



Scientia et Humanitas:
A Journal of Student Research

Volume 9 2019

Submission guidelines

We accept articles from every academic discipline offered by MTSU: the natural sciences, the social sciences, and the humanities. Eligible contributors are all MTSU students and recent graduates, either as independent authors or with a faculty member. Articles should be 10 to 30 typed double-spaced pages and may include revisions of papers presented for classes, conferences, Scholars Week, or the Social Science Symposium. Articles adapted from Honors or M.A. theses are especially encouraged. Papers should include a brief abstract of no more than 250 words stating the purpose, methods, results, and conclusion. For submission guidelines and additional information, e-mail the editor at scientia@mtsu.edu or visit <http://libjournals.mtsu.edu/index.php/scientia/index>

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EDITOR'S INTRODUCTION

One of the exciting things about *Scientia et Humanitas* is that as a journal showcasing student research, our contributors come from many academic fields of study across the Middle Tennessee State University campus. The *Scientia* tradition is proudly supported by the Honors College, and since 2011 the journal has provided a home for students who wish to share their work with the academic world. In this volume, we have work on topics as disparate as Navajo literature and quantum computing. While variety is important, our ultimate goal is to produce a journal of the highest quality. Our article acceptance rate this year was 42%, reflecting the competitive nature of our submissions process.

As a student of composition and rhetoric, I know the benefit of communicating effectively to an audience. I also understand the many challenges when attempting to be an effective communicator. Our journal's contributors have worked hard to produce manuscripts for publication, but they also endeavor to create pieces that have the potential to alter a reader's understanding of the world. Those who engage with Volume 9 of *Scientia* will undoubtedly benefit from these new perspectives.

This year's submissions underwent a rigorous review cycle from peers, editors, and faculty. Those who worked through the process and persevered have proven their unyielding dedication to excellence. Our team of staff members, all of whom are students, worked around busy schedules to provide contributors with quality editing and detailed feedback. These student editors are likewise worthy of admiration. I am proud of both the contributors and staff represented by our journal. This text is a monument to the labor and educational growth of all our participants.

Volume 9 boasts a diverse set of articles, half of which focus on religious studies and popular culture. **Hanan Beyene**, a junior in the college of Liberal Arts, gives an analysis of the critically acclaimed 2016 album *Lemonade* by Beyoncé Knowles-Carter through a mobilization of Delores S. Williams's definition of womanist testimony. **Ansley Morgan Pearson**, a graduating senior in animation, applies several theoretical concepts central to religious studies depicted by the world-building of Nintendo's beloved *Legend of Zelda* video game series. **Aaron Selby**, senior in behavioral and health science, reframes work of several scholars and the concept of soteriology in narrative in order to correlate the impact of films from Disney's "Renaissance" and American attitudes regarding salvation. **Madison Ellis**, a graduating senior named Student of the Year for the Philosophy department along with the Outstanding Undergraduate of the Year for the College of Liberal Arts, provides us with a rumination on the use of Aristotelian ethics in the business world. Ultimately, Ellis combines her understanding of both disciplines and outlines the incompatibility of these philosophies, stating that "it is imperative that we do not confuse the two, treating them as equals in practice and theory."

Miranda Uselton, a senior in Basic and Applied Sciences, provides an informative article with "Investigating Quantum Computation." She outlines the exciting recent developments in quantum computing in an accessible way that provides insights regarding the advantages new understandings in the field can have on machine learning,

mathematics, and cryptography. The article also covers the dangers of hackers who may use quantum computers to gain sensitive online data. Finally, in “Nádleeh and Trickster: Accounting for the Absence of Non-Binary Genders in Foucault’s *History of Sexuality*,” master’s candidate in English Studies **Jess Bennett** interrogates the role of the “berdache” in Native American society and literature. Bennett mobilizes a perceived gap of gender difference in Foucault’s work and evaluates this schism through the lens of Native American literature that explores both gender and sexual fluidity.

In closing, I would like to state that I believe *Scientia* is a journal that produces significant work and plays a valuable role at MTSU. My time as its editor has come to an end, but I am hopeful that this year’s volume will bring a sense of accomplishment to everyone who had a hand in its production. I am equally hopeful that this journal will be a teaching tool and an example to other members of our campus community in the future.

I would like to thank Jacob Castle, Gabrielle Morin, Katelin MacVey, Myranda Uselton, Michael McDermott, Brielle Campos, Britney Brown, and Matthew Spencer for all their hard work. Your kindness, camaraderie, dedication to the journal, and care for our contributors made this year a joy. Working with each one of you was an honor. I also owe so much to Marsha Powers whose experience and sage advice made everything easier. Susan Lyons has kept me afloat technologically speaking, and I am eternally grateful for her knowledge and assistance. I would have also been lost without the patient guidance of digital scholarship librarian Alissa Miller. Last but not least, I owe a debt of gratitude to our faculty advisor, Philip E. Phillips, who provided me with this opportunity. I have found his graciousness and wisdom to be invaluable.

Amy Harris-Aber
Editor in Chief

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Surviving Hardship Through Religion: Womanist Theology in Beyoncé's *Lemonade*

Hanan Beyene

Abstract

In 2016, Beyoncé's Lemonade premiered during a time of high political, social, and radical tension. Knowles creates an album that is not just about her, but also exhibits pride in blackness while revealing her vulnerability. Beyoncé exposed issues surrounding not only her relationship to her husband but also the African American community. Viewing Lemonade through the lens of Delores S. Williams's definition of Womanist testimony regarding the struggles of identity and survival, it is possible to trace this message retroactively through biblical times. Religious tools like The Curse of Ham caused a generational trauma within the African American community that created a brokenness that continues to resonate. Beyoncé exhibits religious allegories and themes through Womanist Theology by confronting the brokenness of her relationship in Lemonade. This includes the process of forgiving her husband's infidelity and preserving her family unit.

**Winner of the Deans' Distinguished Essay Award*

Introduction

Racial division became an increasingly incendiary debate during 2016. A major focus in the cultural landscape was police brutality; in the previous year, black men faced the highest rate of U.S. police killings,¹ which brought attention to the history of racism and discrimination within governmental institutions. The ongoing presidential race illustrated that “the political divide is much more about culture, identity, and race.”² Numerous people decried the rhetoric of Donald Trump, the Republican candidate, who they claimed spouted hate and bigotry. He incited passionate responses in large crowds regarding issues like immigration, women’s rights, LGBTQ rights, and other controversial topics. At the launch of his campaign, Trump justified a wall along the Mexico-United States border stating that, “[Mexico’s] sending people that have lots of problems, and they’re bringing those problems with us. They’re bringing drugs. They’re bringing crime. They’re rapists. And some, I assume, are good people.”³ The presidential race created an environment of polarization where the preexisting beliefs and opinions of the American populace were brought to the forefront; it became of great importance to identify people’s personal and political persuasions. The divisiveness of Trump’s rhetoric triggered intense reactions on both sides of the political spectrum. Amid these tensions, Beyoncé Knowles released music after a three-year hiatus. I postulate that Beyoncé composed and performed her music as an expression of Womanist Theology intended as representation for the African American community in response to a tense political era while also reflecting on the trials occurring in her personal life.

On February 6, 2016, Beyoncé dropped the song and music video for “Formation” from the album *Lemonade*; it openly celebrated black history, black beauty, and illustrated a clear political and personal opposition to police brutality. She would go on to perform the song at the Super Bowl 50 halftime show with Black Panther Party-themed outfits, celebrating “black power.”⁴ Beyoncé released the full album on April 23, 2016, and it immediately sparked controversy. The collection of twelve spoken word poems followed by lyrical songs revealed that Beyoncé’s long-time husband Shawn Carter, better known as Jay-Z, had cheated on her with another woman. This revelation was one of the most personal pieces of information that the superstar had ever given to the public. Before the release of her album, tensions between the couple had been evident: for example, the infamous 2014 elevator fight between Shawn and Solange (Beyoncé’s sister) brought much speculation about the couple’s relationship. Beyoncé, an infamously private individual, explains in detail the emotional cycle she went through in dealing with Carter’s infidelity in the duration of her album through 12 poems: intuition, denial, anger, apathy, emptiness, loss, accountability, reformation, forgiveness, resurrection, hope, and redemption. Each

poem is accompanied by a song detailing the emotional experience. The seeming conclusion of *Lemonade* is that forgiveness is the most significant outcome; it is perhaps the ultimate message being conveyed throughout the album. Beyoncé employs the concept of a generational curse and used the music and poetry of *Lemonade* to exemplify the pain men have historically caused their spouses within her family. She also created various cultural connectivity for her audience that revealed the frequency of male infidelity within the African American community.

In *Religion and Popular Culture in America*, Bruce Forbes describes the four ways in which religion and popular culture relate to each other: religion in pop culture, pop culture in religion, pop culture as religion, and religion and pop culture in dialogue. He argues that religious pop culture artifacts “might appear on different levels: through explicit representations, allegorical parallels, and implicit theological themes.”⁵ Beyoncé shows allegorical parallels and implicit theological themes in relation to the story of Hagar, which serves as a narrative to many struggling African American women. However, the biggest theological theme within *Lemonade* is Womanist Theology.

Womanism is a framework that prioritizes the intersectionality of gender, race, and class. This theological framework “draws on sources that range from traditional church doctrines, African American fiction and poetry, nineteenth-century black women leaders, poor and working-class black women in holiness churches and African American women under slavery.”⁶ In 1979, author and poet Alice Walker was the first to use the term “Womanist.” In the 19th and 20th century, Womanist scholars (like Katie Geneva Cannon, Dolores S. Williams, Jacquelyn Grant, and Cheryl Townsend Gilkes) “explore ordinary Black women’s activities for survival and community progress as practices that coincide primarily with the generalized racial uplift steam in Black religion.”⁷ Although Womanist Theology applies to slavery, I use this theology in a primarily social context, focusing the relationships black women encounter and experience with men within their community and private lives. At its core, Womanist Theology is survival. Williams defines Womanist Theology as “a prophetic voice concerned about the well-being of the entire African American community, male and female, adults and children” and “challenges all oppressive forces impeding black women’s struggle for survival and for the development of a positive, productive quality of life conducive to women’s and the family’s freedom and well-being.”⁸ In Beyoncé’s *Lemonade* album, the song “Sandcastles” signifies the pain of the generational curse put upon the African American community and the outcome of forgiveness being the pinnacle to Womanist Theology.

The Curse of Ham

If there is one story most associated with the history of slavery justification, it is the biblical story of Noah's son, Ham.

The sons of Noah who went forth from the ark were Shem, Ham, and Japheth. Ham was the father of Canaan. These three were the sons of Noah; and from these the whole earth was people. Noah was the first tiller of the soil. He planted a vineyard; and he drank of the wine, and became drunk, and lay uncovered in his tent. And Ham, the father of Canaan, saw the nakedness of his father, and told his two brothers outside. Then Shem and Japheth took a garment, laid it upon both their shoulders, and walked backward and covered the nakedness of their father; their faces were turned away, and they did not see their father's nakedness. When Noah awoke from his wine and knew what his youngest son had done to him, he said "Curse be Canaan; a slave of slaves he be to his brothers."⁹

There is debate regarding the translation of Genesis 9:25 pertaining to whether Ham himself or Canaan was cursed; however, as Christianity became widespread, many associated Ham as the sole carrier of the biblical curse for several reasons. Ham is described as:

...the father of four sons: three...who became the ancestors of various dark-skinned African people and...only Canaan, the nonblack ancestor of the Canaanites, was cursed with slavery....there are two ways that once could, by manipulation of text, link blackness and slavery: either push the curse of slavery onto a genealogically and etymologically black Ham, or make the biblically enslaved Canaan the ancestors of black Africans.¹⁰

In his book *The Curse of Ham*, David Goldenberg explains how "when Bible readers began to see Ham, in place of Canaan in Noah's Curse, we have an implicit link between blackness and slavery...serving to maintain—by divine mandate—the social order."¹¹ J.J. Flournoy, a proslavery author, wrote in 1838, "The blacks were originally designed to vassalage by the Patriarch Noah."¹² The belief that Ham was black (or at least the darkest of the brothers) is evident in the use of Christianity to justify the institutional racism against African Americans. This Biblical view of black Africans carried true impact when brought over to the West. Goldenberg mentions a 1969 study conducted on educational materials from the American Lutheran Church and found that "the church interpreted

Gen 9:25-27 in a way that justified Black slavery and/or segregation, and it had done so both intentionally and inadvertently.”¹³ James Baldwin, a prominent African American writer, said “I knew that, according to many Christians, I was a descendant of Ham, had been cursed, and that I was therefore pre-destined to be a slave.”¹⁴ The strong racist ideals that became integrated into various institutions of America causes black people to be systematically oppressed. In his book, *Democracy Matters*, Cornel West sees that “the ways in which the vicious legacy of white supremacy contributes to the arrested development of American democracy.”¹⁵ Due to how intertwined racism and religion became, the line between the two were blurred. Jim Crow laws created more trauma on the black community with second-class citizenship, segregation, and violations of human rights. Due to the continuous disadvantages faced by the black community, the black community faced many different obstacles.

The trauma experienced by the black community creates a different psychology compared to other races. With the Curse of Ham having such an effect on modern society, the generational trauma passed down creates a stressful and disadvantaged life for African Americans. This creates distrust and psychological distress within the black family. In a study conducted by the Institute for Family Studies, cheating rate among men is highest in black males at 28% while white men are at 16% and Hispanic men at 13%.¹⁶ The noticeable difference of black men’s rate of infidelity exhibits a sign of brokenness specifically with the African American couple.

At the beginning of *Lemonade*, Beyoncé is suspicious of her husband’s behavior in “Pray You Catch Me.” In “Denial,” Beyoncé, seemingly to Shawn, speaks of how Jay-Z reminds her of her father. The song “Daddy Lessons” gives insight to Beyoncé’s relationship with her father, Matthew Knowles. Beyoncé sings of the nostalgic memories of spending time with her father and the advice of strength he gave to her. Her father warns her to stay away from men like him. This, of course, relates to her relationship with Shawn. The Knowles family experienced their own struggles with infidelity; Matthew Knowles cheated on wife Tina (Beyoncé’s mother) and fathered another child during their marriage, ultimately resulting in divorce. The generational curse within her family gave Beyoncé a lens through which to view the distrust between romantic partners in her bloodline; she felt that she was inevitably cursed to fall in love with a man who would share tendencies with her father.

From this juncture, Beyoncé shifts into a contemplation, recounting Shawn’s feelings of inadequacy that caused him to believe himself undeserving of love. Ultimately, Beyoncé sees Shawn Carter as the love of her life, and in coming to this realization, Beyoncé declares to listeners that “if [we] are going to heal, let it be glorious.”¹⁷ She opens herself

to the possibility and determination of forgiving her unfaithful partner, and in doing so Beyoncé declares that “[this] is a curse that will be broken.”¹⁸ The song that signifies this transition is soulful, employing a simple piano ballad accompanying Beyoncé voice. The song contains three verses which can be summarized as movements of resolution.

“Sandcastles” Lyric Analysis

The eighth track of *Lemonade* serves as an example of how the entire album deals with the issue of infidelity and how it impacts the family unit. In the first verse of her song “Sandcastles,” Beyoncé employs a metaphor of an ephemeral structure to represent the foundational underpinnings of her marriage that she previously considered secure.

We built sandcastles that washed away
I made you cry when I walked away, oh
And although I promised that I couldn't stay, baby
Every promise don't work out that way
Every promise don't work out that way.¹⁹

Beyoncé admits that their promises to each other, along with various aspects of the relationship, are on a weak foundation. She leaves because the issues that arise between the two are overwhelming. Beyoncé admits that though her decision to separate from Carter seemed final, she was ultimately able to return because of their bond. The second verse goes on to display how tension between the two turned violent and hostile; there are depictions of dishes being smashed and pictures torn “when every promise don't work out that way”²⁰ demonstrating how she cannot “[scratch] out” the name, face, and memory of her romantically infidelitous partner although she is seemingly frustrated with the question of why she still holds tightly to his memory and ultimately, their relationship.

In the third verse of the song, Beyoncé sees her husband and wants him to emotionally reveal his vulnerability; her hope is that he will trust her. She is emphasizing the renewal of her commitment towards what she has originally promised: to be there for better or for worse. The song brings raw emotions and vulnerability into Beyoncé's album and shows how she is letting forgiveness enter her relationship and life.

