must traverse. *The Triumph of Divine Providence* presents a labyrinth through gestures and composition, whereas *Horizon Zero Dawn* presents a more literal labyrinth of walls and other structures. Narratives take the form of structural labyrinths that can be experienced by viewers and players alike in any order they choose. While Cortona's fresco has little in the way of traditional narrative, *Horizon Zero Dawn* presents multiple quest lines the player is able to navigate at their discretion. In the next and final chapter, I will discuss the similarities in collaborative development and the remediation of the total work of art by video games like *Horizon Zero Dawn* from works like Cortona's ceiling, *The Triumph of Divine Providence*.

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<sup>71</sup> Other plot lines in *Skyrim* include faction quests like the group of warriors known as the Companions, the assassins known as the Dark Brotherhood, the Thieves Guild, and the mages at the College of Winterhold. Each of these factions has their own narrative the player can elect to complete or not. For example, the Companion quest line centers around the group's secret identity as werewolves, their struggle against a band of hunters known as the Silver Hand, and the debate on whether or not their lycanthropy is a curse. If completed, this quest line results in the player's character becoming a werewolf and is best avoided if the player does not want to be inflicted with lycanthropy.

## Chapter 4: Collaboration and the Total Work of Art

In the previous chapter, I discussed the baroque form of the labyrinth and how this was present in Pietro da Cortona's *The Triumph of Divine Providence* and remediated by games like *Horizon Zero Dawn*. In this final chapter, I will analyze collaborative development processes and discuss how this allows for a total work of art. Then, the total work of art will be applied to the baroque example of Cortona's ceiling and *Horizon Zero Dawn* as a single, unified work. By doing so, I argue that similar video games also remediate and improve upon the total work of art from baroque paintings like the one by Cortona in an effort to enhance immediacy.

The total work of art—also known as the *Gesamtkunstwerk*—was first used to describe the “concept of a work of art for the stage, based on the ideal of ancient Greek tragedy, to which all the individual arts would contribute under the direction of a single creative mind in order to express one overriding idea.”<sup>72</sup> Today the term is used to refer to a project where many different art forms have been combined to create a unified effect, and it is most commonly found in architecture. While this concept goes back to ancient times, there was a strong reliance on the total work of art during the baroque era to enhance illusions and dramatic effects. For example, the illusions within a church space demanded that every detail from paintings, sculptures, architecture, and even the lighting be designed so that all components work together to create otherworldly effects to enhance the faith of the beholders. In short, all art forms had to work together to achieve this effect. The total work of art can also be achieved in other media like contemporary

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<sup>72</sup> Ingrid Macmillan, “Gesamtkunstwerk,” *Grove Art Online*, 2003, accessed November 1, 2018, <https://doi-org.libaccess.sjlibrary.org/10.1093/gao/9781884446054.article.T031798>.

video games, as they rely heavily on the contributions of artists, animators, voice actors, writers, and composers to create a finished work. Ultimately, all total works of art attempt to provide an alternative reality that gives the viewer “an experience of aesthetic transcendence” by bringing together multiple art forms.<sup>73</sup>

When considering the amount of work that goes into developing a video game or painting a ceiling fresco, it is no surprise that many people collaborate and work together on each individual project. As such, some video games and baroque paintings, like the examples of *Horizon Zero Dawn* and *The Triumph of Divine Providence*, share the need for multiple hands to complete the project within a reasonable amount of time. In this case, it took seven years to complete both of the works being discussed. Artists like Pietro da Cortona had entire workshops of students and artists of varying skill levels to assist them with their commissions. Similarly, studios like Guerrilla Games, the makers of *Horizon Zero Dawn*, employ a large variety of people both within and without the studio to lend their skills to the game. Such collaboration makes the total work of art and remediation possible.

The baroque workshop has its roots in the medieval guild system, which imposed severe restrictions on what the artist, or artisans, could and could not do.<sup>74</sup> This changed during the Renaissance when these artisans started to push for recognition as intellectuals and artists like they are known today. However, the guild system was still quite prominent during the seventeenth century so artisans’ efforts were often hindered. The

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<sup>73</sup> Ibid.

<sup>74</sup> An artisan is a skilled craftsman such as a mason. Additionally, most guilds restricted painters to just painting. Any gilding was done by a goldsmith and frames were made by woodworkers. Guilds also restricted artists to working mostly within the city, though some exceptions were made for country villas. For more information on guilds see Richard Mackenney, “Guild,” *Grove Art Online*.



seventeenth century did see the rise of academies of art, where aspiring artists went to study their craft, but these academies did not gain much traction as a means of art education until the eighteenth century.<sup>75</sup> Prior to the rise of the academies, artists were trained within a master painter's studio, where their primary purpose was to assist the master and learn how to draw and paint while developing a special focus based on the master's skill set. The master painter would often begin a project and have his more advanced apprentices complete it, only stepping in to make adjustments or finalize the work. As the studio was a business, the master painter would sell student work and take work on commission, where the price would vary depending on how much of the master's hand was in the work.

Furthermore, master painters did not always work alone with their apprentices. Sometimes these artists would collaborate with other masters of a different specialty or with skilled journeymen artists. It was not uncommon in the seventeenth century for an artist who specialized in landscapes and another in animal figures to work together with a third artist on a composition. It was also not uncommon for several painters to work together on a single large commission, such as Diego Velázquez and Peter Paul Rubens with the decoration of the Torre de la Parada. Even within this large commission, Rubens made oil sketches and gave them to other artists and apprentices within and without his workshop to complete. Considering there were over one hundred and twenty paintings in this single commission while Rubens was nearing the end of his life, this level of collaboration is no surprise. Velázquez did not work as part of Rubens's workshop, as he

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<sup>75</sup> Humphrey Wine, "Academy," *Grove Art Online*, accessed December 20, 2018, <https://doi-org.libaccess.sjlibrary.org/10.1093/gao/9781884446054.article.T000302>.

was in the employ of Philip IV, but he collaborated by making works that paired with and played off of Rubens's personal contributions.<sup>76</sup>

The contemporary game studio functions in much the same way that the baroque workshop did. While the earliest video games were made by a single person in their off hours over the course of a few months, contemporary video games require far more time and people to develop.<sup>77</sup> With most games taking anywhere from three to five years on average to complete, it is no surprise that even small studios like Guerrilla Games employ over one hundred people with various skills and specializations.<sup>78</sup> Like baroque workshops, game studios are highly collaborative environments where a diverse group of people with specific skill sets, specializations, and different levels of education come together to create work for a paying publisher.<sup>79</sup>

Contemporary video games are, by their very nature, total works of art. The collaboration between artists, writers, and programmers within the studio allows for the arts of painting, writing, and animation to come together and contribute to a single work. Artists design the characters, objects, and settings of the video game that the programmers and animators then bring to life on screen, playing out the story the writers developed. Additionally, composers are hired from outside the game studio to add a

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<sup>76</sup> For more about the Torre de la Parada see Svetlana Alpers *The Decoration of the Torre de la Parada* and Aneta Georgievska-Shine and Larry Silver *Rubens, Velázquez, and the King of Spain*.

