



## Volume 4



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ParkWrites: Writing Across the Curriculum  
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A special thanks to the WAC committee for their input and support as we developed volume 4 of *The Navigator*. We are especially grateful for your help and expertise in choosing the submissions for this fourth volume and the winners for the best writing award and cover art contest.

## Editorial Intern Biography

**Christina Pittman** is currently pursuing her bachelor's degree in English and Professional Writing with a minor in Digital Marketing. She will be graduating in the fall of 2025 and intends to move forward in her career in the field of book publishing. Christina has contributed to various aspects of *The Navigator* this semester including: social media outreach, manuscript editing, photo editing, and image attribution. She would like to express her gratitude to the faculty who have consistently pushed her to strive to do better: Dr. Amy Mecklenburg-Faenger, Dr. Stephen David Grover, Dr. Jennifer Whitley, and Professor Glenn Lester.

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*The Navigator's* Cover Art Contest Winner: **Paul Fueston**

### About the Artwork

The piece is titled "Deep Winter" named after a freeze that hit Missouri 4 years ago. The piece is a 40x30 inch acrylic painting on stretched canvas. The inspiration for the piece came from an ice storm that hit the artist's backyard and had frozen everything including his home's water pipes. But by the end of the ice storm, it was beautiful.

**Paul Fueston** is majoring in English with a minor in public relations. He lives one mile from the Lake of the Ozarks where it is tranquil and relaxing. He loves hanging out with friends and family while fishing in the pond on his property or listening to the wildlife. Paul gains a lot of inspiration and ideas for his artwork from his backyard. One of his dreams is to travel the world with his girlfriend, writing about or painting what they see and experience. "The idea of getting lost in the wilderness excites me; I lived most my life in the wilderness, which is where I feel most comfortable." – Paul Fueston.

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## About ParkWrites

ParkWrites is a university-wide Writing Across the Curriculum (WAC) program aimed at improving writing and writing instruction across the university. Writing Across the Curriculum is an educational approach used by a majority of universities to develop student learning about content (writing to learn) and to develop student learning about writing across all disciplines (learning to write). WAC programs increase student engagement and retention, critical thinking, effective communication across a range of audiences and purposes, and better prepare students for communicating in the workplace. These benefits are even greater for international students and students from underserved populations. ParkWrites consists of multiple initiatives including faculty development and support, a journal of excellent student writing called *The Navigator*, a student writing fellows program which places trained students in classes for extra writing support, and a curricular initiative, the Writing Intensive program. In addition to taking 3 required writing courses at Park, students also take at least 2 writing intensive courses both inside and outside their majors ensuring students get effective instruction in writing throughout their entire degree program.

## From the Editor...

Dear Readers,

Welcome to the fourth volume of *The Navigator: Excellent Student Writing Across the Disciplines*. When I first accepted this role last spring, I was thrilled but trepidatious. I knew it would be time-consuming work, but as a faculty member, I also recognized it would be one of the most meaningful forms of service to the university. I am honored to be a part of a journal that represents our Park University undergraduates' perseverance and exemplary scholarship. I share with you fourteen pieces of writing across the disciplines from the 2023 calendar year that showcase our students as chemists, psychologists, historians, literary analysts, biologists, artists, and more.

As I was working on putting together this volume's manuscript, what resonated with me was the interdisciplinary nature of these pieces. This volume reminds us of the value of a liberal education. Connecting learning in the humanities, social, and natural sciences strengthens our understanding of the world and encourages students to look at problems today both critically and with diverse perspectives. The pieces range from a historical and chemical analysis of mortuary science to an interdisciplinary approach (applying psychology, sociology, and nutrition science) to understanding PTSD in non-combat veterans. As you read this volume, you will learn about our changing world – how AI continues to impact higher education or how advertisements of menstrual products are shifting to represent a broader definition of gender.