And your heart is broken 'cause I walked away
Show me your scars and I won't walk away
And I know I promised that I couldn't stay, baby
Every promise don't work out that way, no no no no
Every promise don't work out that way.²¹

This song, so intently focused on the healing process, reflects the need for healing in the African American community. This extends to the communal relationship between people of color as well as family bonds impacted by the systemic results of discrimination.

Significance of Representation & Forgiveness

Redefining the representation of black women of the Bible in Womanist Theology brings empowerment and motivation to black women who experience trials from sexism and racism. A prime example is Hagar, a slave in the book of Genesis. Williams argues that Hagar is a true representation of the pain and struggle of black women, especially for black mothers. Hagar was a slave of Abraham and worked as a servant to Sarai (Abraham's wife). When Sarai could not conceive, she forced Hagar to be her surrogate. To Sarai, being a mother is a privilege that she cannot have and does not see the issue with "offering" her servant to have Abraham's child. In her status, Hagar had no choice but to obey Sarai's order and soon finds herself pregnant. Due to conflict in the family, Hagar flees into the wilderness and liberates herself. Her absence "means that Sarai cannot become a mother as she had planned. There will be no son to carry on Abram's posterity and inherit the family fortune."²² Hagar goes into the wilderness pregnant and with no support when God appears to her. God promises to Hagar hope for "the survival of her generation [and also] hope for the possibility of future freedom for her see"²³ if she returns to Abraham and Sarai. Hagar's wilderness experience "holds in solution a woman's self-initiated liberation event, woman's alienation and isolation, economic deprivation, pregnancy and a radical encounter with God, which empowers the female slave of African descent to hope and to act."²⁴ Although she could not have freedom in her life, Hagar's descendants can have the privilege of living a life better than hers. Williams argues that Hagar connects so strongly to the African American community due to the relatability of her story.

Hagar has 'spoken' to generation after generation of black women because her story has been validated as true by suffering black people. She and Ishmael together, as family, model many black American families in which a lone woman/mother struggles to hold the family together in spite of the poverty to which ruling class economics consign it. Hagar, like many black women, goes into the wide world to make a living for herself and her child, with only God by her side.²⁵

Beyoncé also uses her lifetime experience to broaden the scope of black representation. In "The New Cultural Politics of Difference," Cornel West explains the notions of

“the real Black community” and how black women have been at the forefront of critiquing and criticizing the colonized world in which the black community lives. He says, “the decisive push of postmodern Black intellectuals toward new cultural politics of difference has been made by powerful critiques and constructive explorations of Black diaspora women.”²⁶ Using her platform, Beyoncé contributes to the effort that Womanist theologians are working towards to create a broader understanding of what it means to be black, to be woman, and to be a black woman.

The power of forgiveness is what truly allowed Beyoncé and her family to not only to survive but also to thrive. Forgiving Shawn brings Beyoncé into a space where they can both grow and supersede the expectations of her own familial traditions as well as the stereotypes of a prejudiced society. Instead of adversaries, they find that they have become equals and are stronger as a unified force. In Womanist Theology, the importance of survival is key to the black woman. Beyoncé was by herself in the first half *Lemonade* and wandering in the wilderness. She was confronted with the past generations before her who failed in relationships and with the potential future of her daughter where she will be prone to fall in love with the same man and continue the cycle of infidelity just as her foremothers did. However, she decides that it is necessary to stop the cycle of distrust and separation; she ultimately chooses to forgive her husband. It is not an easy process, but it is necessary to avoid repeating a destructive pattern.

Conclusion

Beyoncé becomes extremely political with messages about police brutality targeting black Americans in *Lemonade*. She shows “stereotypical” black behavior and takes pride in who she is and where she comes from, saying “my daddy Alabama, momma Louisiana. You mix that negro with that Creole, make a Texas ‘bama. I like my baby heir with baby hair and afros. I like my negro nose with Jackson Five nostrils.”²⁷

Beyoncé’s experience and her representation of being unapologetically black resulted in her album becoming a defining musical achievement of 2016. It is not unlikely that the impact of *Lemonade* will be felt for generations to come. The publication *Rolling Stone* named *Lemonade* the #1 album of 2016, calling it “a sign of hope amid all the emotional and political wreckage.”²⁸ *Lemonade*’s success is significant due to the political climate of 2016, with the presidential election and social strife, and the album was widely hailed as brilliant because of its overt confrontation of controversial issues such as race, gender, and class. It brought attention to the issues African Americans face in a systematically racist society and does not shrink away from difficult conversations.

In sharing her experience, Beyoncé tells the story that too many black women relate to and opens a conversation within the African American community. Addressing the

pain between black man and woman encourages both to be viewed as equals and, much like Beyoncé's relationship, allows them to heal together against a deeply racist society. Beyoncé shows in her *Lemonade* film the origin of the album's title. In the spoken word piece "Redemption," Beyoncé gives voice to a piece written by poet Warsan Shire that evokes a near religious mysticism to the generations of women who have come before her. "Grandmother," she says, "The alchemist. You spun gold out of this hard life. Conjured beauty from the things left behind. Found healing where it did not live. Discovered the antidote in your own kitchen. Broke the curse with your own two hands. You passed them down to her daughter, who then passed them down to her daughter."²⁹ This moment in *Lemonade* reflects the strength that black women have shown; despite hardships, they continue their lives and prosper. In "All Night," Beyoncé sings a ballad of sacrifice and true love, promising her husband that they will heal and make it through this. Like a true Womanist, Beyoncé was served lemons, but she made *Lemonade*.

Endnotes

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The Legend of Zelda: A Religious Record

This is but one of the legends of which the people speak . . .

- *Legend of Zelda: The Wind Walker*

Ansley Morgan Pearson

Abstract

This essay evaluates the religious allusion and construction found within Nintendo's The Legend of Zelda video game series by utilizing several religious studies theories in an effort to examine the meaning-making phenomena the series creates for players. The series' 3D entries are analyzed using Forbes and Mahan's framework from Religion and Popular Culture (for describing relationships between religion and popular culture) to examine religious imagery and iconography within the Zelda series, and how such representation has changed over time. The series' gameplay elements are evaluated using Rachel Wagner's arguments from her book Godwired which explores the ritual nature of video games as a way of explaining the persisting religious nature and meaning-making systems present in the series. Finally, the narrative direction and storytelling are examined using Joseph Campbell's "Hero's Journey" in an effort to understand the series' underlying spirituality and lasting appeal. This is all in an effort to examine the Zelda series' relationship with religion, the narratives and experiences it creates under such a relationship, and the conversations about religious narratives and ritual storytelling that Zelda creates space for in the intersection of religion and popular culture, ritual and play.

Legend of Zelda series is a Nintendo video game franchise that follows the high fantasy adventures of a young warrior named Link on his quest to save his kingdom and Princess Zelda from ruin. At first glance, the game's story may read as a common medieval adventure game, but the series' lore runs deep and spins webs of religious allusion, cultural homage, and narrative invention. Zelda's relationship with religion has a complicated history, and an even more complicated future. It is productive to evaluate the instances of direct religious allusion within the series' story and game design as well as the evolution of the series' in-game religion in the 3D entries or "Hylianism." My work also interrogates Joseph Campbell's familiar narrative structures and how they become a productive way of engaging with the *Zelda* universe. This essay will closely examine 3D games (open-world entries that allow players to move in 3-dimensional space) as those entries have had the most influence in shaping *The Legend of Zelda's* religious structure.

The *Zelda* series chronicles an evolution of religious narrative that reveals an underlying struggle between criticism and commentary on existing belief systems and reverence for those same systems when they served as inspiration. Both in-game and in real life, the series has a complicated history with religious depiction. What starts as mere background detail invoking Christian symbolism evolves into a polytheistic holy war documented across reincarnated players and a confounding timeline of events. The dialogue between religion and *Legend of Zelda* has produced a plethora of narratives that demand examination. I employ Bruce David Forbes' relationship model (2017) to evaluate the series, examining where religion appears in *Legend of Zelda*, *Legend of Zelda* in religion, and how *Legend of Zelda* and religion have been in dialogue with one another. However, in order to grasp these concepts, it is important to understand the narratological context focusing my work.

Religious Allusion within *Zelda*

Every *Zelda* game follows a similar structure: players inhabit the role of a heroic young elven boy who wakes up to find the world is ending. Sometimes it is the moon barreling towards the earth, sometimes it is a wind mage trying to seize power, and sometimes it is a giant sea monster corrupting the world. Most of the time, participants are pitted against a reincarnation of the demon king, Ganondorf, who is after the ultimate power of your world; the Triforce. Most players cannot beat him right off the bat; the hero must grow into their power first. That means crawling through several dungeons, collecting magical items, and breaking a few curses. When players have evolved, they make their way to the Final Boss Battle and slay the evil plaguing the kingdom. It is an apocalyptic hero's journey narrative, but each step holds religious significance. Depending on the entry, that significance is either to the game-world or to the corporeal world.

The *Legend of Zelda*, the first game in the series, was released in February of 1986 on the Famicom Disk System (Aonuma 2011). Since then, the series has grown to include eighteen titles on over ten different consoles, with the most recent release being the critically acclaimed *Breath of the Wild* on the WiiU and Nintendo Switch. In the series' early days, religion was merely alluded to through in-game details: a cross on Link's shield

and graveyard headstones, locations of a church, and obtainable items including a crucifix and a Bible (Aonuma 2013). *A Link to the Past* was originally released as *The Triforce of the Gods* and heavily alluded to Christian imagery, but the title and some of the design elements were altered to meet with American censorship regulations. Since its early days, the series was designed to align Link, and therefore, the “good guys” with western perceptions of religion, specifically Christianity. This alignment that sides heroes with Christianity inadvertently brought the baggage of colonialism and western bias into the series. To combat the issue, *Zelda* would eventually turn from religious allusion to religious construction.

Nintendo’s problematic use of religious allusion became most apparent in the 1998 release of *Legend of Zelda: Ocarina of Time*, one of the first ever 3D console games. The antagonist of that game, Ganondorf, comes from a tribe of desert-dwelling thieves, whose symbol originally very closely mirrored the Islamic moon and star. Additionally, Nintendo combined a Muslim prayer and examples of cultural music found in Muslim societies as one thematic aspect of the game’s Fire Temple. The prayer used is not meant to be paired with music; by doing so, Nintendo not only appropriates but insults the Islamic faith. Due to implications surrounding Islamic-coded antagonists against Christian-coded protagonists, and the misuse of symbolism and music, the game was re-released with these offenses removed. In being direct with its allusion and apparent in its bias, the *Zelda* series alienated and offended many players. Being so direct proved challenging for a game series wishing to appeal to a world-wide audience.

Nintendo tried religious allusion again in the 2010 entry, *Skyward Sword*, by only drawing design inspiration and referencing religion in its visuals. Most notable are an angel-like depiction of the Goddess Hylia, the exemplary figure for the Hylian people, and a dungeon that reflected Buddhist and Hindu theology and imagery. While the angelic figures of relative modernity are traditionally thought of as a Christian staple, the imagery and idea of heavenly beings has since expanded into mainstream imagery. The reference drew more from cultural and artistic interpretations, such as Renaissance painting and sculpture, than from religion itself.

A dungeon featured in the game was referred to as the “Ancient Cistern,” and featured two layers: an upper, heavenly layer in warm colors and water features, and a hellish lower layer in cool colors and jagged rocky features. The centerpiece of this dungeon is a giant statue that resembles a buddha. The big boss at the top of the dungeon is a six-limbed automaton reminiscent of the many-armed Hindu god Shiva. One section has Link climb up from the lower chambers on a slim rope, in an obvious nod to the Buddhist short story *The Spider’s Thread*, by Japanese writer Ryūnosuke Akutagawa. In this story, the Buddha is looking through the clear waters of a pool into hell, and he sees a sinner who once spared a spider. The Buddha pities him and lowers a spider’s thread to allow the sinner to climb up to paradise. In *Skyward Sword’s* version, Link must climb up a lone rope before a small army of zombie monsters overtakes him. The journey to hell and back works thematically and mechanically in the dungeon’s design. Through these faithful

design choices, *Skyward Sword* corrected the mistakes of *Ocarina*; the allusions pay respect to the narrative and visual inspirations without twisting or misusing the source material. This entry also marks the series' decisive switch from incorporating real-world religion to creating its own.

In addition to these more direct religious references, *Zelda* also codes its language and narrative elements to evoke religion. These elements play a role in more than just laying the foundations for *Zelda* to build its own theology; they also create a religiously charged experience for players. The dungeons which, in the gaming mechanics context are contained areas involving puzzle-solving, boss fights, and item looting, are often referred to as "Temples." Some of these are recurring; the Temple of Time has appeared in four games so far. Link is often aided on his journey by "holy" beings, such as the Sages (who in different regional releases of the games have been referred to as priests), the Sheikah (a tribe whose sole purpose is protecting the royal bloodline of the Goddess Hylia) and all manner of mystical spirits, fairies and monks. The central conflict of the series draws heavily on Judeo-Christian themes of apocalyptic narratives, detailing an eternal war between demonic and heavenly beings. The visual depiction of Hylia bears an angelic design. Her people, referred to as Hylians, have pointed ears that allow them to "hear the whispers of the gods," which is also reminiscent of "chosen people" narratives. Even the game mechanics arrange themselves into blatant ritual. *Ocarina of Time* tasks Link with purifying the sage temples that Ganondorf poisoned with dark power (Aonuma 1998). *Twilight Princess* hosts several scavenger hunts that result in Link restoring Light Spirits to their former glory (Aonuma 2006). Several items in Link's inventory are received through or used in ritual; for example, drawing from Link's blade named the "Master Sword" requires the player to have completed a certain portion of the game. It is used narratively as a sealing device or a key.

Link's varied musical instruments contain ritual power and enact certain effects on the environment to Link's advantage. *Breath of the Wild* conducts any life gauge or stamina gauge upgrades through prayer and veneration of Hylia statues found through the world and follows Princess Zelda's journey of Hylia veneration and physical purification by baptism as she embarks to different Goddess Springs (Hidemaro 2017). The series features countless instances where religious language and allusion have dictated game design. Yet the series does not simply stop at allusion; in addition to implementing religion into the structure of the games themselves, the series also developed its own in-game religion, Hylianism.

The Religion of Hylianism

In response to both the criticism of past religious allusion and the pre-existing foundation of religiously coded game design, *Zelda* began to formulate an in-game religion. Within this fictitious belief system, Nintendo has the freedom to explore religious narratives and themes without risking offense. The game-related religion Hylianism has roots in Christianity but has since drawn elements from other major world religions, including Judaism, Greek Mythology, Egyptian Mythology, and Hinduism. It is poly-

theistic, cyclical, and ritual-driven. According to the creation story recounted in *Ocarina of Time*, the land of Hyrule was created by three golden goddesses: Din, Goddess of Power; Nayru, Goddess of Wisdom; and Farore, Goddess of Courage (Aonuma, 1998). Like Judeo-Christian creation stories, these divine beings came to a space of nothing and brought light. They formed the world, then left it to the care of Goddess Hylia, who would become the patron deity of the Hylian people. The physical point where the three goddesses returned to the heavens became an artifact of immense divine power, the Triforce.

The Triforce is an unmediated, morally neutral object that grants the wish of whomever possesses it, so long as that person's heart has a balance of Power, Wisdom and Courage. In *Ocarina of Time*, the main players of this recurring narrative are established: Link, a boy from the forest who grows into a savior figure and serves as the avatar the player controls; Zelda, a divine princess blessed with omniscient powers and prophetic abilities, who is tasked with protecting her kingdom and the Triforce; and Ganondorf, a desert king of thieves whose ambition and greed cause him to pursue the Triforce, destroying anything that impedes him. The three attributes of the Triforce—power, wisdom, and courage—are best embodied by Ganondorf, Zelda, and Link, respectively. There are instances in-game of various people worshipping one goddess more than the other two, and it is widely accepted that each goddess serves as a patron deity to the mortal who wields her piece of the Triforce. Aiding Link and Zelda are the Sheikah tribe, who serve as attendants to the royal family, and any number of sages, who operate in the same capacity as priests or shamans. This game is also the first to feature a few of the recurring religious locations, including the cathedral-inspired Temple of Time and the Sacred Grove. *Ocarina of Time* provided the foundations of Hylianism with an established divinity, a rather over-powered divine artifact, religious structure and hierarchy, and exemplary figures that take part in pre-existing narratives. In all entries after *Ocarina of Time*, the lore of this “religion” is expanded and refined.