<sup>77</sup> Some indie games (shorthand for “independent” games) are made by a single person or a very small group. For example, the hit 2015 game *UNDERTALE* was made entirely by Toby Fox with the help of artist Temmie Chang.

<sup>78</sup> *Horizon Zero Dawn* took about six to seven years to develop, a fairly common amount of time for a new intellectual property (IP). It was begun in 2011 and released in early 2017. Guerrilla Games employed around two hundred and fifty people during this time, all of which worked on *Horizon Zero Dawn* at one point.

<sup>79</sup> For more on the structure of game studios and the development process of games see Appendix C.

musical element to the game.<sup>80</sup> The themes written by the composer—and sometimes performed by full orchestras—add to the excitement of battle or to the emotion of a sorrowful cut scene, evoking a somatic response<sup>81</sup> in the player. Motion capture studios and their actors are hired to provide naturalistic movement animations for all manner of characters and creatures. Similarly, voice actors contribute by giving characters a voice that expresses joy, anger, sadness, and all ranges of emotion. Ultimately, all of these arts and their artists collaborate together to make a single, unified work.

Contrary to the perception of many contemporary viewers, much of baroque painting fits the definition of a total work of art, as well. Any misconception to the contrary is largely due to many baroque paintings being displayed outside of their original setting, and even those that are still *in situ* lack the original baroque audience and accompanying performance that made them total works of art. The baroque was an era where the predominant social belief was that of the *theatrum mundi*, a belief that the world was a stage on which everyone performed.<sup>82</sup> As such, nearly every outing or gathering was viewed as a performance. Many of these gatherings took place in rooms and salons with paintings that set the social stage where the guests would perform alongside, and in response to, the paintings. In addition, music would often be performed for those gathered. This further contributed to the performance of the guests and, as a result, became a part of the painting's presentation being discussed and acted. Moreover, some

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<sup>80</sup> Only the largest studios have composers “in house.” Small studios like Guerrilla Games have to outsource for their musical talent.

<sup>81</sup> A somatic response is a physical reaction to stimuli. For example, a somatic response to a battle would be a rush of adrenaline and a rapid heartbeat. The somatic response to an emotional scene would be crying.

<sup>82</sup> Gerhart Hoffmeister, “World as a Stage – *Theatrum Mundi*,” *The Literary Encyclopedia*, March 23, 2009, accessed May 11, 2020, <https://www.litencyc.com/php/topics.php?rec=true&UID=5777>.

paintings had a written component, as many paintings illustrated scenes from mythology that required knowledge of the written source material to appreciate in full. Other paintings had such complex iconographical programs that pamphlets were written and distributed to guests with an explanation the work. In such instances the arts of painting, acting, music, and writing came together to form a single and socially complex work of art.

With this in mind, *Horizon Zero Dawn* is a characteristic example of the total work of art in a video game. A full team of artists led by Jan-Bart van Beek employed their skills to paint the concept art for Aloy, other characters, the setting, and the machines. The programmers and animators then brought these drawings to “life” by rendering them in three-dimensional graphics. Likewise, the actors who performed the motion capture ensured naturalistic movements and expressions were included in the game, which heightened the sense of immediacy and the illusion of life. The writers, directed by John Gonzales, crafted an emotional and exciting story for these characters to act out. Joris de Man, along with a team of musical talents, composed the score for the game, greatly enhancing plot and game play. Finally, Ashly Burch lent her vocal talents to Aloy as a voice actor, along with many others who gave voice to the rest of the character cast.

Regarding Pietro da Cortona’s *The Triumph of Divine Providence*, this total work of art contains three different art forms. The first and most obvious is painting. The fresco was laboriously composed and painted by Cortona over the course of seven years. It is arguably the most prominent medium in this total work of art as it is as much supported by the following art forms as it is working in conjunction with them. Next, acting is the

second art form in the total work of art and is found on the “stage” below the vault. As stated before, baroque socialites and nobility were acutely aware of their role on the world stage. This is even more so for those that were invited to the Palazzo Barberini. In the Gran Salone where Cortona’s fresco is located, whole groups of people would be acting out their roles beneath, and along with, the ceiling above. Naturally, such social gatherings would have musical accompaniment. This served to set the scene and enhance the performance of the socialites. Finally, the third medium in this total work of art is writing, which takes the form of pamphlets that explained the complex allegorical program. Cortona had worked with the poet Francesco Bracciolini in developing the painting’s program,<sup>83</sup> which so thoroughly confused guests that pamphlets were distributed to provide an explanation of the iconography.<sup>84</sup> This written work and the information provided worked in conjunction with the fresco and the performance of the guests. These various art forms collaborated together to create a total work of art that contained a painting, a performance, music, and a piece of writing.

In this case study, both *Horizon Zero Dawn* and *The Triumph of Divine Providence* are examples of a contemporary and a baroque total work of art that relied upon collaboration. Both include painting as one of their art forms, in addition to the drawing and knowledge that goes along with such an art. Likewise, there was also a staged performance happening in both instances: *Horizon Zero Dawn* had the performance of voice and motion capture actors while Cortona’s ceiling had the baroque social

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<sup>83</sup>Jörg Martin Merz, “Cortona, Pietro da,” *Grove Art Online*, 2003, accessed May 11, 2020, <https://doi-org.libaccess.sjlibrary.org/10.1093/gao/9781884446054.article.T019663>.