This fourth volume would not have been possible without the talent and hard work of our editorial intern, Christina Pittman. Christina is an incredible copyeditor; her attention to detail on every piece in this volume has been instrumental in building *The Navigator* this year. In addition to copyediting papers, Christina's digital marketing skills assisted us with social outreach and finetuning our website, [thenav.org](http://thenav.org). Many thanks to Dr. Amy Mecklenburg-Faenger for her support and leadership as I took on this new role. I am grateful for this experience to learn from you.

Thank you to all the incredible faculty at Park University. I encourage faculty to read the author biographies starting on page 155, and I hope you are reminded of the vital role we have in inspiring and mentoring our students. Finally, to our contributing authors – our students – thank you for sharing your exceptional work with us. You continue to inspire us every day. You are the reason we, the faculty, are here, and we thank you for persevering!

—Jennifer Whitley, PhD

### **More Acknowledgements...**

*The Navigator's* editorial team would like to thank the executive staff of Park University; their leadership and support in providing faculty resources makes this publication possible. A special thank you is given to Shane Smeed, president, Dr. Michelle Myers, provost, Dr. Emily D. Sallee, vice provost, and Cathy Boisen, administrative assistant to ParkWrites.

## **Winner of *The Navigator's* Best Writing Award**

### **Embalming and Chemistry: Till Death Do Us Part A Historical and Chemical Analysis of Mortuary Science**

Abigail L. Kerr

#### **1 Abstract**

A historical and chemical account of the developments of mortuary science from the Prehistoric Era through the Modern Period is discussed. The chemical progression and cultural impacts of each era and the mortuary practices conducted are analyzed for their progressive and detrimental effect on civilizations throughout history. The early methods of preservation are shown to be motivated for mummification and not that of embalming itself but have been able to provide cadavers which can be studied thousands of years after their burial. In the Middle Ages, the use of preservation was entirely motivated by anatomical study, eventually progressing to the formation of mortuary practice as a science in the late 19th century. By the Modern Period, the continued study and modernization of embalming retains many of the traditions established in the Industrial Era; however, research has been shown for sustainable and safer methods of embalming which are able to consistently preserve cadavers for years at a time.

#### **2 Introduction**

The practice of embalming was not conducted for burial until the late 1800s. Prior to this time, preservation was a precursor for other procedures, such as religious beliefs or scholarly pursuits. The Prehistoric Era practiced mummification primarily for the entrance of the deceased to the afterlife. The eldest discovered mummies of the Chinchorro people are an exception as there exists no religious motivation for the mummification methods they conducted. However, for the Egyptian and Ancient Chinese mummies, elaborate rituals for the entrance to an afterlife were completed for each cadaver buried.

In the Common Era, the use of embalming was completed such that dissection could be completed at a later date. While mortuary science was not established, improvements in preservative technology for cadavers progressed and provided decelerated decomposition for several weeks at a time. By the end of the 19th century, bodies were embalmed prior to burial during the Civil War. With the introduction of formaldehyde in 1868, mortuary science had fully introduced itself to modern medical practice.

In the 20th century, regulation and improvements in mortuary science progressed. Unfortunately, to present day, a standard method of embalming

does not exist. Nevertheless, extensive research has been conducted such that sustainable procedures and solvents can be used for future embalming. The use of formaldehyde persists to present day; however, active research for replacements or modified formaldehyde are pursued for the aforementioned reason. The historical, chemical, and societal impacts of mortuary science have shaped its progression throughout history. From the Prehistoric Era, the practice of embalming is deeply interconnected with chemistry and anatomy. Major examples of mortuary science, their methods, and their effects are discussed and analyzed from prehistory to present day.

### **3 Prehistoric Preservation**

The practice of artificial mummification and body preservation techniques in ancient civilizations are known to have appeared as early as 7020 BCE [1]. The practice of conserving human cadavers was often motivated by religious practice, such as the existence of an afterlife. Geographically, artificial mummification has been linked to South America, Egypt, and China. During the prehistoric time period, each culture held distinct mortuary practices with materials unique to their climate and anthropological advancements. Not only were the practices of preservation elaborate, they involved intricate chemical processes that may not necessarily have been acknowledged by the civilizations.