In the 2006 release of *Twilight Princess*, the royal family's history appears connected to the Crusades; because of them, an entire tribe of magic users has been banished. A cutscene reveals that the tribe of magic users or “interlopers” sought to create a power to rival that of the Triforce: however, this was interpreted as sacrilegious and the Light Spirits banished this tribe to a netherworld to rot (Aonuma, 2006). Both the game's antagonist and Link's companion and guide originate from this tribe, who are known as the Twili. Design notes from *Hyrule Historia* denote the Twili as being inspired by Middle Eastern peoples, harkening back to the subtly coded language of the games' religious allusions (Aonuma 2013). The lore of *Zelda* expanded to include notions of nationalism and cultural erasure. The Twili in this context can be interpreted as a stand-in for any displaced peoples slaughtered during the Crusades. In substituting Europe with Hyrule, *Twilight Princess* ascribed colonialism (and its baggage) to the Hylian royal family. No longer is the series a simple story of heroes against villains; with *Twilight Princess* the series begins to move away from the binary of good and evil, sacred and profane, and moves

more towards a complicated, realistic tangle of history and competing perspectives.

The narrative is further complicated by the 2011 entry, *Skyward Sword*. This game canonically takes place first in the official Zelda Timeline and fills in key information surrounding the gods and the cyclical nature of the games. The main addition is the goddess Hylia, who was created to protect the Triforce and the people of Hyrule. Over the course of the game she abandons her divine form and is reborn as the first Zelda, which provides explanation for the matrilineal tradition of the Royal family and Zelda's power: she and her descendants bear divine blood. The kingdom of Hyrule then follows an Egyptian-style government system, where a "pharaoh" or holy being holds divine sovereignty over the land and this divine right passes down a family line. The opening prologue of *Skyward Sword* also establishes the overarching conflict behind the series in more specific terms, telling the tale of "malevolent forces" that "rushed forth from a fissure," using their destructive forces to harm and terrorize humanity as well as the earth itself. This mayhem is perpetrated with the intention of commandeering "the ultimate power protected by Her Grace, the goddess. The power she guarded was without equal... Such was the might of the ultimate power that the old ones placed it in the care of the goddess." Finally, the goddess rescues surviving humans and sends them "skyward, beyond the reach of the demonic hordes." The goddess then returns to her land to fight evil forces, which are eventually vanquished. This is the entry point for players who are told, rather ominously, that a "new legend bound to this great story stands ready to be revealed."

The evil antagonist in *Skyrule* is Demise, the King of Daemons; he is described as hatred and malice incarnate. At the end of the game, after Link has defeated him, Demise curses Link and Zelda. He claims that his hatred will endure for ages to come and, indeed, he comes back as the evil Ganondorf. It is rigorously theorized by fandom that this caused the cyclical nature of the Zelda games; Link and Zelda are reincarnated whenever the hatred born of Demise returns, and the apocalyptic narrative begins anew (Hidemaro, 2011).

With the introduction of Hylia in *Skyward Sword*, veneration of the goddess became a major design feature. Unlike her three sister goddesses Hylia has statues, monuments, ceremonies, and a crest that would eventually become the crest of the Royal Family. It is also canonized that Link's blade, the Master Sword, houses a robot-like spirit named Fi, which re-wrote the spiritual implications of all instances of that item; it, too, is a holy artifact with a set purpose. Certain materials and objects house power, and these phenomena is explicated more thoroughly by two important story mechanics: the forging of the Master Sword and the introduction of materials such as the time-shift stones and the goddess cubes (both from *Skyward Sword*). To "power up" his blade throughout the game, Link must pass three trials, perform three musical pieces on a holy instrument, and participate in rituals at preordained locations, all of which are overtly ceremonial and reverent to Hylia.

The time-shift stones and goddess cubes exemplify the ability of certain materials to house power that can only be accessed by specific items or people (Hidemaro, 2011). It

also demonstrates how certain items can affect time and space, drawing from the established concept of reality-shaping power established in the Triforce. *Skyward Sword* refined the foundations of Hylianism and gave the Hylians a deity to worship while informing some of the ritual practices, government structures, and artifact rules of the series. Through these developments and refinements, *Zelda* transitioned further away from religious appropriation and allusion by cementing the framework of its own original religion.

The 2003 entry, *The Wind Waker*, adds yet another layer of complications and parallels. This game plays with an alternative ending to the biblical story of Noah's Ark; the premise of *Wind Waker* states that the gods flooded Hyrule to prevent evil from razing the land. The result is a literal ocean of an overworld, with the Kingdom of Hyrule and the old legends nothing but distant memory. Throughout the game, Link encounters remnants of the old world, sinking below the waves to visit the grave that is Hyrule. The final battle takes Link beneath the waves, out of Hyrule Castle and up the way to Ganondorf's tower, echoing locations from *Ocarina of Time*. Just before Link faces off against Ganondorf in *Ocarina*, the villain makes these states that the Kings and citizens of Hyrule have been naive in the faith that one day "the left behind people . . . would awaken Hyrule." Ganondorf's justification of his malevolent actions, both in *Wind Waker* and *Ocarina of Time*, by explaining an inherent jealousy for the comforts the people in Hyrule enjoyed compared to the environmental dearth of his homeland, stating further that,

My country lay within a vast desert. When the sun rose into the sky, a burning wind punished my lands, searing the world. And when the moon climbed into the dark of night, a frigid gale pierced our homes. No matter when it came, the wind carried the same thing . . . Death. But the winds that blew across the green fields of Hyrule brought something other than suffering and ruin. I coveted that wind, I suppose (*Wind Waker*, 2003).

This introduces the modern ideation of apathetic gods and the question of who is favored and allowed providence, as well as adding a member to the modern troupe of sympathetic evildoers. *Wind Waker's* Ganondorf presents himself as more of a tragic hero than a pure villain and seems to have been consumed by greed in his pursuit of a better life for his people (Aonuma 2003). His monologue also points out the imbalance of favor that employing the Triforce creates. Indeed, it is clear that while Hyrule thrives, other countries suffer. Ganondorf's intentions may stem from a sense of justice, but his actions ultimately bring ruin on all involved parties. Hyrule remains in its underwater grave at the end of the game.

By questioning the intention of the gods, *Wind Waker* sets up the problem of authority in Hylianism. For narrative reasons, it is understood that Zelda's bloodline will serve as royalty, but Hyrule is the kingdom, not the world. The *Zelda* series has a rich tapestry of races and cultures woven into the world-building, yet the land appears prosperous only when the Hylians hold control over ritual power (namely the Triforce). Whether this is a

plot choice to clear the divide between friend and foe, or a by-product of Hylian ancestral efforts, *The Legend of Zelda's* in-game religious history now boasts ambiguous authority figures and questions of whom has a right to power and prosperity. In going beyond simple allusion and appropriation, the *Zelda* series created a rich and complex religion that fits naturally into its existing lore, while keeping the player grounded in the mythos of the real world. Therefore, Hylianism resulted from a shift away from religious allusion to religious construction, but in that construction remains the veins of socio-cultural commentary. The shift also allowed for Nintendo and the player to generate more meaningful and personal interaction with religious narratives.

The Ritual Nature of Video Games

Rachel Wagner, author of *Godwired*, examines the relationship between video games and interactive ritual by evaluating narratives, interactive structures, and other performance or 'play' phenomena within a closed system, what she dubs the "magic circle." In her words, "the magic circle . . . can apply to any bounded system characterized by rules and some fixed mode of performance" (p. 86). In the context of *Zelda*, the magic circle is the game world as one sees it through their console screen: from Link's perspective. One of Wagner's main arguments finds a strong similarity between ritual and game-play, in that both set aside time and space, create a closed system of rules and follows a set narrative. The one difference is that religious ritual aims to reinforce theological ideas and social constructs, adhering the performance more to fate and predetermined endings; video games allow participants more freedom in dictating the narrative they are enacting. For the *Zelda* series, Wagner's studies on apocalypse narratives and customizable identities provide insight into the allure of playing the hero and saving the world.

Wagner (2011) argues that video games often follow the apocalypse narrative structure; that is, a time sensitive, worlding-ending framework wherein a chosen savior manages to fend off ultimate destruction. The two major components of this structure are time-sensitive countdowns and divine intervention. *Zelda* does often fit apocalypse structure, with most of the games in the series having been designed to guide players down a linear sequence of events in which Link is trying to prevent the destruction of Hyrule. One of Wagner's arguments illuminates another complicated aspect of the *Zelda* series, noting that in the Judeo-Christian traditions, "one very obvious difference between these genres is in the representation of violent agency in bringing about humanity's salvation. In traditional apocalypses, visionaries look forward to rewards for the faithful and punishment for the wicked as enacted by God" (Wagner, 2011, p. 201). This is a comment on the distribution of "smiting power" between religious traditions and video games: the latter grants it to mortals while the former reserves that kind of power for the divine. *Zelda* does both, and this causes the Triforce to stand alone as fascinating creation, both in lore and as an artifact: it is this holy power that often decides the ending of the *Zelda* narratives and this holy power is born directly of the highest gods in the game's religion. As *Zelda* relays to Link in a *Skyward Sword* cutscene, "For while the supreme power of the Triforce was created by gods, all of its power can never be wielded by one. Knowing this power was

her last and only hope, the goddess gave up her divine powers and her immortal form” (Hidemaro, 2011). It is widely speculated that the gods did this to give hope to their mortal creations. Most apocalypse structures reserve such power for the gods alone. For *Zelda* to grant that power to its players reflects the trend noted by Wagner; video games grant agency to players within narrative structures that religiously they may not have held. Fate seems less imposing, and by performing the role of savior, the player takes a more personal investment in restoring the world and defeating the evil.

Video games also allow for more possibility in how one saves the world. The direct sequel to *Ocarina of Time* breaks away from the traditionally linear narrative structure and instead modified the apocalypse narrative into a time loop. In this game entitled *Majora's Mask*, Link has three days to defeat a demonic mask before it can summon a moon to crush the world. He is granted the ability to reset the in-game timeframe at will by playing the “Song of Time” on his ocarina (Aonuma, 2000). This manipulation sets *Mask* apart in the series: on the one hand, one has all the time in the world to complete player objectives; on the other, the limited time-frame of each cycle demands that participants be strategic in what they strive to accomplish. *Majora's Mask* also boasts a more direct threat to the game world. Should a player fail to reset time before the ever-present on-screen timer reaches 00:00:00, they are treated to a horrendous cutscene where the moon succeeds in barreling into the earth, sending the entire overworld up in flames. Countdowns, both in apocalypse narratives and game-play, serve to provide users with a sense of urgency and a continual push forward in the story. Wagner notes that while video games follow a trend of granting players more agency and freedom within that magic circle, that freedom is recognized by the players themselves. The game world and the ritual world both follow their own established rules, and *Majora's Mask* demonstrates this idea perfectly. Players can reset, slow down, and speed up time within the mechanics of gameplay, but are still limited by the game’s code that restricts them to a three-day period. They can only manipulate time within the defined bounds of the magic circle.

For Wagner, this reflects a humanistic trend of seeking structure and order. She argues that “the appeal has something to do with the sense of accomplishment and territorial control; by visiting other imagined worlds, we enter into spaces that are structured, ordered, programed and predictable . . . we know before we even play that [games] are winnable” (p. 198). Video games allow players to be the agent of change themselves. Within the *Zelda* series, Link is designed to allow players full, uninhibited immersion into the game world.

Another of Wagner’s arguments centers on customizable identity. In the chapter, *Me, Myself and Ipod*, she explores the theory of “hyperidentity” or “the selves we create in various online environments” (p. 108), outlining the impact alternative modes of self-expression have had. Wagner concludes that this resulted in a technological revolution as it pertains to religious engagement; this includes the substantial influence of video games.

Hyperidentities and imagined selves are a natural result of game design and online interaction; the very concept of an avatar follows this idea. Players take on a role that is

not themselves and use that avatar as a medium from their world to the virtual. Link is a blatant example of an avatar who performs in this capacity. *Zelda* series creators claim that Link's name comes from his role as the 'link' between the past and the future, between player and the game. Link's personality is intentionally left blank; he has no overt interpersonal characteristics, having almost no in-game dialogue outside of his trademark "Hiyaah!" and "het! HAAAhh!" Up until *Breath of the Wild*, players could even customize Link's name to their liking. He embodies the idea of an immersed, personal gameplay experience (Aonuma, 2013) and the series creators wanted their controlled avatar to be someone players could step into. The 'play' of *Zelda* means quite literally taking on different roles, such as a messianic savior, or as a child navigating the transition to adulthood or the adventurer navigating danger.

Wagner (2011) argues that online virtual identities are inherently fluid and shifting, as they reflect one's ongoing dialogue with their own identity within a closed system free of the social restraints and expectations of the real world. Virtual identities serve as playgrounds for the mind and the ego, as they hold no real-world consequence for experimentation. Within the *Zelda* series, this plays out in how people name Link, move him through the story, and choose his path forward. As with every game in the *Zelda* series, not all playthroughs will go in the same order or even have the same number of cycles. How players react to the structures in place and how they in turn control Link's reaction reveals player priorities and actions. In essence, by having no personality, Link has been given every personality.

In this way, Link's identity is personalized to the player. This gives the player freedom to wrestle with apocalypses, make and lose friends, fight demons, slay dragons, solve puzzles and grow in power and inventory. As Wagner describes it, imagined identities are a way for people to collect and understand themselves, and are inherently meaning-making in their practice. By her logic this process is a religious act (p. 125). In playing through the 'legends' of the *Zelda* series, we embark on our own spiritual journey, traversing this religious-laden mythos in search of our own heroic identity.

The Hero's Journey and Spirituality

Spiritual exploration has always been a major component of the *Zelda* games. Coded language in-game aside, the mythic elements of *Zelda* resonate with medieval knights, ancient warriors, and monster-slayers. Creators have combined tropes with the personal growth of a single heroic protagonist. For example, whenever Link defeats a dungeon boss, he receives a heart container; this grants him additional lives. Joseph Campbell's documentary *The Power of Myth* (1998) explores the familiar "Hero's Journey" and describes this journey as being one of fundamental growth. "It's a cycle – it's a going and return that the hero cycle represents. But then this can be seen also in a simple initiation ritual, where a child has to give up his childhood and become an adult" (Campbell 1998). *Ocarina of Time* takes that idea quite literally; Link is a child at the beginning, but must wield the master sword to beat Ganondorf because drawing out the sword requires a certain amount of power. Nintendo's solution is to seal Link in a "holy" void space until

he reaches adulthood. The player is then allowed gameplay as either child or adult version of Link. Inventory and the accessibility of the in-game world is limited based on the age players select for their avatar. The series draws upon Campbell's framework and explores what it means to journey into adulthood while simultaneously allowing for the liminality that most young people experience between childhood and adulthood.

Campbell argues that stories following the Hero's Journey are primarily self-reflective and resonate with audiences because they pry at the deeper mysteries of identity and self-realization. In his words, "myths bring us to a level of consciousness that is spiritual" (Campbell, 1998). In a game series where creators designed their avatar to be a blank slate onto which players could easily project themselves, the ability to soul-search and internalize Link's struggles and victories naturally becomes second nature. Campbell describes the Hero's Journey as a "transformation of consciousness," wherein the mythic content reflects deeper battles of the conscious and the subconscious. He uses different analogies to describe recurring tropes in heroic narratives, which *Zelda* literally applies to its world-building. For example, there is always a dragon to slay; the dragon representing the ego, or what binds one to their ego. In *Ocarina of Time* the ego appears as Ganondorf. In a story of growing up, fears about adulthood, greed, pride and power abide, coming to life in utter unbalance with the villain. Defeating Ganondorf requires Link to prove his own growth.