<sup>84</sup> These pamphlets would explain the complex allegories of Divine Providence, Wisdom, Dignity, Strength, and Moral Knowledge featured in the different scenes of the painting.

convention of the *theatrum mundi*. In addition, both works make use of music to enhance the scene. The final point both share as total works of art is the inclusion of writing, which consists of an overarching narrative in *Horizon Zero Dawn* and an informational pamphlet for the fresco. Naturally, both works required many different skilled individuals to successfully develop each art form. *Horizon Zero Dawn* had a team of over two hundred people from the fields of art, engineering, animation, music, and writing all working together on the game. Similarly, Cortona had an entire workshop of assistants to help him paint the fresco—not to mention his collaboration with Francesco Bracciolini on the iconographical program. Again, this is a mere case study between two specific examples and will not always apply to every baroque painting and every video game. However, both works represent a total work of art as a means of satisfying the desire for immediacy and this representation applies to many other games and baroque painting created by studios and workshops.

Nonetheless, there are important differences between *Horizon Zero Dawn* and *The Triumph of Divine Providence* in their application of the total work of art. As a digital medium, *Horizon Zero Dawn* is more successful at combining multiple art forms into a single work. Players tend to approach video games as a single medium and accept the presence of music, acting, and writing as part of the experience because many of these media have been present since the early days of video games. In contrast, the various media that combine to create a total work of art in the fresco retain their individual identities. These media work in conjunction with each other rather than blending together to create a single experience. In addition, video games tend to hide arts like painting in

the development stages and rarely feature them in the game beyond the occasional framed painting. As *Horizon Zero Dawn* does not feature art in this regard, all traces of painting have been removed in the final work. Of course, Cortona's *The Triumph of Divine Providence* prominently features painting and the other art forms that support it, even if aspects like social performance have been lost to time.

Naturally, video games like *Horizon Zero Dawn* recycle and improve upon the total work of art as it is presented in baroque paintings like *The Triumph of Divine Providence* through the process of remediation. While the idea of "immediacy" and "immersion" would be conceptualized in the Romantic era, there is clearly an interest in "aesthetic transcendence"<sup>85</sup> in baroque art brought about by incorporating multiple art forms. Video games have a similar interest in this desire to transcend past what was presented in the work as was brought about by immediacy and immersion. As such, game developers have remediated the methods used in the baroque total work of art to heighten the player's sense of immediacy.

Artists and viewers alike strive to satisfy the desire for immediacy by hiding the medium and any trace of human intervention in the work's development. After a while, artists started to enhance their work with other media, such as music, performance, or writing. By bringing together these different art forms, artists were able to create a total work of art that encompassed the senses and immersed viewers in the work. The need to satisfy the desire for immediacy caused artists to place one medium among others,

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<sup>85</sup> Macmillan, "Gesamtkunstwerk."

blending these media together into a single work. As such, immediacy is crucial to creating this level of immersion and to remediating the total work of art.

As such, both *Horizon Zero Dawn* and Cortona's *The Triumph of Divine Providence* employ multiple art forms to heighten the immediacy of the final work. *Horizon Zero Dawn* does so through naturalistic animations and high quality rendering of textures to make three-dimensional objects seem photorealistic. Aloy moves and looks like a real person. Her face was modeled after Dutch actress Hannah Hoekstra which not only adds to the photorealism of the graphics, but also makes Aloy seem more like a person one would see on the streets. She also moves in a manner one is accustomed to seeing, to the point where she awkwardly moves through thick snow rather than gliding through it, as is the case with most games. The game also uses a compelling story and well composed musical score, evoking somatic responses to enhance player experience and immersing them emotionally. For example, the weight of learning about Dr. Sobeck's noble sacrifice<sup>86</sup> combined with "Aloy's Theme" stripped of all but Julie Elven's vocals allows the player to relate to the crushing emotions Aloy is feeling. In a similar manner, skilled actors were hired to perform the characters' voices, further enhancing the sense of naturalism. In the same scene mentioned above, Ashly Burch gives voice to Aloy's sorrow and immediate outrage to Sylens's insensitive comments. All of this combined creates an immersive experience where the player can suspend disbelief and become a part of the game through Aloy.

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<sup>86</sup> See Appendix B for more information on the plot of *Horizon Zero Dawn*.



Likewise, Cortona's *The Triumph of Divine Providence* employs multiple art forms in a similar way. The painting seeks to immerse the viewer primarily through its use of illusionistic techniques and the careful obscuring of the artist's hand. At the same time, the painting also relies on other arts to enhance its immediacy. To begin, pamphlets were written to explain the allegorical program to curious visitors who might not have been able to decipher it on their own. This adds to the immediacy by providing an explanation that allows visitors to interact with the work without having to first decipher it, which would require an acknowledgement of the medium. At the same time, these visitors were performing on the stage of Palazzo Barberini's Gran Salone, where they enacted their societal roles in the pope's palace underneath the fresco glorifying him. In addition, music was likely part of any important social gathering that would have taken place in rooms such as the Gran Salone. This places the guests within the total work of art, immersing them in the work as actors playing a role in a performance. Both *Horizon Zero Dawn* and *The Triumph of Divine Providence* employ the total work of art in different ways. Regardless, they both sought to enhance the experience of immediacy by employing multiple art forms immerse the viewer.

Of course, there cannot be immediacy without hypermediacy as these two logics of remediation both oppose and complement one another. Despite an artist's best efforts at hiding a medium, the medium always makes itself apparent, and the total work of art is no exception. Even though artists sought to enhance their work and create an immersive experience by combining multiple art forms, these art forms become increasingly obvious the longer a viewer is immersed in the work. What was at one moment a perfectly unified

experience becomes a cacophony of media all vying for attention. This cacophony momentarily takes the viewer out of her immersive experience and into a hypermediate one where she is fully aware of all the various media. That said, the viewer will often find herself immersed in the work again, beginning the cycle once more.

Just as both *Horizon Zero Dawn* and *The Triumph of Divine Providence* use the total work of art to heighten immediacy, this usage also increases hypermediacy. While a player can easily be immersed in *Horizon Zero Dawn* she is constantly aware that she is playing a video game. Ignoring the presence of the heads-up display and the need to use a controller to interact with the game, the digital nature of the game soon becomes apparent. For example, the characters' animations become repetitive and unnatural during long sections of dialogue. Similarly, the textures sometimes take an extra moment to fully render during cut scenes, further informing the viewer of the game's programming. Even the music and voice acting become separated from the full experience if a player focuses on them for too long or recognizes a voice actor from another game or a film. In a similar manner, Cortona's use of perspective to create a sense of depth in *The Triumph of Divine Providence* is not without fault. The artist composed the image in such a way that the illusion works from multiple angles, but nonetheless the illusion is not as successful when viewed from an oblique angle. Likewise, the pamphlets dispersed to viewers in order to explain the iconography and enhance their experience also happened to draw attention to the purpose of the work as did the performance of the spectators below, thus shattering the sense of immediacy.