Campbell also explores the belly of the fish story, which he illuminates as being representative of the subconscious, as water often is. *Ocarina of Time's* third dungeon is aptly named "Inside Jabu Jabu's Belly," as it takes place within the belly of a giant fish god. The purpose of that dungeon is to retrieve the "Spiritual Stone of Water" (Aonuma 1998). A bit obvious but effective, nonetheless. One cannot help but see the influence of mythology in the series, and Campbell's theory reveals why such encounters have persevered over time. In utilizing these narratives and structure, the *Zelda* series—particularly *Ocarina of Time*—creates space for spiritual exploration and personal enlightenment. Campbell makes the case that all Hero's Journeys are concerned with death. An individual must die to themselves to grow into a new person, one must slay metaphorical monsters, and one must experience loss and sacrifice. In fictional works like film, books, or television, these deaths can only be witnessed, not necessarily experienced. With video games, particularly role-playing games, this journey can be taken as the Hero, from their perspective. As I've mentioned earlier, Link was designed to allow players their own personal adventure. The trials and triumphs Link experiences in-game are theirs as well. Many gamers are capable of relating to the sense of loss one feels when they see the game-over screen. Mechanically, the presence of death is measured by Link's heart container count; likewise, in scripted events such as the death of the Great Deku Tree. Campbell would likely claim that death comes in the guise of Link abandoning his home and childhood. Demise of his innocence occurs as he explores more of the world and the darkness within it. Players share in Link's sorrow and triumph and make it their own. The more Link grows and dies to his old self, the more players are called to do the same. It is this narrative of death and resurrection

that best describes Campbell's hero's journey, for the Hero's Journey is ultimately one of growth. It is why such stories pervade our culture and religion: they pull at a deeper question of what spirituality is. The *Zelda* series lets players take direct control of experiencing the hero's journey for themselves.

Conclusion

Nintendo seemingly surmised a successful formula for working with their cultural inspirations and problems without generating overt controversy. By having created their own in-house religion, they allowed themselves the freedom to create bold statements and scenarios under the guise of fantasy. Most importantly, the *Zelda* series creates the space for dialogue between religion and pop culture to take full form. *Zelda* takes on religious inspiration, controversy over representation, generated socio-cultural commentary, and reflection through in-game establishment of a new religion. How people divine meaning is explored in the various narratives and motivations presented to Link at the beginning of each game; the cyclical nature allows the same story to play out in different scenarios and conditions, fully exploring the problem of who deserves and wields power. The story structure holds up against different theories surrounding meaning-making, particularly in the religious and spiritual sense. Fans have theorized and created full studies on the philosophy, theology, and history that is part of the *Zelda* universe. This series generates all manner of conversation with the scenarios it has devised, and the religious study of this series builds upon this rich framework by illuminating the epistemological power at the core of the many meaning-making opportunities *Zelda* offers its players to explore.

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Soteriology of Beauty and the Beast and The Hunchback of Notre Dame

Aaron Selby

Abstract

Popular culture is prevalent in the ability of citizens to conceptualize complex issues and situations within society. Several religious scholars, including John Lyden, propose that elements of popular culture relate to and interact with sociopolitical anomalies in a way that mirrors and mobilizes patterns of religion. As such, these scholars conclude that certain popular culture phenomena act as a kind of religion in and of themselves. Drawing from the work of several such scholars and the concept of soteriology in narrative, I analyze the similarities between two Disney animated films, Beauty and the Beast and The Hunchback of Notre Dame and their overall interaction with the sociopolitical landscape of the 1990s. Both Beauty and Hunchback provide a lens of commentary, criticism, and guidance in light of the now infamous events that took place during President Bill Clinton's administration.

Disney and Theories of Salvation

Among the four canonical gospels of the Christian scriptures, the Gospel of Saint John is unique as it seems oddly numinous regarding content. Furthermore, John 3:16¹ has become one of the most important, influential, and important scriptures in modern day Christendom. This text—which tells us that “God so loved the world that he gave His one and only Son, so that whoever believes in him shall not perish but have everlasting life”—would seem to suggest that the crucifixion of Jesus was a freely given act of love to save all people and bring them back to the love of God. While this understanding of salvation is present in certain theological traditions, this idea is incredibly new, emerging only in the past century or two. Historically, soteriology—theories of salvation—has been defined and characterized by dogma and dominance of power. It states that rather than the crucifixion as a gracious act of love, Jesus submitted to the will and power of God, His father. These two narratives—*salvation as a product of love* and *salvation as dominance of the will of God*—can be found in two of the most popular and critically acclaimed films of the Walt Disney Corporation’s “Renaissance” of the 1990’s: 1991’s *Beauty and the Beast*, and 1996’s *The Hunchback of Notre Dame*, respectively.

In the span of only five years, we can see a very marked shift in the tones and narratives of these films, from love and acceptance to dominance and submission. This is important, because the Walt Disney Corporation occupies a unique position in modern American culture, holding a prominent role in forming culture while simultaneously acting as a massive mirror being held up to the culture itself. Furthermore, as evident with the term “cult following,” it is clear in popular imagination that films can often function and act in parareligious capacities. In essence, these films combine aspects of religion with secularized cultural productions.

This drastic shift in the salvation narratives of these two films reflects the turbulent socio-political landscape of the 1990’s, coinciding with the rise and fall of President Bill Clinton and his administration. Furthermore, *Beauty and the Beast* and *The Hunchback of Notre Dame* serve religious functions and interact with politics in a way similar to that of well-established religious traditions. Drawing from the work of Gary Kessler, John Lyden, Elizabeth Johnson as well as the findings of Independent Counsel Kenneth Starr and Catherine Lofton, this paper analyses the ways in which *Beauty and the Beast* and *The Hunchback of Notre Dame* convey religious narratives such as soteriology, acting in a way that is analogous to religion. Disney and these films excerpt influence, playing a unique, nuanced role in both the creation and reflection of society.

Relevant Scene Descriptions: Conflict to Salvation

An analysis of several tableaux from each movie work to elucidate the interplay

between politics and religion. In *Beauty and the Beast*, one significant scene depicts a mob from the village storming the Beast's castle. Gaston—the film's antagonist— finds the Beast and fights him. The confrontation takes on ever dramatic overtones as rain starts to pelt both combatants. Belle arrives just as the Beast is about to deliver a final blow to Gaston. When he sees Belle, with whom he has fallen deeply in love by this point in the film, he turns to Gaston and growls, "Get out, and never come back." He lets Gaston go and begins to climb up the castle roof to the balcony where Belle is waiting for him. At the last moment, Gaston comes from behind and stabs the Beast in the back; this, of course, insinuates the cowardice of the film's villain and his characterization as the narrative's true "beast." Gaston then loses his balance, and skulls flash across his eyes as he falls to his death in the gorge below the castle. The Beast collapses onto the balcony and Belle runs to him as the servants watch from the doorway. She tries to coax him from losing consciousness, saying; "Please don't leave me; I love you."²

The Beast stops breathing, and Belle starts sobbing into his lifeless chest; the castle servants bow their heads in the first throws of mourning. The shot then pans back to show Belle and the Beast; colorful sparks of light begin falling from the sky, eventually replacing the rain. The Beast then rises into the sky as a smoke-like fog clouds the scene, and he emanates light from his limbs as they transform from paws into hands and feet, eventually suspended in the air, and emanating light. His legs remain extended straight down while his hands and arms fully outstretch at his side. The former Beast then floats down to the floor, inspecting his transformed appendages before looking at the astonished Belle.

Likewise, in *The Hunchback of Notre Dame*³ after Quasimodo saves Esmeralda from the lit pyre on which she was to be burned alive, he carries her up the walls of Notre Dame as the orchestra, choir, and organ thunder the strains of the "Sanctus." Quasimodo lifts Esmeralda high above his head, framing her with the cathedral's famed Rose Window, and cries out in a loud voice "Sanctuary! Sanctuary!" As the wicked Judge Claude Frollo realizes what's happening, he lays siege on the cathedral, leading Quasimodo to throw a series of massive rocks and beams. He also pours molten lead down on the streets of Paris to defend the cathedral and the girl he loves, who is one of the only people who purely returns his affections. While the assault is mostly successful, Quasimodo's master still finds his way inside the cathedral, and Quasimodo confronts Frollo's misguided attempts of achieving "righteousness." Frollo then pulls a knife on the pair, and Quasimodo picks up Esmeralda and runs while Frollo pursues them across the roof. The two eventually hide on one of the gargoyles on the cathedral's exterior walls, and Frollo attempts to climb down to reach them. He stands up on another gargoyle, lifts his sword high over his head, and says "And he shall smite the wicked, and cast them into the fiery pit."⁴ The gar-

goyle on which he is standing cracks, causing Frollo to lose his balance. In a final miasma of nightmarish symbolism, Frollo ends up face to face with the gargoyle, clinging onto the underside of the statue. It comes to life—eyes and mouth glowing orange—and grows, completely breaking off from the cathedral's walls. This sends the judge plummeting to his death in the lake of molten lead below.

By mobilizing these scenes, it becomes possible to apply theoretical frameworks, beginning with the underpinning foundation that these films use to function in ways analogous to religion. In *Studying Religion*, Gary Kessler proposes that the term “religion” is difficult to accurately pin down.⁵ He draws from the work of Catherine Albanese⁶ and proposes a four-tiered definition of how we may engage with this concept: “Creed,” consisting of proclaimed beliefs; “Code,” which consists of rules and regulations which the followers are expected to adhere to; “Cultus,” which consists of the ways by which religion is established as an organized group; and “Community,” which are the interactions the adherents have within and without their group. In the analysis of these two films, I have found that both exhibit these four criteria in different ways, respective to the type of soteriology present in their narratives.

For *Beauty and the Beast*: “Creed” consists of the soteriological idea that love leads to salvation; “Code” consists of the means by which one is saved, because “If [the Beast] could learn to love another, and earn their love in return . . . the spell would be broken”⁷ “Cultus”—which, for the purposes of this analysis, refers to the thing which drives these narratives forward and moves toward the realization of their soteriological functions—is the curse which the Beast must break; and “Community”—here functioning as the impact on culture as a whole—refers to the immense popularity of the film, often regarded as one of the best films of the Disney Renaissance of the 1990s, which won an Academy Award⁸ and was nominated⁹ for five more. Likewise, *The Hunchback of Notre Dame*’s “Creed” is that salvation is found through dogma and as a product of the dominance of God’s will; “Code” takes the form of Quasimodo’s submission to Frollo’s dominance, as seen in a line from the song “Out There,” where Frollo says “Remember Quasimodo, this is your sanctuary” (Trousdale and Wise, 1996); “Cultus” takes the form of Frollo and his dominance; and “Community” takes the form of the underwhelming reaction of the film, especially when compared to *Beauty and the Beast*.¹⁰

Now, to see the ways in which film can function as religion, we turn to the work of John Lyden, as proposed in *Film as Religion*. In *Film as Religion*, John Lyden writes that films labeled as “thrillers” are defined narratives that “seek to create terror through the depiction of frightening situations from which individuals attempt release.”¹¹ Furthermore, he highlights their display of male sexuality with inappropriate limits, which leads to

violence due to an inability to fulfill these desires, which itself is “due to their monstrous natures.”¹² (Lyden, 228). I suggest that these films meet Lyden’s definition of thrillers and function as such, despite being children’s musicals. The urge to escape and be “released” from current situations is displayed by both Quasimodo and the Beast. Lyden’s criteria is also fulfilled by the antagonists in these respective films—Frollo and Gaston—who exude inappropriate manifestations of their own sexuality. Yet, so does the Beast, the protagonist in the film that bears his name, due in no small part to his initial motivations for pursuing Belle; he does not want her love for its own sake; initially, he wants to use her love so that his humanity might be restored. The Beast was originally a handsome young prince that had been turned into a monster by an enchantress due to his selfishness — or “monstrous”—desires. Viewers are told that the only cure is “to love another and earn their love in return . . .”¹³

The Beast, Gaston, and Frollo: Characterization

From a pragmatic perspective, what separates these three characters is narrative positionality. The Beast is the subject of his movie’s soteriological narrative; he shows an active desire to receive salvation. On the other hand, Quasimodo urgently seeks freedom from his oppressive situation, but lacks the agency to do so. He requires an act of God—the gargoyles coming to life—to break free of Frollo’s oppression and domination. It is essential to establish the differences between the Beast, Gaston, and Frollo in order to proceed with this analysis and outline the ways in which the Beast receives salvation while Frollo and Gaston do not.

I return to Elizabeth Johnson and her work studying renewals in Christology in the last century. Johnson’s book, *Consider Jesus*, adds context to the idea of evolving soteriologies and changes in religion as well as popular culture. She explains that before the Second Vatican Council, soteriology had been defined by dogma since the Middle Ages. She tells readers that during the Middle Ages, “persons not baptized [were not seen as] related to Jesus Christ and [did] not follow his way . . . Jews and infidels were thought to be beyond the pale of God’s saving mercy in Christ, [and] mercy was not abundantly available even to Christians who *lived in fear* of their own damnation.”¹⁴ After the Second Vatican Council in the 1960’s, however, she explains that the Roman Catholic Church affirmed that salvation is possible for every person. She quotes the *Pastoral Constitution on the Church in the Modern World* from the Council, saying: “[The work of God and salvation] holds true not only for Christians, but for all people of good will in whose hearts grace works in an unseen way. For since Christ died for all people . . . we ought to believe that the Holy Spirit, in a manner known only to God, offers to every human being the possibility of being associated with this paschal mystery.”¹⁵

According to Johnson, this leads to three interpretations of religion in practice: the first is that Jesus Christ is constitutive for salvation. This is one of the more conservative, traditional, and exclusive interpretations of soteriology, in that salvation is meant only for a select few in particular and exclusionary means, forms, and processes. The second is that Christ is constitutive for salvation but is to be interpreted in an inclusive sense. This interpretation holds that it is the will of God to save all, and those who have not heard of Christ's salvation can be saved by holding to the universal truths present in their religion. The third and final interpretation is that Christ is not necessary for salvation but is instead "normative."

It is the second of these interpretations that emerged after the Second Vatican Council. It is considered much more liberal leaning regarding theological applications. Hans Urs von Balthasar—a Swiss Cardinal-Elect who passed away days before the ceremony that would have marked his ascent to the College of Cardinals—from a Good Friday sermon, saying; "Through the cross, the *love of God* wins what it has been after all along, namely, *the return love* of the beloved creatures, even those who had shut themselves off."¹⁶ Johnson uses this moment from Balthasar's speech to conclude this chapter of her work, and the impact is compelling. Of interest to this analysis are the parallels between von Balthasar's quote and the prologue of *Beauty and the Beast*. To illustrate this, we turn to the film's prologue.

The beginning of the film provides audiences with a voice-over narration accompanying a visual of several scenes depicted by figures set within stained-glass windows; the opening exposition tells of a selfish prince transformed into a beast after turning away an old woman seeking shelter from a winter storm. She curses the castle and the prince, giving him an enchanted rose which acts as a magical hourglass; the narrator states that the rose "[will] bloom until his 21st year . . . [and] if he could learn to love another and earn their love in return by the time the last petal fell, then the spell would be broken. If not, he would be doomed to remain a beast for all time."¹⁷ As the Beast follows the soteriology in the narrative of his film—love leads to salvation—he receives redemption. This obviously distinguishes him from Gaston who acts purely on selfish desire throughout the duration of this film.

Likewise, von Balthasar's—and, subsequently Johnson's—summary of love serves as the ultimate soteriology and translates to *Hunchback* albeit through different means. Rather than acceptance of love leading to individual salvation, love's function serves as a simultaneous critique of the original proposed soteriology, submission to dominance. Appropriate to the 15th century setting, *The Hunchback of Notre Dame* proposes a soteriology of fear and submission to the domination of powerful figures misusing their power. However,

the midpoint of the film depicts Frollo—who, up until this point, has been spear-heading his supposedly righteous purge of the Parisian Romani—asserting his dominance as he begins to search for Esmeralda. This backfires as Paris, the city that Frollo wishes to save, is consumed by flames. Frollo himself vows that he will “find [Esmerelda]” even if he has to “burn down all of Paris.”¹⁸ With Frollo’s subsequent fall from power, and literal fall into the fiery streets below complete with the demonic gargoyle’s animation, we can surmise that the giver of salvation is rejecting Frollo’s attempts at achieving it while simultaneously accepting that Quasimodo could not receive salvation without being freed from his oppressor.

Frollo and the Beast display several parallels; they both wish to achieve salvation, and this is apparent when closely comparing each character’s motivations. However, it is the Beast who finally experiences a change of heart during his story’s second act. Frollo increases his domination and abuse of power, and ultimately suffers the consequences.