In this chapter, the total work of art was defined as many different art forms working together to create a single work. The case study made between *Horizon Zero Dawn* and *The Triumph of Divine Providence* showed that both works can be considered total works of art. Both make use of painting, performance, music, and writing, though *Horizon Zero Dawn* arguably presents a more unified work. While the total work of art serves to heighten immediacy by creating a more immersive experience, it also enhances hypermediacy by drawing the viewer's attention to various art forms. This case study showed that the romantic notion of a total work of art was present as far back as the baroque era and is currently present and heightening the immediacy of contemporary video games.

## Conclusion

Despite the over three hundred years that have spanned between the baroque era and the contemporary age, seventeenth century paintings have had a significant impact on the media of today. While it is improbable that a baroque artist could have intended for his work to affect anyone other than future generations of painters, this is precisely what happened. New media artists have frequently looked to the past for inspiration and drawn from what they found, changing and repurposing these works to various extents through a process called remediation. Video game developers are no exception. Baroque painting, its use of illusions, labyrinths, and the total work of art has been remediated by contemporary game developers to varying degrees. This has resulted in contemporary video games featuring several distinctly baroque characteristics, some more aggressively remediated, and therefore less obvious, than others.

Visual strategies and techniques like linear perspective, atmospheric perspective, and illusionism were developed to satisfy the viewer's desire for immediacy by hiding any trace of the medium. While not exclusive to the baroque era, these techniques were widely used and periodically altered to improve the immediacy of the final work. Baroque painters made their own advances and alterations, which have been borrowed by contemporary game developers. Games like *Horizon Zero Dawn* seek to create an illusion of reality in fantasy environments. The characters, trees, and rocks all seem to exist in the world contained within our television screens, and this world is subject to the same rules present in reality. The forest at the far edge of a plain loses its definition in the grey-blue haze of atmospheric perspective, its trees seemingly real. In truth, the trees in

the farthest distances are the digital equivalent of cardboard cutouts rather than fully rendered objects. Much like the *trompe l'oeil* ceiling reaching into the heavens, the video game is merely an illusion, an assortment of colored pixels on a screen, carefully crafted to look natural. This same desire for immediacy is present in baroque painting. Artists would present their viewers with a work that hid the artist's hand and, in many cases, blurred the line between physical reality and the picture plane.

In the same breath, this desire for immediacy often revealed the artist's hand, making it clear that this work was indeed man made. This hypermediacy is more difficult to spot in baroque painting than it is in a video game. Nevertheless, it is present, as immediacy cannot exist without hypermediacy. In a baroque painting, it can be found in the brushstrokes and the idiosyncratic style of the artist that break the illusion. In a video game, it is seen in the windowed appearance of menus and the heads up display that is often present as the game is played, showing various items like the player's health bar and a compass. Such things remind a viewer that they are lost in a world made by human hands.

Both of these logics are critical to the remediation that occurs between video games and baroque art. Game developers use visual strategies like illusionism or techniques like atmospheric perspective to add immediacy to their game. They alter and change the techniques of baroque painters to blend the source material into the new product, either erasing the source altogether or leaving traces of it behind. This remediation of previous media further enhances the illusion in the final product, making it more convincing and therefore better satisfying to the desire for immediacy.

This remediation is also present in how video game developers remediate the form of the baroque labyrinth. This figurative and structural form was not always literal in the sense contemporary viewers are used to. In baroque paintings, the labyrinth was composed of gestures that guided the eye through the composition. In video games, it takes the more literal form of a maze within a dungeon or a city. Many of these labyrinths could be approached from any number of entrances, but the destination would always be the same before the viewer or player exited. Furthermore, this labyrinth is also structural in the form of narratives featured in a painting or game. Plot lines can twist and turn into one another and be traversed in any order. Often it is the hero who walks through this labyrinth, guiding the viewer or player through alongside them.

Both baroque painting and contemporary video games were made by multiple people, often under the single name of an artist or studio. This collaborative process allowed for a total work of art, which combines multiple art forms into a single, unified piece. The disparate arts of painting, drawing, writing, music, and acting all come together to create one work that transcends the boundaries of each of those works individually. As such, this collaboration both heightens the immediacy and the hypermediacy of the work, as viewers become aware of the different talents involved as they also become immersed in the work. In addition, video games present a more successful total work of art because each medium is better incorporated into the final work rather than retaining its identity as a specific medium.

Each of these points serves to further the understanding of both baroque painting and video games. In this thesis, we have learned that video games remediate baroque painting

in a variety of ways, namely in regards to illusionism, labyrinths, and the total work of art. This remediation of baroque traits enhances the immediacy of video games, providing a more immersive experience for the player. Games like *Horizon Zero Dawn* employ illusionistic techniques to create a world within the television screen for players to explore. A multitude of art forms come together to create a single and unified experience while these players traverse structural and figurative labyrinths. The players of contemporary video games like *Horizon Zero Dawn* are able to experience baroque characteristics through this new medium. These games appeal to the senses of their players, evoking somatic responses similar to those evoked by seventeenth-century paintings and performances. The drama, movement, tension, and grandeur of the baroque find a new home in video games.

Through video games, contemporary players are able to experience the baroque in a manner similar to how seventeenth-century audiences experienced the media of their time. Video games take the old media of baroque painting, recycle it, and represent it to a new audience in a digital form. *Horizon Zero Dawn* is only one example of many different games that remediates baroque painting. Like some other games, it shows a clear use of linear and atmospheric perspective in the environment. This game also employs both figurative and structural labyrinths in the forms of ruins and the various quests in the game. Finally, it brings together multiple art forms and blurs any distinctions between them, creating a total work of art.

Rarely have video games and baroque art ever been compared in art history outside of the recent literature on the neobaroque. This is rich vein of research that can be exploited

in numerous ways. Here, the remediation of baroque painting in contemporary video games has been analyzed and discussed through specific examples. As has been seen, video game developers frequently borrow aspects of seventeenth century painting with the intent of using them to increase the immediacy of their games. No doubt more arguments could be made for this remediation using other video games and baroque paintings, let alone other media from the era such as sculpture or theater coupled with other means of remediation. Also, the discussion presented here could be furthered with an analysis of virtual reality games and how this enhances the illusion. These propositions are merely focusing on the possible discussions surrounding the remediation of baroque art.

There is a great deal of potential in the comparison of baroque painting and video games. Like video games, baroque paintings were more than just an image in a frame. These paintings often had accompanying music and viewers interacted with them in a variety of ways, from moving around the room to surprise at a sudden reveal. Additionally, this comparison shows that the baroque era does not exist in a vacuum and is not confined to the seventeenth century. The work of baroque artists continues to influence the creators of today in surprising ways, and there is a whole world of possibilities that exist within the simple idea of comparing baroque art and video games.



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## **Appendix A: Action RPG Games and Video Game Terminology**

Video games are an interactive digital medium made for a computer or dedicated console system, such as the Sony PlayStation. In order to play a game, players use the buttons on keyboards or controllers to execute commands. In the case of a controller, players use analog sticks to move the character and adjust the camera direction while also using other buttons to perform actions such as: sprint, jump, pick up items, and talk to non-player characters. Many video games feature an objective or series of objectives for the player to complete and these tasks vary depending on the genre of the game. In a fighting game, the objective is simply to defeat an opponent. In an adventure game, the objective might be to find a magic sword in a cave guarded by a vicious beast. There is typically a plot in most, but not all, games that gives the player a reason to complete these tasks.

The genres pertinent to this thesis are the action and role-playing game (RPG) genres, which combine to create the hybrid action RPG genre *Horizon Zero Dawn* fits into. To begin, an RPG is a genre defined by narrative and character customization in terms of abilities, appearance, and statistics, colloquially referred to as “stats,” such as strength, health, or endurance. Character customization is a feature that allows players to design their own character in a variety of ways. Depending on the game, this customization allows the player to select her character’s gender and appearance in terms of facial features, hair, voice, and body structure. If the game is part of the science fiction or fantasy genres, the player may even be able to select the race of her character and play as an elf or an alien rather than as a human. In addition, players are able to direct the

development of this character and tailor abilities to the player's preference. This often comes with the choice of a class<sup>87</sup> which dictates the statistics and abilities a player can use. Players develop their characters by earning experience points through the completion of quests and by defeating enemies. When a player has earned enough experience points, her character will level up, usually earning what are referred to as skill points. Depending on the game, players can allot these points to certain statistics or abilities to develop their characters to their liking. For example, a player who is playing a warrior in a fantasy RPG would be better off allotting points to statistics like strength, health, and defense than to statistics like magic, which are typically of no use to the strong warrior character. Similarly, a player will want to select abilities that match her preferred play style<sup>88</sup> or allow her character to better survive the coming challenges. To continue using the example of the warrior, the player may want to choose an ability that allows her to use a shield with greater proficiency. As the player continues, her character grows stronger and more capable of surviving the toughest parts of the game. As such, it is critical that RPG players take the time to develop their characters.

The next relevant genre to this discussion is the action game. This type of game is one that happens in "real-time," meaning there is no pause in the action and the player must react quickly to what is happening on screen.<sup>89</sup> Where an RPG requires thought and strategy, an action game requires quick reflexes and good hand/eye coordination. These

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<sup>87</sup> In a fantasy game the choices are usually warrior, rogue, or mage, which focus on strength, dexterity, and magic respectively.

<sup>88</sup> Some players have preferences with how they approach a game. This preference is usually referred to as a play style. For example, one player might prefer a fast character that does not do much damage per attack whereas another player might prefer a slower character who does a lot of damage per attack. In addition, some players may prefer close combat over ranged combat and vice versa.

<sup>89</sup> Bob Bates, *Game Design* (Boston, MA: Course Technology, 2004), 7.

games are often in first-person, where the player only sees the hands and weapons of her character, which is usually preset and not customizable. Some action games are in third-person, where the player character is fully or partially visible on screen. In comparison to RPGs, action games are far less complex, focusing more on the adrenaline rush that comes from fighting a tough opponent than narrative or character development.

In the case of games like *Horizon Zero Dawn*, these two genres come together to create an action RPG. The action RPG genre features the customization and narrative focus of the RPG alongside the need for quick reflexes and a rush of adrenaline. While *Horizon Zero Dawn* does not allow the player to customize Aloy beyond choosing her weapons and armor, players are able to earn experience points, level up Aloy, and use the resulting skill point to customize her abilities. These abilities unlock combat skills that make her more proficient in battle, stealth skills that make it easier to avoid detection, and survival skills that are crucial to her success in the wild. Some examples of these abilities include one that slows down time when she aims her bow, another that allows Aloy to attack enemies from cover, and a third that increases her health statistic. The action component of this game makes itself known during combat. Unless the player opens the pause menu, the battle does not stop. Players must react to threats in real time and use their reflexes and hand/eye coordination to defeat enemies in exciting battles. Different foes require different strategies and weapons to defeat. For example, when fighting a Thunderjaw, a machine that resembles a Tyrannosaurus Rex, players must quickly equip a Ropercaster which, as the name suggests, fires ropes that tie down the target. Once the beast is restrained, players only have a short amount of time to aim

Aloy's bow to first destroy the armor protecting the Thunderjaw's core and then attack it before the machine breaks free of its restraints. During this process, players must dodge and roll out of the way of the Thunderjaw's tail, feet, and laser guns. This is just one example of the need for quick reflexes in *Horizon Zero Dawn*.

A common feature that unites nearly every genre of video game is the heads-up display, or HUD. The HUD overlays the screen and displays important information for the player. Some common examples of this information are: the health bar, a compass, current equipment, quest objective, experience points, and level. The screenshot below provides an example of what the HUD looks like in *Horizon Zero Dawn*.



Figure 5. “Heads-Up Display,” *Horizon Zero Dawn*, Sony Interactive Entertainment, LLC and Guerrilla Games, Screenshot, Taken by the author February 29, 2020.