Eras of Hope, Eras of Distrust

The theme of powerful figures misusing their authority and falling from grace along with theoretical foundations allows analysis of the socio-political atmosphere in the United States during the period (1991-1996) when these films were released. Furthermore, it makes possible an engagement between soteriological narratives commentary and specific sociopolitical events from the era. American politics in the 1980’s is largely defined by the Republican administrations of Ronald Reagan and George H. W. Bush. Many believed that the American people were hoping for fresh perspective amid the stagnancy they had come to associate with the government. In this quest for political “salvation” the motives for fictional, projected soteriologies, that the longings of some of America’s citizens become clear. The exuberant and charming governor of Arkansas, William Jefferson Clinton seemed an appropriate shift away from certain attitudes and political trends. However, directly after announcing his campaign, Clinton was plagued by scandal. The Whitewater Scandal from the early 1990’s is now hailed as part of the permeant American consciousness. Whitewater subsisted on a claim that the Clintons were involved in a scam where elderly residents of the Whitewater real-estate complex were evicted after missing one payment of their massive mortgage. Further evidence of the scandal manifested in a series of documents which were related to the incident and later removed from record after the 1993 suicide of Deputy White House Counsel Vince Foster. This further compelled the Senate-appointed independent counsel Kenneth Starr to begin his investigation of wrongdoing by the president.

Then, in May 1994, an Arkansas woman named Paula Jones filed a civil lawsuit against President Clinton, claiming that he sexually harassed her in a hotel room while

he was then serving as the Governor of Arkansas. The subsequent midterm elections produced the “Republican Revolution” of 1994, which overturned the previously considerable Democrat majority in the House of Representatives and Senate. This Congress effectively proceeded to block all of Clinton’s proposed legislation and reforms, exemplified by the government shutdown between December 16, 1995, and January 6, 1996. The Republican Revolution shows very clearly that the opinions of the American people—the constituents of these Congressmen and women— had changed between the overwhelming Democrat majorities in the Congressional and Presidential elections of 1992 and the 1994 midterm elections. As Clinton was making significant headway into liberal reforms and was quite popular up until this point, it stands to reason that the Jones lawsuit was the incident that tipped the scales to the favor of the conservative Republicans.

When news broke in January 1998 that President Clinton and a former White House intern named Monica Lewinsky had lied under oath about their affair, Starr’s investigation switched from exploring possible financial wrongdoings to investigating perjury and obstruction of justice by President Clinton. Eventually, Starr’s office would release its 300+ page report, and charge the president on eleven “acts that may constitute grounds for an impeachment.”¹⁹ Since *Hunchback of Notre Dame*—which features this narrative of figures falling from power—was released in 1996, and the events which led to Clinton’s impeachment were exposed more than a year after the release of this film, most of the report is not useful in this analysis. However, Starr’s report provides a detailed timeline of Clinton’s presidency, as it relates to the scandals that plagued his administration.

Overall, the timeline submitted in the *Starr Report* accurately fits the proposals this paper presents—the President began campaigning in early October 1991; *Beauty and the Beast* was released in late November 1991. Paula Jones filed her sexual harassment lawsuit in 1994, and the Republican Revolution blocked Clinton’s reforms and shutdown the government in 1995. This occurred right before *The Hunchback of Notre Dame* was released in 1996. *Hunchback* features prominent narrative devices of powerful figures falling from power, and Bill Clinton became the third president to become impeached by the House of Representatives in 1998 (though this did not pass with the 2/3 majority in the Senate) after *The Starr Report* revealed that the president and Monica Lewinsky had committed perjury and lied to a grand jury under oath. It is in the Paula Jones lawsuit and the Republican Revolution that we can see this discernable shift in politics and popular culture, as the American people elected a new, completely different Congress as social values changed. It is possible to argue that the producers of this media noticed this shift and built narratives that reflected the moment’s cultural zeitgeist.

Conclusion

I have established these films as they correlate to functions of religion; they provide a popular mythos, and the events in the sociopolitical sphere of American culture likely impacted the collective understanding and perception of these events and were, in turn, impacted. To definitively conclude the importance of this claim, it is productive to view Disney's impact on certain aspects of life and the mundane. Turning to Katherine Lofton's work in *Introduction to Consuming Religion*, she "[offers] a profile of religion and its relationship to consumption in the modern world" and "how religion manifests in efforts to mass-produce relations of value," where religion can at times be "something controlling and disciplining," but at other times "something pliable and enfranchising."²⁰ The more popular culture is consumed by large numbers of people rather than a select few, the more their choices regarding consumption reveal their priorities and values. In Nestor Garcia Cancilini's text *Consumers and Citizens: Globalization and Multicultural Conflicts*, the writer claims that "to consume is to participate in an arena of competing claims for what society produces and the ways of using it."²¹ Lofton uses this broadly accepted claim by Cancilini to ultimately tie consumer culture, "pop" culture, and societal attitudes.

The Walt Disney Corporation—one of the most influential corporations on Earth—occupies a unique position in culture, simultaneously creating and reflecting culture. It is in Lofton's text that we can see the validity of this idea. *Consuming Religion* also provides the crux of my analysis. A display of Lofton's theory regarding consumption can be observed when engaging with *Beauty and the Beast* and *The Hunchback of Notre Dame*, both with perspectives of film production and the themes that impact narratives chosen by producers. These depictions are ultimately consumed by the masses, and the consumption of these two films by Americans may have fed the already prevalent trends in public opinion; in turn, that opinion continued to be reinforced. The American people wanted a political salvation; they believed that they had found it in Bill Clinton. This is reflected with the hopeful themes of the cultural artifacts from this period, such as *Beauty and the Beast*. In contrast, when it became painfully obvious that the president had misused his power and authority, their dreams and salvation were dashed. At this juncture, the salvation elements of cultural artifacts, such as *The Hunchback of Notre Dame*—while still remaining hopeful—were framed as a fight against a domineering, hierarchical structure of power that disenfranchises vulnerable members of society.

Endnotes

1. NIV Study Bible. (Grand Rapids: Zondervan Corporation, 1995), 1624
2. Gary Trousdale and Kirk Wise *Walt Disney Pictures Presents Beauty and the Beast*. (Milwaukee, WI: H. Leonard Pub Corp., 1991).
3. Alan Menken and Stephen Schwartz. *Walt Disney Pictures presents The Hunchback of Notre Dame*. Directed by Gary Trousdale and Kirk Wise. (Milwaukee, WI: H. Leonard Pub Corp., 1996).
4. Menken, *Hunchback of Notre Dame*.
5. Gary E. Kessler. *Studying Religion: An Introduction Through Cases*. (Boston: McGraw-Hill Higher Education, 2008).
6. Albanese, Catherine L. *America: Religions and Religion*. (Santa Barbra: Wadsworth Cengage Learning 2005), 153-152.
7. Trousdale, *Beauty and the Beast*.
8. Howard Ashman and Alan Menken won Best Original Song for the title song, "Beauty and the Beast."
9. Best Picture (the first animated film to be nominated in for this award, losing to *The Silence of the Lambs*), Best Sound, Best Original Score, and Best Original Song for the songs "Be Our Guest" and "Belle," respectively.
10. *The Hunchback of Notre Dame* was nominated for Best Score at the 1997 Academy Awards and received significant pushback from religious communities in the United States for its negative portrayal of religion vis-à-vis Frolo
11. John C. Lyden. *Film as Religion: Myths, Morals, and Rituals* (New York: New York University Press, 2003), 191-201.
12. Lyden, 228
13. Trousdale, *Beauty and the Beast*.
14. Elisabeth A. Johnson *Consider Jesus: Waves of Renewal in Christology*. (New York: Crossroad Publishing Company, 1999), 130, emphasis added.
15. Johnson, 131.
16. H. Urs von Balthasar, *The Von Balthasar Reader*, eds. M. Kehl, W. Löser, (New York: Crossroad, 1982), 149.
17. Trousdale, *Beauty and the Beast*.
18. Menken, *Hunchback of Notre Dame*.
19. Kenneth Starr. *The Starr Report: The Findings of the Independent Counsel Kenneth W. Starr on President Clinton and the Lewinsky Affair*. (New York: Public Affairs, 1998).
20. Catherine Lofton. *Consuming Religion*. (Chicago: University of Chicago Press, 2017), 4.
21. Néstor García Canclini. *Consumers and Citizens: Globalization and Multicultural Conflicts*. Vol. 6. (Minneapolis: University of Minnesota Press, 2001), 39.

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Aristotelian Ethics in Relation to the Ethics of Business: A Critique

Madison Ellis

Abstract

The approach and understanding of the ethical practices within companies and their associates have important consequences within the workplace. However, it is important to understand how these ethical practices are formed and socially determined, particularly by comparing these practices to those of other types of ethical standards or values. By comparing the ethics of business to those of the virtue ethics, or Aristotelian ethics, established in Aristotle's Nicomachean Ethics, we can determine how the two are incongruous in nature and are dis-joined in essential values and assumptions. Without available non-consequential choices in which ethical persons can participate, a final and concise achievable goal intended for both virtue and business ethics to practice, and a consistent change in the workplace standard of what can be considered 'right' and 'wrong,' we can conclude that the practice of business ethics and Aristotelian virtue ethics are not equivalent in practice. With this information, it is imperative that we do not confuse the two, treating them as equals in practice and theory.

Introduction

I was going to fire off a bazooka in here, offering up our latest IPO. An IPO is an ‘Initial Public Offering’—the first time a stock is offered for sale to the general population. Now, as the firm taking the company public, we set the initial sales price and then sold . . . Look: I know you’re not following what I’m saying anyway, right? That’s, that’s okay- it doesn’t matter. The real question is this: was all this legal? Absolutely fucking not. But we were making more money than we knew what to do with.

–The Wolf of Wall Street, 2013

The typical acknowledgment of business ethics as it is practiced today is a conception based on an agreed upon set of principles and values, given by the broader societal context. These stated values are exercised in an agreed upon manner by all members of said organization in a pre-determined manner. A comparison to the nuances of business ethics can be evaluated with that of virtue ethics, presented from an Aristotelian perspective. Presented in Book 1, Chapter 7 of the *Nicomachean Ethics*, Aristotle claims what has since been labeled the ‘Function Argument’—that all beings have their own function, and therefore their own purpose, for existence. For example, a harp is meant to play music, a physician is meant to practice medicine, a ship is meant to sail. To maximize an ability and reach a true purpose, these functions need to be practiced *adequately*. A harp is meant to be played well while a ship is meant to reach its destination. Likewise, humans have their own purpose, or their own function, with a strive toward being a human in an adequate manner. What sets humans apart is their ability to use reason to determine this purpose. Based on the understanding of virtue ethics expressed by Aristotle in his work, the practice of ‘business ethics’ as it is currently understood and practiced is both a misplaced and incorrectly labeled practice in the understanding of the nature of ethics and how they should be executed. Based on the nature of both virtue ethics and business ethics, it is critical to distinguish the two ideas in order to form a more concrete understanding and acknowledge their differences as to not confuse the ideals and goals of each.

A Brief Understanding of the Ethics of Business

Business ethics, though understood in different various contexts and practiced since the innovation of the marketplace, has only been systematically studied as the ‘ethics of business’ since about the early 1970’s (de George, 2015). According to Thomas Garrett, the primary concern with the ethics related to business is “with the relationship of business goals and techniques to specifically human ends” and “. . . the impacts of acts on the good of the individual, the firm, the business community and society as a whole.” With this definition, it is clear that understanding how business practices relate to the overarching relationship the business has to the background it is established within—regardless of whether that background is social, economic, or environmental. Whether these established practices are ethically permissible or not is an important question to ask; these moral determinations impact a business and the individuals within it. It also impacts the

lives individuals lead which are inevitably affected by the operations of for-profit organizations. The question of how best to make the profit being sought at a moral level as opposed to an economical level is considered business ethics. In its most basic form, business ethics are concerned with finding the nexus between actions and decisions that bring the maximum amount of profit for the company while also abiding by the responsibilities imposed on them by the laws and responsibilities to their employees. This would include the non-economic concerns related to the companies work with employees, customers, the community they affect or occupy, the environment, and the shareholders who have a stake within the business. Because of this, the study and applied practice of business ethics is, much of the time, a balancing act leading to continued debate on what it means to be an ethical business and how this mode of action effects the people who have a relationship with the business in question (Steele, 2016).

And, of course, making a profit is the ultimate goal of a business. The one and only purpose of a business is to deliver a profit on an initial investment facilitated from a good or service provided to a customer. If there was any other primary goal, the organization in question would be considered something besides a 'business' in relation to the objective it is attempting to achieve. Even if profit is not the *only* goal a business is attempting to achieve, as many for profit enterprises are concerned with facilitating social good, it must as least be one of the main objectives.

However, the ethics associated with business change as fluidly as the social norms that the business inhabits. A business can shed light on a working reflection of what is considered the 'correct' or lawful approach to behavior that is also the adopted or accepted view by the society it inhabits. This is true regardless of what the actual ethical practice is that is being followed. For example, at one point in American history, some considered it "right" and lawful to own human beings as a means of profit making in the form of slavery. Though it is not the ethically correct practice to follow, it was viewed by both the larger society and those participating in the business associated with slavery and the ownership of slaves as morally permissible. Because of this, the practice was maintained until that cultural view shifted, and business practices shifted accordingly; one result of this was the American Civil War and systematic legislative changes. The basic conception of a shift in business practices after a shift in social acceptance occurs repeatedly within the workforce, at least within the United States, illustrating the fact that the ethics associated with 'correct' business practices will shift just as commonly as the overall societal view of what is correct or incorrect moral behavior (United States Department of Labor, 2018). Examples of this include the protection of children by excluding them from the workforce, protection of worker's right with the installment of workplace safety organizations like OSHA, minimum-wage restrictions, anti-employment-based discrimination laws, and environmental protection policies (United States Department of Labor, 2018). These ethical, lawful protections would not be in place, however, if the cultural shift of what is considered to be right or wrong practices within a company were not deemed inappropriate and in need of systematic, legislative change. The business itself was not the ethical

entity. Rather the society had shifted to considered new practices ethical and the business in question had to abide by these new norms and cultural expectations to maintain their profit.

What is considered and practiced as business ethics has changed considerably over the years, shifting in meaning and approach. Richard de George claims that this meaning has diverged into different associations at least three times, including the means as the “ethics-in-business strand” as “is the long tradition of applying ethical norms to business, just as it has been applied to other areas of social and personal life” along with the academic study of business ethics, both from a philosophical perspective and accompanied with a “social-scientific” based perspective (De George, 2015). Additionally, the author Gabriel Abend divides the history of the study of ethics within business into various movements and frameshifts in relation to how business is practiced morally or amorally within a community. He labels several of these movements as ‘Christian Motives,’ or those actions following the moral guidelines previously set in place for behavior as expressed through the Christian faith, along with those of Machiavellian pursuits, or that of expressing the understanding that one’s actions of an individual or group are justified by the moral or ethical good found as an ‘end,’ or final goal, in both politics and business. These shifts in understanding of the function of the workplace to employee relationship occurred during the Progressive Era within the United States during the early 1900’s (2014). The morality associated with conducting business as a fluid power dynamic from the business in question to the consumer or worker must be understood. This shift in moral practice can and will shift with the overarching cultural expectations at play.

The Aristotelian Function Argument

With each shift in an understanding of what is or is not ethical behavior in the marketplace, a new way of expressing these understandings to a workforce must be established due to their seemingly everchanging nature. To abide by these new norms established by both a business and the society, and to ensure that the individuals who work within a company are also compliant and understanding of the norms a business expects its employees to work either under or within, a company typically creates a “Code of Ethics.”

A code of ethics is a guide of principles designed to help professionals conduct business honestly and with integrity. A code of ethics document may outline the mission and values of the business or organization, how professionals are supposed to approach problems, the ethical principles based on the organization’s core values and the standards to which the professional is held (Investopedia, 2018).

These codes are now seen as standard within the workplace including the for-profit sector, government, philanthropic, or academic setting (Baumhart, 1968). Raymond Baumhart states: “because of the variety of value systems current in our pluralistic society . . . it is often impossible for men to achieve agreement on principles. It is somewhat easier to secure consensus on practices (1968).” Societal norms of what is or is not ethical behavior cannot be counted on to be enforced by the hoi polloi, and instead must be

clearly defined by members of the group in power. This is, of course, due to the variety of value systems practiced in the modern workplace, and these defined actions and terms are codes, or correct method of behavior within the confines of the group's social construction. These codes are 'value-based' showing an organization's key values with a 'greater degree of self-regulation' which obliges the employee to practice judgement in following a business's code of ethics. Additionally, 'compliance-based' ethics tend to be stricter, listing expected behavior and the consequences expected to occur when policies in place are not followed with the ethics code being violated (Investopedia, 2018). The code of ethics is seen as a strict guideline of how a business and the people who make it up are expected to behave, though these guidelines are not necessarily lawful or unlawful but are instead the expectations set for a single business on what the standard norms, procedures, and behavioral understandings are and should be for the individuals within an organization. An understanding of the basic purpose and function of a written and established code of ethics within the workforce allows for a greater understanding of the systematic processes in place to give morality to the business world.