Finally, open world games are games that allow the player to explore and interact with the game world with almost no limitations. As such, the player is allowed a degree



of freedom not present in “closed” world games that have the player follow a set path. Ultimately, there is a limit to what players can and cannot do in open world games. For example, despite the phrase “open world” there is a limit to the playable area in these games. It is often cleverly disguised as impassable mountains or other such natural barriers. In some cases, there exists an “invisible wall” that the player will be unable to pass through despite the landscape appearing to continue on in the distance. In other cases, the game simply displays a message stating the player cannot go any further, or warns her that she is exiting the playable area. Attempting to cross this boundary often results in the player’s character turning around and walking back into the playable area or being teleported back to a certain point. In the case of *Horizon Zero Dawn*, players are free to explore almost the entire map. The game’s boundaries are created using large mountains that Aloy cannot climb or an invisible wall spanning a large lake.

## **Appendix B: Plot Summary of *Horizon Zero Dawn***

The story of *Horizon Zero Dawn* takes place a thousand years into the future after the world has recovered from an apocalypse and is once again flourishing. Ruins of an old Metal World scatter the landscape where machines of various sizes, designs, and lethality roam alongside real animals. Humans live in tribal societies each with their own lands, traditions, and characteristics; the most important of these tribes are the Nora, the Carja, and the Oseram.<sup>90</sup> These tribes hunt both machines and animals, living in a relative harmony with the land around them. This new world is no stranger to war or death but nevertheless presents itself as an idyllic paradise.

Aloy's journey begins as an infant, a narrative choice that allows players to experience this world for the first time as Aloy does. She is a motherless child raised by a Nora outcast named Rost. At first it is unclear how Aloy came to be in this situation, but her brief experiences with Nora children, and Rost's own comments, show she is also shunned by the tribe as an outcast. One such encounter leads a six-year-old Aloy to run away from Rost in distress only to fall into a ruin of the Metal World. The Nora are superstitious and avoid these ruins, but Aloy's boundless curiosity leads her deeper inside. Here she finds a device called a Focus on an ancient body. This tiny device becomes a valuable tool in her adventure.

Shortly after this discovery, Aloy encounters the local children once more, who are far more hostile this time. This shocking event leads Aloy to relentlessly question Rost about why they are outcasts and the identity of her mother. Rost tells her the Nora

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<sup>90</sup> Pronounced NOR-uh, CAR-juh, OS-er-AHM respectively.

matriarchs know these answers, and when she is of age she can compete in a ceremony called the Proving, where she can win a boon from the matriarchs. Ever determined, Aloy spends the next twelve years training for the Proving. Unfortunately, competing in the Proving is more difficult than Aloy anticipated. The same hostile children she encountered earlier in her life are also competing and actively sabotage her efforts. Regardless, she comes in first place, only to find herself under attack by strange masked men. They eliminate nearly everyone present before Aloy is able to defeat them. When she thinks she is safe, a large man named Helis ambushes Aloy and would have succeeded in killing her if Rost had not appeared. Rost is fatally wounded in his fight against Helis, but he manages to push an unconscious Aloy off a cliff to safety before Helis's explosives detonate.

After this tragic event, Aloy awakens inside the Nora's sacred mountain, where she is able to access the data from a Focus she had retrieved from one of the masked men. She discovers Helis was actively targeting her because she resembles a short haired older woman, a woman Aloy believes could be her mother. Shortly thereafter, Matriarch Teersa arrives and answers Aloy's question about her origins. The matriarchs had found her at the heart of All-Mother, the Nora goddess who makes her home within the mountain. Teersa guides Aloy to where she was found and explains that, while Teersa saw Aloy as a blessing from the goddess, the other matriarchs disagreed and instead saw her as a curse. To solve the dispute, the matriarchs agreed to give the young Aloy to Rost, effectively casting the child out from the tribe. When the two women reach the heart of the mountain, Teersa directs Aloy to All-Mother. As a result of her experience in ancient

ruins, Aloy realizes “All-Mother” is an ancient door. The door fails to open when Aloy approaches it because its data is corrupted, much to her dismay. Teersa interprets this as the goddess asking Aloy to heal her of the corruption. As such, Teersa and the other matriarchs send Aloy on a quest to both heal the goddess’s corruption and to find the cultists. In addition, the matriarchs make Aloy a Seeker, an appointment that allows Aloy to safely leave Nora lands without the threat of becoming an outcast once more.<sup>91</sup>

In an attempt to find the cultists, Aloy travels to the Carja capital of Meridian where she learns that Olin, an Oseram of questionable allegiance who was present at the Proving, had his family kidnapped by Shadow Carja<sup>92</sup> and was blackmailed into working for them. She follows Olin’s excavation map to a quarry where she finds the masked men are digging up and activating old, powerful machines. A mysterious caller on her Focus is able to assist Aloy by disabling the Focuses of the masked men, allowing her to defeat them and interrogate Olin. Olin tells her the men are a Shadow Carja cult named Eclipse that follows the orders of a metal devil<sup>93</sup> named Hades. He then tells her he has seen this short haired woman she is tracking at a ruin called Maker’s End. As a parting note, Aloy’s mysterious caller informs her that this woman is named Elisbet Sobeck.

In the past, Maker’s End was the headquarters of Faro Automated Solutions that is responsible for building the old machines Eclipse is trying to reactivate. The doors within this building recognize Aloy as Dr. Elisbet Sobeck. When she arrives at the top floor,

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<sup>91</sup> According to Nora laws, any who leave the Sacred Land are considered outcasts and are no longer welcome in the tribe. Seekers are the exception.

<sup>92</sup> Shadow Carja is the name given to a group of Carja exiles. When the current Sun-King overthrew the previous regime, those loyal to the old king were cast out rather than executed. This is because the current king wished to put an end to the brutality of his predecessor and thus refused to murder the loyalists.

<sup>93</sup> Metal Devil is the name given to a specific type of ancient machine. It features prominently as the antagonist in many legends.

Aloy is able to view holographic video recordings of the real Dr. Sobeck arguing with Ted Faro, the CEO of Faro Automated Solutions. It is revealed that his machines had been affected by a glitch that made them uncontrollable and these machines will soon exterminate all life on earth. Sobeck proposed a solution to this problem called Project Zero Dawn that Faro reluctantly agreed to fund. Upon leaving, Aloy is met by a holographic projection of her mysterious ally, a blunt and cold man named Sylens. Sylens urges her on to the Grave-Hoard, a ruin that was once the United States Robot Command and, consequently, where Sobeck was to meet with General Herres.