How and why the study of business ethics continues, and the greater overarching relation to the workforce they influence, is an incredibly important topic to dissect. However, to gain a better understanding to why this is important, contrasting ideas on ethics must be applied and analyzed. To illustrate this, an understanding of Aristotelian virtue ethics can be explored and introduced, based on the writing from the *Nicomachean Ethics*.

For Aristotle, one can only know what an object or being is by first understanding its function, or purpose (*Nicomachean Ethics*, I.7, 1097a14-26). Understanding and practicing ethics is useful for the sole purpose of finding the ultimate life to what a human being can strive towards. Sometimes referred to as "the Good" or as "the Good life," the work towards this is never ceasing:

... if this is so, the human good comes to be disclosed as being-at-work of the soul in accordance with virtue, and if the virtues are more than one, in accordance with the best and most complete virtue. But also, this must be in a complete life, for one swallow does not make a Spring (*Nicomachean Ethics*, I.7, 1098a15-19).

Being-at-work, translated from the Greek term '*energeia*' can be understood as the actualization of an event or the deliberate action within a being, with Aristotle claiming that a being-at-work should endeavor towards the good life (Sacks, 2002; Chen, 1956). Additionally, Aristotle argues that the good life entails the achievement of, and the consistent attempt to achieve *eudaimonia*, a Greek term generally translated to mean 'happiness' but that can also be described as 'personal fulfillment' or 'human flourishing' (Sacks, 2002; Korsgaard, 2008). In this context, *eudaimonia* has three components needed for its fulfillment. The first calls for conclusiveness of goals and a lack of uncertainty in

its achievement. The second requires an individual's ability to be completed without the assistance or interference of outside forces, or the mark of anonymity. Finally, a life filled with eudaimonia cannot be achieved in segments or compartmentalized, but must be realized throughout a lifetime (Eterovich, 1980). By striving toward the Good, a person will be expressing and aiming toward their virtue, becoming an excellent human being in an ongoing, active attempt to pursue the excellent life and personal eudaimonia.

For Aristotle, the pursuit of virtue is an active task. This takes constant participation and, as Aristotle stressed, must include choice. Without choice and participation, there is no decision making, only habituation gaining control or orders being followed:

And so it is in the case of the virtues as well, for by refraining from pleasures we become temperate, and once having become temperate we are most capable of refraining from them; and it is similar in the case of courage, for by habituating ourselves to disdain frightening things, and by enduring them, we become courageous, and having become courageous we shall be most capable of enduring frightening things (*Nicomachean Ethics*, II.2, 1104a34-1104b4).

The habituation of virtue requires necessary actions taken on the part of the participant to gain and maintain the virtue in question. One must participate in courageous actions by choosing the courageous choice to maintain the virtue of courage "... for if people do things that are just or temperate they already are just or temperate people" (*Nicomachean Ethics*, II.4, 1105a19-20). Without this choice being made, by perhaps only being instructed on what the courageous act is that must be taken, true courage is not manifested. The actor is only following a set of instructions. Thus, from Aristotle's view, if the active choice toward virtue is not made by the actors themselves, regardless of what that action or virtue is, the act and the actor cannot be considered virtuous but only, perhaps, instructed in the correct moral direction.

What is the correct action to take in a situation will change depending on the situation at hand, or the particulars that have been set forth, that cannot entirely be accounted for or understood in any instruction manual, regardless of how thorough. Since every situation is different, the correct course of action in every situation cannot be known for every individual decision before execution. For example, a father is not going to be able to advise his child how to handle a difficult, individual decision regardless of how much he knows from the life he has lived. The child is the only one who can make this decision because they are the only one who has the choice to decide what is best in a certain situation. They are also the only one who can practice the active task of choice and who would know the particulars of their decision. Since this is the human condition, Aristotle is not suggesting that a 'rule-book' be made on how to live a good life. There is no possibility of a list of actions to take in one situation or another being made or understood in advance. This would be an unattainable and idealistic goal to have. Instead, his work is advising the development of an individual's character in order to have the tools at hand needed to deal

with the difficult particulars of life and how to approach them when faced. Only with the development of the character to strive toward the excellence in virtue, and therefore the excellence of character, a person will have the ability to perform good judgement.

What Aristotle considers virtuous actions are those in which find the midway point between the two extreme vices of excess and deficiency. An example given by Aristotle in Book 3, Chapter 7 is that of the virtue of courage:

So, one who endures or fears that one ought, for the reason one ought, as one ought, when one ought, and is confident in similar ways, is courageous, since the courageous person undergoes things and acts in accordance with what is worthy and in a way that is proportionate (III.7,115b16-20).

Expressed through the complex understanding of the variety of particular details for the situation at hand, a courageous individual navigates these difficulties to express virtuous behavior. This virtuous behavior is considered, by Aristotle, to be the center point between the two vices of excess and deficiency. Sometimes considered to be the 'golden mean' of actions, a person may successfully 'hits the mean' when their actions are centered between the two extremes of vice, and hitting this mean takes practice- habitual practice (Cunningham, 1999).

With good judgment as a tool that has been habituated, a person has the ability to navigate the many decisions that persist within a human life and find the correct path toward personal fulfillment. A father may not be able to teach his child how to handle every difficult situation, but he can help direct the habituation of the character traits needed to navigate toward their own personal flourishing. There is no universal rule or principle to follow to lead to an ethical existence or to reach *eudaimonia*. What needs to be done can only be found in the particulars of a situation which can and will change depending on the life experienced by every individual.

The Ethics of Business are not equivalent to those of Aristotelian Virtue Ethics

If we accept the Aristotelian perspective on ethics, that virtue is an active choice that a participant must make in an effort to hit the golden mean between two vices, and that to know what something is, you must first know what it does, then the practice of business ethics may need some reevaluation, regardless of Baumhart's claim that good ethics is good business (1968).

Primarily, the practice of business ethics as stated in this manuscript is not the practice of ethics as understood and described by Aristotle, because there is no available choice on the correct or incorrect action one must take while in a given industry. This is reflected on the establishment and cultural acceptance of a code of ethics for any company or industry, which are now considered standard in any place of work, dictating what is or is not ethically permissible in any given situation. Instead of allowing a workforce to find their own mean between vices, these choices are made for the individual in question to navigate countless interactions with coworkers, customers, clients, communities, and shareholders, leaving the social actor with only an instruction manual and no ability into the creation of their own moral or ethical choice. Deviation from these standards can, or

more than likely will, result in disciplinary actions. This does not always lead the individual to make an ethical decision. Instead, employees or associates follow a point by point manual on what can or cannot be done, and the consequences for any deviant behavior resulting from this unfavorable behavior. Since the search for virtue is the ability for an individual to 'hit the golden mean' between excess and deficiency, according to Aristotle, following a code of ethics is not creating habitual virtuous behavior to address the particulars of a situation. It is the blind following of orders, without thought or blame, and cannot be considered ethical due to these stipulations.

Second, as we have previously divided, Aristotle claims that to know something is to know its purpose. The purpose of Aristotelian ethics and the purpose of business do not align in their function and, therefore, cannot be considered the same premise for building on one's conception of an ethical behavior, much less an ethical life. The purpose of Aristotelian ethics is to find the golden mean needed to live a good life, cultivate the proper character traits to achieve that good, and encourage personal human flourishing. The purpose of a business is, as expressed previously, to gain and maintain a profit within the company. The two goals expressed by the competing views are opposed only because two different means are attempting to be reached and cannot, therefore, be the same goals. Since different goals require different skill sets, different skill sets are used to reach different goals. If the goal of acquiring wealth is merely a step in the pursuit of fulfillment as Aristotle suggests, eudaimonia is the desired aim. All other goals are simply a means to that end, including monetary gains. As a result, business cannot be an end regarding ethics. It can only be a means to the ultimate end and, therefore, cannot be treated as an end within itself. However, since a business's purpose is to make a profit, then it shall be treated as an end within itself, because that is its resolution.

Finally, the proper ethics associated with 'good' or 'appropriate' business and professional practices shift with time. This shift is in response to social pressures exerted onto the business and its practices to perform in a particular way, thus leaving the markets to dictate the acceptability of certain operations. For example, it was at one point socially acceptable to discriminate against women and people of color within the workplace, though now this is considered socially unacceptable and intolerable, with safeguards established to protect the workforce. Social pressures from outside the market have dictated this behavior, thus pressing the business and government sectors to reevaluate how they enforce and handle discrimination. Though this is only one example, it illustrates how a change in viewpoint of an overall society can change the "ethics" of a private business. If this is so, then the market dictates the ethics of a company and is, therefore, not ethical in practice. Moving with the market is neither an effective or appropriate way to 'hit the mean' with regards to the correct actions to take in a particular situation, nor can it be utilized to decide what type of character traits an individual, or a company as a whole, need to express within the business's culture. Simply moving with the market will not present itself as a tool for fostering virtue, only for fostering higher profit margins by conforming to what the consumer finds appealing, within the letter of the law, though this may be the ethical

decision depending on the case. As Baumhart states in his text, paraphrasing an unnamed president in a service business:

The ethical way is the only way to operate. When you do unethical things, it turns out to be expensive. For one thing, after you do something wrong, you worry . . . It takes time and energy to worry, which is expensive. Furthermore, you may have to take steps to cover your unethical move, and that will be expensive . . . Also, with the improvement in communications, the penalties which a company must pay for unethical behavior have greatly increased. Word gets around . . . When I talk to our young men, I don't tell them to be ethical for the sake of ethics. I tell them that ethical behavior is the way to promotion and success (1968).

However, this is again an illustration of pursuing a financial achievement as an end in itself as opposed to a tool to gaining *eudaimonia*. The pursuit of ethical behavior is not found as an end to a means of personal fulfillment within itself but is instead seen as a route to saving money, making money, and self-promotion within the workplace.

Conclusion

The understanding of business ethics as working toward a more ethical commercial and economical domain has its place. With the understanding of ethics as Aristotle puts forth, however, these actions seem misguided and skewed. The pursuits of business and the pursuits of a flourishing life are not the same in relation to their function: both are striving to achieve separate goals using separate means. By attempting to gain monetary profit—and, make no mistake, that is the function of a for profit business—the goal of *eudaimonia* becomes unsound. It may still have the ability to be reached, but it is lacking the necessary end goal in the pursuit. This pursuit of ethical actions, in an end goal of achieving virtue, can only be accomplished when active choice is made: something that has been shown to be lacking within the common workplace environment, leaving the participants within the company without the ability to reach their own conclusions and choices to a situation and, therefore, a possibly virtuous solution. The meaning and use of ethics that Aristotle puts forth does not have the same meaning or understanding of correct practices as business ethics. Because of this, business ethics deviate from the true meaning of ethics, expressed by Aristotle, and are more than likely not equitable even if their definition comes into a closer alignment with the conception and practices that Aristotle advocates.

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Investigating Quantum Computation

Miranda Uselton

Abstract

Advancements in computer science and technology make quantum computation increasingly possible, which would result in unprecedented computational efficiency and allow quantum physicists and chemists to completely model complex quantum mechanical systems. Quantum algorithms have already shown significant advantages over classical algorithms in terms of both runtime and power. Quantum computation opens up new research opportunities in areas such as machine learning, mathematics, and cryptography. However, quantum computation could also pose a danger to online data security.

Introduction

Alan Turing catalyzed the beginnings of computer science when he conceived the idea of a programmable machine; this was, of course, the Turing machine, revealed to the world in 1936 (Nielsen, 2002). Since then, generations of scientists worked to bring today's society the modern computer. With these innovations came immense progress in efficient calculations and communication.

While computers today perform algorithmic tasks more quickly than Turing could have ever imagined, researchers in computer science are proposing an even faster method of computation on the basis of quantum mechanical theory. These quantum computers have the potential to significantly outperform their classical counterparts and provide unprecedented computational power (Bone & Castro, n.d.). This paper investigates the inner workings and potential applications of quantum computers, proposes viable materials for constructing a quantum computer, discusses monetary restrictions on quantum computer construction, and assesses the impact of quantum computation on data security.

Background

Nobel laureate Richard Feynman first raised the idea of quantum computation in 1982 when he commented on the difficulty of simulating quantum processes (Nielsen, 2002). Because of the vast amount of information needed to solve the Schrodinger equation - and thus completely describe a quantum system - calculations and simulations of more than two atoms can only be approximated. This problem inspired the creation of methods such as density functional theory (DFT), a computational method that approximates quantum mechanical calculations at a high degree of accuracy (Bushmarinov et al., 2017). Feynman proposed that one could exactly simulate quantum systems on a quantum-based machine (Nielsen, 2002). If true, this prediction provides a world of intrigue to physicists and chemists alike. For the first time, chemists will be able to calculate bond distances and energies without the use of any approximations (Kassal, Whitfield, Perdono-Ortiz, Yung, & Aspuru-Guzik, 2011). In order to construct a computer based on quantum mechanics, one must control individual atoms and electrons, thus achieving complete control over a quantum system (Nielsen, 2002). In essence, the key to quantum computing lies in using a more easily controlled quantum system to model another quantum system (Kassal et al., 2011).

Only three years after Feynman's proposition, David Deutsch constructed a mathematical model for a quantum computer that could produce simulations of physical systems beyond the abilities of the classical Turing machine (Deutsch, 1985). Not long after, Peter Shor and Lov Grover published their respective factoring and search algorithms, which greatly surpassed the scope of any previous classical algorithms (Grover,

1997). Although these and other researchers made impressive progress in the theoretical development of quantum computers, lack of viable hardware and other difficulties prevented successful construction of a physical quantum computer until recently. In 2016, International Business Machines (IBM), launched a cloud-based quantum computer open for public use (International Business Machines Cognitive Advantage Reports, 2018). Researchers are able to use the quantum computer as well as quantum computer simulators to run calculations. In making this cutting-edge technology publicly accessible, IBM hopes to encourage the advancement of quantum computation and open the door to researchers and software developers around the world.

Classical vs. Quantum Systems

The fundamental workings of classical and quantum computers initially appear very similar. Both types of machines process information in bits. However, two important properties distinguish a quantum system from a classical one: superposition and entanglement (Nielsen, 2002).

Superposition is the ability to form a linear combination of two states. In a classical system, a bit is represented as either a 0 or 1. A bit can only take on one of these two states. A quantum bit (qubit), on the other hand, can form a superposition of the states 0 and 1. The state of a qubit is represented using Dirac notation: $\alpha|0\rangle + \beta|1\rangle$. $|0\rangle$ represents the matrix $\begin{bmatrix} 1 \\ 0 \end{bmatrix}$, and $|1\rangle$ represents the matrix $\begin{bmatrix} 0 \\ 1 \end{bmatrix}$. Once measured, the qubit will take on the state 0 with a probability of α^2 or 1 with a probability of β^2 (Coles et al., 2018). This superposition of states can be represented graphically as vectors on the Bloch sphere (Figure 1). Superposition is integral to the mathematical operations behind quantum computation and effectively allows the computer to perform several calculations simultaneously.

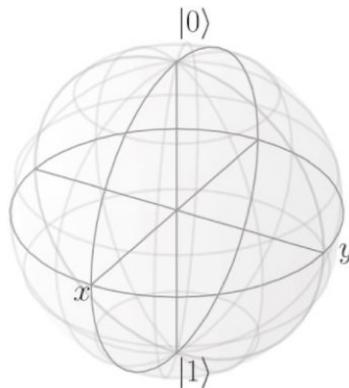


Figure 1. The Bloch Sphere represents all the possible linear combinations of state for a qubit (Nielsen, 2002).

Another key aspect of quantum computing is entanglement, a property in which measuring one qubit yields information about another qubit (Nielsen, 2002). Quantum entanglement is particularly useful when measuring a very large set of data. In a classical system, retrieving information about an entire set of data requires a large number of measurements. Quantum entanglement, however, allows a quantum system to retrieve the information using only one measurement.