Within the Grave-Hoard, Aloy finds a recording of the conversation between Sobeck and the Chief Generals, Herres included. It becomes clear from this conversation and clues scattered throughout the Grave-Hoard that the swarm of robots, referred to as the Faro Plague, was impossible to stop and was making the environment uninhabitable for all forms of life. The generals were appalled at Project Zero Dawn as well as Herres's Operation Enduring Victory, which consisted of sending any able person into a vain war against the machines to buy Sobeck time to finish her project. Regardless, Zero Dawn is their only viable option<sup>94</sup> and Herres had secured an orbital launch base in Utah for Sobeck's "super weapons program."

After discovering this information, Sylens informs Aloy that the orbital launch base is now Sun-Fall, the capital of the Shadow Carja. To make matters more difficult, each of the Shadow Carja within Sun-Fall has a Focus and will detect Aloy immediately upon her

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<sup>94</sup> There was an Odyssey project, which consisted of sending cryogenically frozen embryos and plants to the closest habitable planet. This ultimately failed, but there was not much stock put into it in the first place as it was privately funded by corporations and really a means for the rich to escape the planet they destroyed.

arrival. To solve this problem, she is sent to the Eclipse base where she must find and destroy a communications device in order to disable the Focus network in Sun-Fall. Before Aloy can destroy this device, she sees the machine known as Hades, a metal sphere within the ruins of a gargantuan Metal Devil. Aloy is able to destroy the communication device, but barely manages to escape the hoard of Eclipse agents chasing her.

When she returns to Sun-Fall, Aloy finds the entrance to the orbital launch base, but the main door, which recognizes her as Dr. Sobeck, will not open unless it vents an obstruction. Unfortunately, the venting alerts the Shadow Carja guards above who soon arrive to halt Aloy's investigation. Nevertheless, she manages to discover that this was the main base for Project Zero Dawn. A grim video recording from Herres gives the truth of the matter: Operation Enduring Victory is a farce and there is no hope that any of them will survive the Faro Plague. However, a second recording from Sobeck shows that there is still hope. Zero Dawn is not a super weapons program but an artificial intelligence named GAIA with a suite of subordinate functions that are meant to disable the swarm of robots and once again make the world habitable for human life. The goal of Zero Dawn is to give life a chance and teach future generations of humanity about past mistakes. Following this revelation, Aloy traverses the various labs that built the different components of GAIA and into Sobeck's office. There she finds an uncorrupted copy of the Alpha registry which will grant her access to the door within the Nora's sacred mountain. She copies the registry to her focus but is immediately ambushed by Helis, who takes her prisoner.

Later, Aloy awakens within a cage suspended over the Sun-Ring, an arena in Sun-Fall used for sacrifices and gladiator fights. Helis intends to sacrifice her to the sun by making her fight a corrupted Behemoth<sup>95</sup> without her weapons or her Focus, the latter of which he had destroyed moments before. Aloy is able to defeat the machine by using its own strength to collapse the pillars supporting the platform that holds her equipment. Naturally, Helis is outraged at this turn of events and sends several Corruptors<sup>96</sup> against Aloy. Before she has any chance to fight them, the wall behind her explodes and Sylens bursts through riding a Strider<sup>97</sup> with a second one for Aloy. The two of them escape the Sun-Ring and, upon reaching safety, Sylens gives Aloy a new Focus which contains all of her data. Aloy then leaves for Nora territory, as Helis told her his men were mounting an attack on her homeland.

When she arrives, the Nora lands have been burned and all surviving members of the tribe have taken refuge inside the sacred mountain. Aloy is able to defeat the machines and Eclipse agents before entering the mountain and opening the ancient door inside. As she soon discovers, this bunker was a Cradle facility, where human zygotes were stored, developed, and raised to be released into the new world GAIA had made. Aloy deduces that she was once one of these zygotes. Deeper within, she finds a message from GAIA to Dr. Sobeck. An unknown code had activated her extinction protocol, HADES, and GAIA had been forced to shut herself down and self destruct in order to stop the code. Before doing so, she was able to release a clone of Sobeck, who grew up to be Aloy, that GAIA

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<sup>95</sup> A very large, bull-like machine. Corrupted machines are far more dangerous than their uncorrupted counterparts.

<sup>96</sup> A Corrupter is a hybrid scorpion, spider like machine that makes other machines stronger and more aggressive.

<sup>97</sup> A Strider is a horse-like machine with a benevolent temperament.

knows will be raised by the tribal people outside the facility. HADES then released a virus during the recording of GAIA's message which proceeded to unshackle all of her subordinate functions and corrupted the Alpha registry. GAIA urged Sobeck to go to the GAIA Prime facility and acquire the master override to shut down HADES.

Aloy, with her newfound knowledge, exits the facility to a crowd of reverent Nora, who are now worshipping her as Anointed rather than shunning her as a former outcast. Naturally, this infuriates Aloy, but she is able to convince the Nora to travel to Meridian, where the Eclipse are about to attack in an attempt to claim the city. Meanwhile, Aloy travels up the Bitter Climb to the GAIA Prime facility in order to find the master override.

Within the facility, Aloy finds logs left by the leaders of Project Zero Dawn, known as Alphas, as well as Sobeck's audio journals. She also finds a shrine to Sobeck, who had sacrificed herself to seal a hatch from the outside. This hatch had failed to close properly, resulting in a detectable energy signature. This energy signature would alert the swarm outside, which would then come and destroy all the work they had done. As such, Sobeck left the base and closed the hatch, effectively sending herself to death. Aloy also finds messages from Ted Faro, who appeared to be losing his mind. This becomes apparent when Aloy finds the central control room and the air curiously rushes inside. The Alphas had met and received a video call from Faro who had locked all their systems and deleted the store of knowledge that was intended to be used to educate future generations. To him, this knowledge was a disease he could not pass on. To prevent the Alphas from



restoring the knowledge database, Faro vented the air from the room, suffocating the people inside.

After this horrific revelation, Aloy is able to collect the master override and meets Sylens at the entrance to the ruins. There, he confesses that he had been the one to activate HADES and set current events in motion. The machine had promised unfathomable knowledge in return for Sylens doing what it asked. He reveals that the first thing HADES had wanted to know about was the Spire, a shining metal tower within Meridian. Aloy is able to deduce that the Spire is MINERVA, the code breaking and code distribution function of GAIA that was designed to disable the Faro Plague. Much to Aloy's horror, HADES intends to use it to reawaken all of the Faro robots, rather than just the few machines Eclipse had resurrected to attack the Spire.