Qubits and Quantum Circuits:

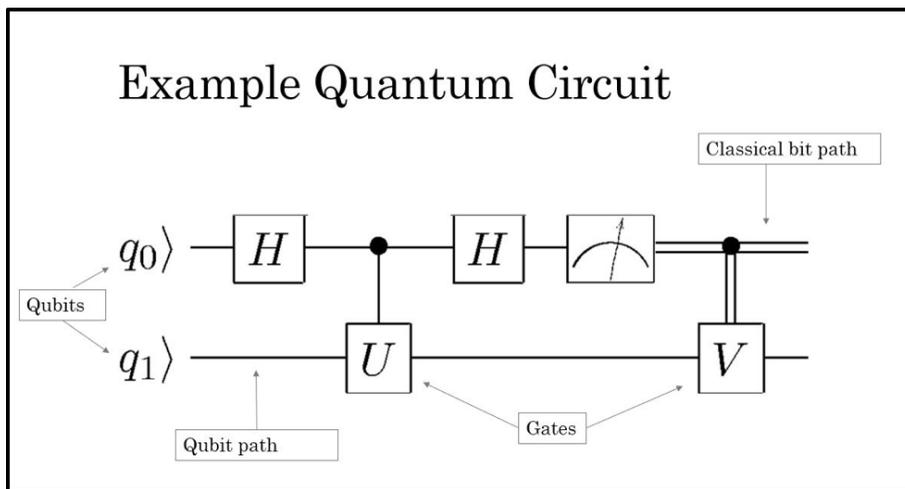


Figure 2. Quantum circuit diagram, modified from Massachusetts Institute of Technology's quantum circuit viewer QASM.

Entanglement, superposition, and several other qubit operations can be illustrated through the quantum circuit diagram (Figure 2). The diagram is read from left to right, and each operation is written in the order it occurs. The horizontal lines each represent a separate qubit. Boxes—called gates—represent specific operations that change the value of each qubit. Mathematically, the gates are represented as matrices, and the results of each gate are obtained through matrix multiplication (Nielsen, 2002).

Example Gate:

One example of a common qubit operation is the NOT Gate. It is represented mathematically as the 2×2 matrix $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$. A single qubit system is represented by the matrix $\begin{bmatrix} \alpha \\ \beta \end{bmatrix}$.

To obtain the result of a NOT Gate, multiply the two matrices.

$$\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} \alpha \\ \beta \end{bmatrix} = \begin{bmatrix} \beta \\ \alpha \end{bmatrix}$$

The result is the matrix $\begin{bmatrix} \beta \\ \alpha \end{bmatrix}$. Thus, a NOT Gate switches the coefficients of 0 and 1. This process can be written in Dirac notation as:

$$\alpha|0\rangle + \beta|1\rangle \qquad \alpha|1\rangle + \beta|0\rangle$$

Other important operations are the Z-Gate and the Hadamard Gate. Table 1 gives a list of gates and their results. Several operations combine to form quantum algorithms.

Gate	Matrix	Explanation
NOT (also X)	$\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$	switches α and β , rotates the state about x-axis of Bloch sphere
CNOT	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}$	changes the state of the second qubit if the first qubit is in state $ 1\rangle$
Y	$\begin{bmatrix} 0 & -i \\ i & 0 \end{bmatrix}$	rotates the state about the y-axis of Bloch sphere
Z	$\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$	rotates the state about the z-axis of Bloch sphere
Hadamard	$\frac{1}{\sqrt{2}} \begin{bmatrix} 1 & 1 \\ 1 & -1 \end{bmatrix}$	puts the qubit in a state exactly between $ 0\rangle$ and $ 1\rangle$ (superposition)

Table 1. Common quantum gates and corresponding matrix forms

Quantum Algorithms

Any general computation involves an input, an algorithm that changes the input, and an output (Kitaev, Shen, & Vyalıy, 2002). While classical algorithms must often methodically examine each input value separately, quantum algorithms exploit superposition and entanglement in order to examine several values simultaneously. Because of the probabilistic nature of qubits (due to superposition), quantum computers run probabilistic algorithms with bounded error. These algorithms return a result that has a high probability of being correct (Wittek, 2014). Because a probabilistic algorithm does not need to return a result with 100% certainty, it does not need to measure exactly every element of the input, thus significantly decreasing computation time. This improved efficiency is known as *quantum speedup*—the potential for quantum algorithms to outperform classical ones by reducing the number of steps for a given process (Biamonte et al., 2017). Quantum speedup one of the most popular reasons for furthering quantum algorithm development.

Computer scientists evaluate algorithm efficiency by comparing the size of the input n to the number of calculations the algorithm requires. An algorithm is considered efficient if it runs in polynomial time, meaning the algorithm requires n^x calculations where x is a constant (Nielsen, 2002). On the other hand, less efficient algorithms run in exponential time, in which the algorithm requires x^n calculations in order to reach the output. The two most notable algorithms that demonstrate quantum speedup are Shor's algorithm for factoring large integers and Grover's algorithm for searching randomized data sets.

Shor's quantum factoring algorithm, published in 1995, factors large numbers in polynomial time, a feat that classical algorithms can only accomplish in exponential time (Biamonte et al., 2017). The problem of factoring large integers has long been of interest to number theorists. While factoring may seem simple for relatively small integers (three digits or less), the problem becomes increasingly more complex as the input sizes grows. In fact, the task is so difficult that it forms the basis of several cryptosystems (Shor, 1997). Shor's algorithm tackles the challenge of factoring through the use of the Quantum Fourier Transform, a function analogous to the classical Fourier transform. Many computer scientists point to Shor's algorithm as a prime example of quantum speedup and the sheer mathematical power behind quantum computation. However, the application of this algorithm could mean the end to modern cryptography and data security.

Grover's search algorithm tackles another sought-after mathematical feat: finding a specific value in a set of unordered numbers (Grover, 1997). The most common application of this algorithm would be to find the minimum value of a list of numbers. While searching an unordered list may seem a trivial task, it proves quite difficult to classical computers. The only classical method of finding a specific value in a list would be to

examine each number in the list until the desired value is found. Given a set of numbers of size n , a classical algorithm would need on average $0.5n$ steps to find the minimum (Grover, 1997). Grover's quantum algorithm, however, is capable of finding the value in only $O(\sqrt{n})$ steps (Grover, 1997).

Shor's and Grover's algorithms provide excellent examples of the power behind quantum computation. The widespread use of quantum algorithms could uncover a world of unsolved mathematics problems and innovative methods for completing certain tasks. However, quantum algorithms are difficult to construct because most computer scientists and developers are rooted in classical - as opposed to quantum - physics (Nielsen, 2002). IBM addresses this issue in part through the opening of its cloud-based quantum computer simulator (IBM Cognitive Advantage Reports, 2018). Public access to quantum computing software shall encourage further development of quantum algorithms.

Construction

Quantum computation serves as a classical example of theoretical research preceding experimental research. While researchers began studying quantum computation in the 1980s, major industries have only produced small quantum computers within the last several years (Mullholland, Mosca, & Braun, 2017). Many materials have been proposed for qubits, common examples being electrons in the excited or ground state, polarized photons, and particles with nuclear spin (Wittek, 2014). One material that is particularly promising, however, is the single-molecule magnet (SMM). The single-molecule magnet exhibits both classical and quantum properties and takes on two separate magnetic spin states, making it a viable candidate for use as a qubit (Ritter, 2004).

Originally proposed as a new material for memory storage, the single-molecule magnet also has potential in quantum computing. A single-molecule magnet exists in two different magnetic spin states and—with enough energy—can switch between these two states (Ritter, 2004). However, SMMs can pass through this energy barrier via the quantum tunnelling effect (Ritter, 2004). By exploiting quantum tunnelling to switch the SMM's spin states, one can produce the superposition of states required for quantum computing. In addition, interactions known as magnetic exchange coupling allow for entanglement between several SMMs (Ritter, 2004).

Although there are several options for materials to construct quantum computers, another challenge lies in keeping the computers running. One important facet of quantum computation is the prevention of *decoherence*, in which quantum materials lose functional ability through interaction with the environment. To prevent decoherence, qubits must be kept as isolated as possible. This proves difficult, however, since the qubits must interact with the environment in order to be measured (Wittek, 2014). One solution to

preventing outside influence is supercooling. For example, the D-Wave quantum computer in Canada is kept at -273 C° , a mere 0.15° above absolute zero (D-Wave Systems, n.d.). Although extreme, methods such as this keep qubits functioning as long as possible, allowing researchers to fully explore the applications of quantum computing.

If institutions want to construct and maintain quantum computers, they must also find a source of funding. While government grants and generous donors may contribute to quantum computer construction funding, the gaming industry could be the quantum computer's strongest ally. Several technologies used in scientific research today, such as the graphics processing unit (GPU) and virtual reality software, were originally released for video gaming. Recreational applications are more easily understood (and often more appreciated) by the public, and thus very commercially successful. Appealing to both the scientific and gaming markets could kickstart the widespread construction of quantum computers.

Applications of Quantum Computation: Quantum Machine Learning

The speedup and power behind quantum computation unlocks a world of interdisciplinary applications, especially in machine learning. The primary goal of machine learning is to program a computer to recognize and categorize data patterns. The promising aspect of quantum machine learning lies in the quantum computer's ability to simulate quantum systems, a task classical computers cannot do. If quantum computers can produce data that classical computers cannot produce, perhaps they can also interpret patterns that classical computers cannot interpret (Biamonte et al., 2017). This property would benefit several current machine learning projects, from teaching computers to recognize handwritten numbers to making a program that uses MRI scans to identify mental health risks. The ability to analyze complex data patterns would even help advance research in quantum mechanics. Quantum machine learning could be used to study quantum data more effectively, thus gathering even more information on quantum mechanics itself. Another advantage to quantum machine learning is that general machine learning algorithms are inundated with matrix operations, calculations that form the basis of quantum mechanics (Biamonte et al., 2017). As a result, quantum computers would run machine learning algorithms exponentially faster than classical computers (Biamonte et al., 2017). Several researchers have already written quantum machine learning algorithms and anticipate future use of quantum machine learning.

Consequences of Quantum Computation

While quantum computers have the potential to provide significant advances in technology, widespread quantum computation poses several threats to cybersecurity and cryptography. Because modern cryptography plays a role in nearly every online interac-

tion, it easily goes unnoticed. However, cryptography ensures the security of personal, corporate, and government data. Passwords, credit card information, social security numbers, and private communications all fall under the umbrella of cyber secure data. Cryptographic methods keep this private information safe from third-party intruders largely by exploiting the classical computer's inability to factor large numbers easily (Flannery & Flannery, 2002). Unfortunately, Shor's factoring algorithm demonstrates the quantum computer's ability to break this method (Shor, 1997). Should quantum computers become readily available, all protected data will suddenly be at risk. Incidentally, this threat has resulted in an entirely new field of research: quantum cryptography.

A New Field is Born: Quantum Cryptography

Cryptography dates back as far as the time of Caesar (Flannery & Flannery, 2002). One of the most popular ciphers is indeed the Caesarean cipher, in which one assigns a number value to each letter of the alphabet (i.e. "a" is 1, "b" is 2, "c" is 3, etc.) and sends a message entirely composed of these numbers. The recipient of the code can then decode it based on his or her knowledge of the assigned letter values. This type of encoding and decoding is known as *private key cryptography*, in which two parties decide on a key that encodes and decodes the secret messages. This method will only prevent interception by a third party if the two parties can keep the key completely private. This is a difficult task, since the two parties must somehow communicate the key without being intercepted.

The other main branch of cryptography is *public key cryptography*. In public key cryptography, each party publishes a key to encode a message, but withholds the key to decode the message (Flannery & Flannery, 2002). For instance, if Person A wishes to send a secret message to Person B, Person A will simply look up Person B's public encoding key, encode the secret message, and send the message to Person B. Person B then decodes the message using his or her secret decryption key. Making the encoding key public seems counter-intuitive, especially since many decoding keys can be inferred by reversing the encoding key. Public key cryptography is a very secure method of communication, however, if one takes advantage of one-way mathematical operations. These operations are simple to do forward but very difficult to do in reverse. For example, squaring a number is a lot easier than taking the square root of a number. More complicated one-way mathematical operations form the basis of public key cryptography.

One of these one-way mathematical operations involves factoring large integers. While it is elementary to multiply several prime numbers, it is much more complex to do this process in reverse by finding the factors of a very large number. The most popular encryption technique based on factorization is the Rivest-Shamir-Adleman (RSA) technique (Flannery & Flannery, 2002). Until recently, this method has been very secure due

to the classical computer's inability to factor large numbers efficiently. In light of quantum computation and Shor's factoring algorithm, cryptographers are frantically searching for an encryption system that can withstand attacks from quantum computers. The solution lies in writing quantum algorithms for encryption, thus creating quantum cryptography.

Besides generally protecting information from quantum hackers, the use of quantum computers in cryptography provides myriad advantages. Compared to classical computers, networking quantum computers require exponentially less communication to solve problems (Bennett, 1992). Efficient computer communication is vital for a secure cryptosystem. Quantum laws such as the no-cloning theorem and uncertainty principle also provide extra security against third-party attackers.

Conclusions

Quantum computers provide innumerable advances in technology. Algorithms such as Shor's and Grover's demonstrate that quantum computers can perform certain operations much faster than classical computers and reach impressive mathematical milestones. In addition, the use of quantum computers would allow quantum physicists and chemists to study and simulate quantum systems much more accurately than any classical method. Machine learning would likewise benefit from quantum computation through the quantum computer's ability to produce (and potentially interpret) complex data patterns and more efficiently implement machine learning algorithms.

Quantum algorithms are appealing because they allow access to novel solutions to complicated problems. Shor's and Grover's algorithms gained publicity because they could perform tasks that classical algorithms could not. There are several other quantum algorithms that do not receive as much attention because they accomplish tasks classical computers can already accomplish in a timely manner (Nielsen, 2002). The most significant gain from quantum computers will be in algorithms that solve problems which classical algorithms cannot.

Before the world completely switches to quantum computation, however, much progress must be made. Quantum algorithms require a completely different way of thinking about problem-solving. Even if one does build a large-scale quantum computer, software developers must have enough knowledge of quantum theory to write code for the machines. Addressing this issue, IBM's quantum computer and quantum computer simulator encourage experimentation with quantum computer coding (IBM Cognitive Advantage Reports, 2018).

Other obstacles to quantum computing include the high cost of materials and budget funding. Although quantum computation has widespread applications in many fields such as chemistry, physics, and mathematics, marketing quantum computation to

the video gaming industry might propel its development the most. Quantum computer developers must adapt and respond to challenges such as these if they are ever to produce large-scale quantum computers.

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Nádleeh and Trickster: Accounting for the Absence of Non-Binary Genders in Foucault's History of Sexuality

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Abstract

From a theoretical standpoint, queer sexual categories remain in the wake of Michel Foucault's The History of Sexuality. However, Foucault's work in the three volumes of The History of Sexuality primarily focus on a gender binary of male and female. One may find this logical under the false assumption that gender-fluid categories are a recent advent, but such an assumption excludes figures such as the Native American berdache, a third gender category. To complicate matters further, this gender identity is not set to a fixed sexual preference. Native American literature that explores both the gender and sexual fluidity of the berdache includes texts such as the Navajo creation myth as told by Irvin Morris in From the Glittering World and a selection from "The Winnebago Trickster Cycle" recorded in Paul Radin's The Trickster: A Study in American Indian Mythology. Through a comparative reading of these texts as well as Foucault's The History of Sexuality, we see how Foucault's work could be expanded by incorporating a discussion of non-binary genders. Ultimately, this project explores the gap of gender difference in Foucault's work by examining the role of the berdache in Native American society and literature.

Introduction

From a theoretical standpoint, queer sexual categories remain at the foreground of Michel Foucault's work. His influential *History of Sexuality* provides both queer scholars and queer individuals who are not associated with the academy an analytical arsenal by which to measure the systems that has defined their sexuality and designated their desires as "sinful" or "inappropriate." More recently, though, queer discourse has favored a shift from sexual liberty to gender identity. In a "Talks with Google" lecture, transgender author Thomas Page McBee asks, "How do we become more than what's 'sold' to us? Meaning, we have an understanding of what masculinity means, but where do we get that understanding?" Devoted readers of Foucault may recognize the institutional implications in McBee's use of the expression "sold to us." In particular, his phrase suggests that powerful institutions govern the dissemination of gender identity, a Foucauldian principle. McBee goes on to say that gender is innate and that "we, in a lot of ways, are born with some understanding of who we are in the world, but the way we embody that gender is something we have a lot of choice around." Once again, Foucault's readers can mark the connections between McBee's suggested formation of gender identity and Foucault's notion of agency in the utilization of sexual identity. And yet, Foucault makes little to no mention of alternative, "non-binary," genders or the construction of gender in the three volumes of the *History of Sexuality*.

Of course, Foucault's theories could not be expected to employ gender discourse that gained prominence several decades after his death, let alone the publication of *History of Sexuality*. However, non-binary gender categories are by no means exclusive to current formations of gender identity that allow the individual greater agency in recognizing and challenging a strict gender binary. For example, the berdache, a figure who represents non-binary Native American individuals, predates the Victorians Foucault describes as disseminating the restrictive discourse on sexuality still mirrored today. Furthermore, Native American literature chronicles the presence of the berdache and resonates well with Foucault's theories. This literature includes texts such as the Navajo creation myth as told by Irvin Morris in *From the Glittering World* and a selection from "The Winnebago Trickster Cycle" recorded in Paul Radin's *The Trickster: A Study in American Indian Mythology*. Morris's telling of the Navajo creation story uniquely complicates some of the notions on power and control in the first volume of Foucault's *History of Sexuality*, while Radin's Trickster tale adds to the conversations presented in the latter two volumes, *The Use of Pleasure* and *The Care of the Self*. This project does not aim to discredit any of Foucault's critical notions involving the construction of sexual identity as a means of power and control. Rather, I mean to explore the gap of gender difference in Foucault's work by

examining the role of the berdache in Native American society and literature.

Clarifications

Before delving into the specific literature mentioned above, our knowledge of the berdache in relationship to Foucault's eras of interest bears exploration. One could make the convenient argument that the berdache as a historical figure precedes Foucault's chronological focus. After all, Foucault stresses that his research, at least for the first volume, stems mainly from the "modern epoch" (12), which ran from 1500 C.E. to 1800 C.E. To be fair, the mythology of the berdache comes well before the modern era, but the introduction of the berdache to Western thought falls within the appropriate time span. When Europeans of the 1500s began exploring the Americas for colonization, they encountered native culture firsthand, including native sexual cultures and gender roles. In particular, Cabeza de Vaca recorded his thoughts on Native American same-sex couples: "I saw a wicked behavior, and it is that I saw one man married to another, and these are effeminate, impotent men" (132). De Vaca's description readily uses marriage and reproduction, which nicely corresponds with the binal institutions to which Foucault draws attention: "The legitimate and procreative couple laid down the law" (3). Also, the word "berdache" itself bears European influence. According to Native American scholar Midnight Sun, the term "berdache" is "derived from a Persian word meaning 'kept boy' or 'male prostitute' and [was] first applied by French explorers to designate 'passive' partners in homosexual relationships between Native American males" (34). Evidently, the same European powers that govern the categorization of sexuality in Foucault's first volume also lent their hand to the Western categorization of Native American non-binary genders, revealing that an analysis of berdache literature can clearly coexist in the realm of Foucault.

There is also an important distinction between Western and Native American categorization that needs clarification if one is to analyze berdache literature respectfully. Where a Western person sees a sexual category, a traditional Native American may see a gender category. In different Native American cultures, the berdache is seen as a separate gender category altogether, even though sexual inclinations may indicate this gender identity. Midnight Sun clarifies that the sexual identification of the berdache "is complicated, however, by the fact that many individuals labeled berdaches also engaged in cross-dressing and cross-gender behavior. Most ethnographers have interpreted this behavior as indicating the assumption of another gender role" (34). In this case, "cross-gender behavior" includes taking up obligations that would normally be performed by the opposite gender of one's birth; a Native American man born with a disposition for "women's work," such as agriculture or the creation of tools and baskets, may be consid-

ered a berdache. Furthermore, as Native American scholar Maurice Kenny points out, same-sex attraction did not necessarily mark one as a berdache: “It is known that the Indian berdache sometimes married their own sex and lived together, and the ‘husband’ was not always a fellow invert” (17). Finally, European colonization narratives also bear this distinction, albeit subtly. Even though de Vaca initiated his description by emphasizing sexuality and partnership, he also states that the berdache “go about covered like women, and they perform the tasks of women, and they do not use a bow, and they carry very great loads. And among these we saw many of them, thus unmanly as I say, and they are more muscular than other men and taller; they suffer very large loads” (132). De Vaca’s word choice clearly indicates his awareness that the berdaches he saw were participating in work that was usually performed by female members of the community. Though homosexuality does not always a berdache make, the berdaches mentioned in this literature, specifically by Radin, participate in sexual activity that complicates Foucault’s work, as will be seen.

Volume 1: The History of Sexuality

Foucault opens the first volume by singling out the institutions that kept European sexuality in check: “if sex is so rigorously repressed, this is because it is incompatible with a general and intensive work imperative. At a time when labor capacity was being systematically exploited, how could this capacity be allowed to dissipate itself in pleasurable pursuits, except in those—reduced to a minimum—that enabled it to reproduce itself?” (6). Foucault’s reasoning relies on a society acutely aware of and bound by reproduction. Prior to colonization, Native American tribes grew to such an extent that their cultures managed to mold enclaves for the berdache that bypassed Foucault’s theoretical interest in reproduction. According to Maurice Kenny, the Sioux and Cheyenne tribes held notable third-gender cultures for “no particularly good reason . . . other than the possibility that these were large and powerful tribes . . . Within such large groups a social-religious use could be found for the berdache. As there were enough warriors and hunters to both protect and feed the community, some males were allowed to pursue more gentle endeavors” (17). Though not mentioned by Kenny, the Navajo, another large tribe, successfully integrated the berdache into its religion and literature, as evidenced by the Navajo creation story.

Regarding the role religion can play in forming sexual identities, Foucault draws attention to the introduction of confession to European Christianity. Foucault states, “An imperative was established: Not only will you confess to acts contravening the law, but you will seek to transform your desire, your every desire, into discourse” (21). Whereas European Christian configurations of desire rely on confessional discourse, the Navajo

religion uses the religious discourse inherent in creation myths, here rendered by Irvin Morris, to incorporate queer identity into the fabric of their culture. Towards the beginning, First Man and First Woman give birth to more humans, the berdache among them: "In four days a pair of twins were born to them, and these first children were *Nádleeh*, those who have the spirit of both male and female. Only the first pair were like that. In four days, another pair of twins were born, and so on" (38). By incorporating the berdache, here called the *Nádleeh*, the Navajo utilize their religious discourse to suggest that non-binary genders have existed since creation, thus codifying and introducing the idea of a third gender.

In addition to this codification, the Navajo creation myth also includes an alternative to Foucault's interest in reproduction. According to Morris, "[First Man and First Woman] planted great fields of corn and other crops. They also built an earthen dam, and the *Nádleeh* were appointed to be its guardians; while they watched over the dam they created beautiful and useful things, pottery and basketry, and the people praised these inventions. For eight years they lived in comfort and peace" (39). It bears mentioning that mortality has not been introduced to humanity at this point in the myth, so reproduction is not as major a concern. Even so, utility through craftsmanship, the promise that an individual can benefit the tribe through some form of work, validates a person's presence within the tribe. Whereas Foucault's configuration of European culture empowers reproduction as the deciding factor of a union's validity, the Navajo culture expresses more concern with craftsmanship. Morris further demonstrates the utility of the berdache when early Navajo men set out to discover more land: "The men agreed and gathered up their tools and all the things they had made. First Man, recalling the industriousness of the *Nádleeh*, invited them to come along, and they brought their grinding stones, baskets, cooking utensils, and other useful implements" (39). Evidently the berdache's inability to reproduce does not exclude it from the powers that disseminate validity among the tribe's identities.

As the creation story continues, the berdache's utility is illustrated as not only useful, but essential to the tribe's ability to function. For example, unrest occurs at the passing of one of the *Nádleehs*:

One morning not long [after the promise of mortality was introduced by the animal spirit Coyote], they noticed that one of the *Nádleeh* had stopped breathing. This was the first death. With instructions from the Holy People, they prepared the body and placed it in a rocky crevice. At about the same time, there was a dispute with the *Kiis'áanii* [the Pueblo peoples] over the seed corn that had been brought from the lower world, and the groups separated because of it. (41)

Though in theory there should be at least one remaining *Nádleeb*, it seems that no industrious *Nádleeb* was at hand to circumvent the issue with the Pueblo peoples. Morris's juxtaposition of these events hearkens to anthropological studies previously conducted on the Navajo. In addition to Navajo literature, anthropologists also describe the *Nádleeb*'s importance. For example, anthropologist Willard W. Hill states "I think when all the *nadle* are gone, that it will be the end of the Navajo . . . If there were no *nadle*, the country would change" (274). Evidently, the Navajo creation myth utilizes religious discourse to illustrate the importance of a non-binary gender as not only useful, but also a spiritual necessity for safety and well-being. In contrast to Foucault's work, which historicizes the power of religious discourse in identifying sexual desire, the Navajo creation myth relies on both religious *and* gendered discourse as the means of establishing the *Nádleeb* as a role within the tribe.

Volume 2: The Use of Pleasure

The second volume of Foucault's trilogy, *The Use of Pleasure*, shifts the focus from the modern era to ancient Greece. Whereas the first volume focuses on how modern Europeans devised the institutions through which the dissemination of sexual discourse empowered certain sexual identities, the last two volumes examine a period that pre-dates the modern epoch to illustrate how Foucault's theories can be applied to different historical periods. As its title suggests, the second volume explores how pleasure and ethics also act as institutions that figure into sexual discourse. While Morris generally excludes the sexual activity of the *Nádleeb*, Paul Radin demonstrates in "The Winnebago Trickster Cycle" that the berdache participates in and complicates the construction of sexuality.

Before delving into the intimate connections between *The Use of Pleasure* and "The Winnebago Trickster Cycle," the premises purported by Foucault and Radin require further elaboration. In order to characterize the joint role that pleasure and ethics play in sexual identity, Foucault states that "what distinguished a moderate, self-possessed man from one given to pleasures was, from the viewpoint of ethics, much more important than what differentiated, among themselves, the categories of pleasures that invited the greatest devotion" (187). Foucault's analysis of Greek sexuality finds that the object of one's desire did not hold the same weight as one's ethical pursuit of that desire. Moderation and context worked in tandem to draw the ethical borders of appropriate sexual activity. Foucault applies these borders to illustrate how a man of Ancient Greece could have intercourse with both women and men (particularly younger men) without being assigned a separate, "unethical" sexual category.

Radin complicates this configuration by presenting a berdache figure that operates as both male and female. In contrast to the human *Nádleeb*, the Winnebago Trickster is

a supernatural being who can physically transition between sexes. For example, “Trickster now took an elk’s liver and made a vulva from it. Then he took some elk’s kidneys and made breasts from them . . . Then he let the fox have intercourse with him and make him pregnant” (79). The Winnebago construction of the berdache, according to Radin, possesses even greater fluidity than Foucault’s Ancient Greeks because Trickster evades both a firm sexual categorization as well as a singular gender identity. Therefore, Trickster and the berdache in general can enjoy greater fluidity within the tribe’s categorization of sexuality and gender.

Now the question remains as to what pleasure Trickster and his befriended animal spirits get out of gender-swapping, and whether this pleasure is considered ethical by the Winnebago. In the context of Radin’s telling, Trickster, with the aid of his animal spirits, becomes a woman to seduce a wealthy chief’s son, ensuring they would have food and shelter to last the winter. From this summary, one may draw the conclusion that their motives lack pleasurable intent. However, when Trickster presents his scheme to the animal spirits, they respond by shouting “Good! . . . All were willing and delighted to participate” (78). Radin’s use of “delight” calls for some ambiguity: one could argue that their delight stems from the assurance that they will be fed, but Radin also draws attention to their delight in participation, suggesting some degree of pleasure in the physical, sexual processes by which they plan on deceiving the chief’s son.

However, this pleasure, particularly the deceitful means by which it is achieved, is not ethical to the Winnebago. Trickster blows his cover while preparing a meal: “the chief’s son’s wife (Trickster) jumped over the [cooking] pit and she dropped something very rotten [ostensibly the vulva crafted from the elk’s liver]. The people shouted at her, ‘It is Trickster!’ The men were all ashamed, especially the chief’s son. The animals who had been with Trickster, the fox, the jaybird, and the nit, all of them now ran away” (80). A Western reader may intuit this shame as indication that the men of the tribe had been sexual with Trickster and are now shocked at their own intercourse. However, this claim does not match the culture of the Winnebago. According to cultural historian Will Roscoe, the Winnebago tribe has a berdache figure capable of receiving visions and dealing wisdom (13). Therefore, the Winnebago are familiar with non-binary genders, distinguishing the shame felt by the men of the tribe as that of confusion or hurt at being deceived by a more spiritually powerful being. Furthermore, the fact that Trickster and his friends ran away after being discovered demonstrates a mutual understanding that their deceitful behavior was unethical. Ultimately, Radin’s work expands Foucault’s theories by demonstrating how pre-modern individuals who possessed gender fluidity had an ethical responsibility not to use their fluidity in pleasure-seeking to manipulate and deceive other individuals.

Volume 3: The Care of the Self

The final volume in Foucault's trilogy returns to ancient Greece as a means of observing the formation of the individual. Foucault finds that in responding to concerns of sexual identity, individuality answers to the following three factors:

(1) the individualistic attitude, characterized by the absolute value attributed to the individual in his singularity and by the degree of independence conceded to him . . . [by] the institutions to which he is answerable; (2) the positive valuation of private life . . . the importance granted to family relationships, to the forms of domestic activity, and to the domain of patrimonial interests; (3) the intensity of the relations to self, that is, of the forms in which one is called upon to take oneself as an object of knowledge and a field of action, so as to transform, correct, and purify oneself, and find salvation. (42)

Trickster's decisions after being found out mirror these three factors with some important differences to the third. After running away from the tribe he deceives, Trickster asks himself, "Well, why am I doing all this? It is about time that I went back to the woman to whom I am really married. Kunu must be a pretty big boy by this time.' . . . Trickster hunted game for his child and killed very many animals. There he stayed a long time until his child had become a grown-up man" (80). Regarding Foucault's first factor, Trickster understands that he is answerable to his family, and while he has enough agency to wander from them, he recognizes that he must return from time to time. The consideration shown by Trickster exhibits tenderness not present in his previous, deceitful actions; therefore, his decision to return to his family evokes a sense of well-being and personal development. The second factor expresses the valuation of private life and "patrimonial interests," which are evident in Trickster's decision to provide for his family by hunting. Both factors expressed by Foucault resonate cleanly with Radin's work.

In the third factor, however, Foucault explains that individual care provides a salvation or purification of oneself, but Trickster's decision does not aim for personal purification. As previously stated, the berdache within Winnebago culture is a mystic figure useful for instruction, which is more apparent in Trickster's decision to stay until his son is grown: "Then, when he saw that his child was able to take care of himself, he said, 'Well, it is about time for me to start travelling again for my boy is quite grown up now'" (80). The first volume distinguishes reproduction as the necessary means for perpetuating society, yet Radin's piece shows that instructional attention to younger generations plays a role in this perpetuation and that this perpetuation replaces the purification called for in

Foucault's configuration of the self. Furthermore, Foucault connects this need for purification with the realization that one is an object of knowledge and a field of action. The only need tantamount to this in Trickster's story is when he and his companions decide that they need food and shelter for the winter. When Trickster accepts that the world will soon become difficult to live in, he says "I will disguise myself as a woman and marry [the chief's son]. Thus we can live in peace until spring comes" (78). As opposed to purification, Trickster seeks fortification by assuming the field of action that a Winnebago woman would take. Overall, both his need to educate his son and his decision to transition into a woman stem from awareness of his own gender fluidity.

Conclusion

Foucault's *History of Sexuality* establishes a foundational framework for examining the power inherent in controlling sexual discourse. However, in establishing this framework, Foucault does not account for the discourse by which individuals determine gender identity and the roles of that gender within a society. Berdache literature, such as the Navajo creation myth and "The Winnebago Trickster Cycle," exemplifies how the inclusion of non-binary gender categories complicates Foucault's work. As a concluding note, one could argue that the berdache lacks validity in this conversation due to its supernatural abilities, but this claim ignores both how this literature codified a place for non-binary genders in Native American culture and that this literature precedes contemporary discourse on alternative genders. When reflecting on his memoir of physical transitioning, Thomas McBee says, "I wasn't interested in specifically writing the 'trans experience,' but I was interested in writing about the male experience and the human experience, and I think gender is just one powerful dimension of identity, and just a way for me personally to examine that." Today gender plays a pivotal role in distinguishing one's sexual identity, so when considering theoretical texts such as Foucault's that examine the construction of sexual identity, literature that observes gender identity belongs within the same conversation.

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