Knowing this, Aloy rushes to Meridian to inform the Sun-King of what she had learned and to prepare the city for battle. Once the battle begins, Aloy defeats Helis in a duel before lending her help in the defense of the city gates. Unfortunately, the machines are able to destroy the gate and bring HADES into the city. Aloy then runs through the city to the Spire, where HADES has already begun transmitting its extinction protocols. To defend itself, HADES summons a corrupted Deathbringer<sup>98</sup> that Aloy and her companions are able to destroy. Aloy then plunges her spear into HADES, activates the master override, and disables the machine. The battle has been won and the world is saved from extinction.

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<sup>98</sup> Deathbringers are a large, tank-like machine. Aloy has fought several of these at this point in the game, all in varying levels of repair, but thus far has not fought a corrupted one. The player is also given twelve minutes to defeat the machine and any other machines it summons. The time limit further enforces the point that Aloy only has so much time left to defeat HADES.

In the epilogue cut scene, Aloy is travelling through an open field towards a ruined building. As Aloy approaches, the last of Sobeck's audio journals is playing a conversation she had with GAIA. In the conversation, Sobeck tells GAIA that she learned from her mother to always protect life and that, while she never had the chance to have children of her own, she would have wanted a daughter who was curious, compassionate, and able to heal the world in some small way. Aloy reaches the ruins to find an armored body propped up against a broken wall. Her Focus displays the face and name of "Dr. E. Sobeck" and Aloy hangs her head in mourning. She sees an opalescent bauble in Sobeck's hand and takes it holding it close to her chest as the camera pans out.

After the credits, players are treated to another short scene. A couple of Carja are hesitantly approaching what remains of HADES when a red light shoots out across the sky towards a distant desert land. Sylens is walking through this desert with a lantern like object, which captures the red light. He clearly intends to get the knowledge he was promised from HADES and the camera pans out one last time, revealing the great carcass of a defunct Metal Devil.

## Appendix C: Game Studios and Production

A game studio can be divided into five departments each with its own roles in development. These generalized groups consist of management, designers, artists, engineers, and testers (or quality assurance).<sup>99</sup> There can be a great deal of overlap between these groups as many people can fill a single role or one person can fill many roles depending on the size of the studio and the complexity of the project. To begin, each project is under the supervision of an executive producer, who is likely managing multiple projects at once depending on the studio size. In charge of an individual project and its team is the producer, who is usually the face of the project, the one seen at trade shows championing the game and winning over customers.<sup>100</sup> Assisting the producer is one or more associate producers.

While not an official role but an important one nonetheless, each project has someone who is the “keeper of the vision,” the “person who, throughout the chaos of development, knows how all the pieces will eventually come together and how the player will experience the game.”<sup>101</sup> The creative director, sometimes called the game designer, is the one who leads the design department, which is responsible for developing the creative vision and making a “compelling and immersive gameplay experience.”<sup>102</sup> Working closely with the creative director is the lead designer who functions as the liaison between the design team and the director. Beneath the lead designer are the designers, a

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<sup>99</sup> There are a variety of business and legal roles such as marketing, sales, and PR involved with game development. As I am focusing primarily on creative development, these parts of the team will not be discussed.

<sup>100</sup> Bates, *Game Design*, 153.

<sup>101</sup> *Ibid*, 152.

<sup>102</sup> Heather Maxwell Chandler, *The Game Production Handbook* (Sudbury, MA: Jones & Bartlett Learning, 2010), 30.

catch all term for a variety of different jobs that encompass systems design, user interface design, level design, and scripting. These designers are tasked with making different aspects of the game depending on their areas of expertise.<sup>103</sup>

Writers are also counted among the design team and can be freelancers or a part of the permanent staff. Naturally, writers are responsible for creating the story and will write the dialogue, in-game writings like journals, or whatever else needs written words. What differentiates a writer for a video game from a writer of novels is the writer on a development team is given the challenge of writing for an interactive medium, which is not linear in the sense a novel is. As such, game writers have to consider players who have to repeat a level or play the levels out of order. In addition, the writer must keep repetition in mind and write in modular segments that will make sense to the player in whatever order these segments are played.<sup>104</sup>

The design team works closely and often overlaps with the art team who are “responsible for creating all the graphical assets for the game—characters, cinematics, vehicles, buildings, and levels.”<sup>105</sup> The artists affect every aspect of game design even if they are not directly involved in coding and building the physical game itself. The programming, or engineering, department is intimately involved with every aspect of game development as they are responsible for writing the code that becomes the game itself as well as implementing any alterations to the code. Finally, everything envisioned by the designers, brought to life by the artists, and coded by the programmers must be

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<sup>103</sup> Ibid, 31-32.

<sup>104</sup> Bates, *Game Design*, 163-64.

<sup>105</sup> Maxwell Chandler, *The Game Production Handbook*, 23.

tested on a regular basis. The quality assurance (QA) team is responsible for testing the game, recording and submitting bugs to the programmers, and making sure the game is fun to play.

All of these teams work together during three basic phases of development: pre-production, production, and post-production. Pre-production involves all of the preliminary development tasks and schedule making necessary to start production. During pre-production, the primary goals are to “complete the game design, create the art bible, establish the production path, write up the project plan, and create a prototype” as well as do any technical prototyping of new technologies and prove to a publisher that the team “can make the game, and that the game is worth making.”<sup>106</sup> Production is the stage where tangible development happens. This phase typically begins after all the major aspects of the game have been approved. “The main tasks occurring in production are implementing the plan, tracking the game’s progress, and finishing the game.”<sup>107</sup> As such, each team is fully staffed and busy completing tasks and projects in order to stay on schedule. Once the game has been released, the development team can celebrate their hard work as they enter post-production. Post-production takes different forms depending on the studio and the type of game that was developed, but common tasks are post mortems, developing closing kits that contain the games code, the development and release of patches, and possibly the development and release of additional downloadable content (DLC).<sup>108</sup>

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<sup>106</sup> Ibid, 207.

<sup>107</sup> Ibid, 295.

<sup>108</sup> Bates, *Game Design*, 216.