#### **3.1 The Ancient Artificial Mummies of the Chinchorro Civilization**

On the coasts of modern Northern Chile and Southern Peru, the Chinchorro people are the earliest known society which reflected evidence of artificial mummification [2]. The practice of body preservation appeared to hold no bias or reservation toward a specific socioeconomic class, nor affiliation to a religious belief [2]. Currently, there is evidence of artificial mummification for adults, children, and fetuses of all sexes dating to 7020 BCE until 1110 BCE [3]. Various methods of conservation were utilized, including Complex and Mud-Coated Mummies [3]. Complex mortuary practices consist of Black, Red, and Bandaged Mummies, each with their own respective procedures. Black Mummies (7000-5000 BCE) required evisceration, or removal of the internal organs, along with Red Mummies (4000-3000 BCE). The Black Mummies were named after the thick, black manganese paint finish on the body; unlike the Black, the Red Mummies reflected a unique red ochre paint finish. Bandaged Mummies were treated identically to Red Mummies; however, they were coated in a full-body layer of bandage wrappings, composed of linen material. Unlike the Complex Mummies, Mud-Coated mummification practices (3000-1110 BCE) required the body to be smoked or dried with glowing coals before the body was coated in a layer of mud, approximately 1-2 cm thick, which dried into a natural cement [3]. The Chinchorro people were known for recreating facial features, clothing, and even hair for the cadavers. Found within several

Chinchorro mummy burial pits were objects such as fishing tools, leather pouches with pigments, weapons, and other personal belongings [4, 5]. Artificial mummification continued for the Chinchorro people until approximately 1110 BCE, where it is cited that climate changes in the area resulted in them deserting the coasts and migrating to higher elevations [4].

### **3.2 Ancient Egyptian Mummies and Culture**

In Africa, the Egyptian practices may perhaps be the most identifiable and renowned examples of human mummification. Dating to as early as 4500 BCE, the artificially preserved cadavers were reserved for only those of higher stature in socioeconomic status [6, 7]. Unlike the Chinchorro people, the preservation of bodies was attributed to an afterlife. The practice of mummification was considered a lengthy ritual, taking almost 70 days, and continued regularly until as late as 364 CE [8]. Bodies were dried chemically before the use of tars, oils, and resins were employed to treat the cadavers and prepare for wrappings [9]. These practices were altered with time to exhibit modern and longer lasting embalming effects, to ensure that decomposition would be reduced, leaving the body's image constant with time. For example, during the 26th Dynasty of Egypt (664- 525 BCE) the use of resin and animal fat to secure bandages was more commonly used compared to more traditional, older mummies, which did not utilize these materials [10]. Like the Chinchorro people, the Egyptians often buried items of personal belongings and gifts with the dead, such as gold, weapons, and elaborate coffins which were often painted to represent the identity of its host [8]. It has been shown that the ancient Egyptians continued to mummify bodies until the end of the Roman Period (364 CE) [8]. With the rise of Christianity in Egypt, the practice of mummification was criminalized; as a result, preservation rituals ceased.

### **3.3 Han Dynasty Mummies in Ancient China**

In ancient China, one of the most notable cases of artificial mummification was that of Lady Dai, or Xin Zhui. The body was preserved meticulously - so much so that a complete autopsy could be completed in 1972, over 2,000 years after her death; her remains and the methods of her conservation are actively researched today [11, 12]. Lady Dai lived during the Han Dynasty, (206 BCE - 9 CE) and was considered a noblewoman of her time. Buried alongside her husband, Li Chang, Chancellor of Changsha Kingdom, her body was found submerged 12 meters underground, within four protective coffins and enclosed in a room intended for her immersion to the afterlife [12]. Furthermore, the use of charcoal and a thick ash-paste layer lining of the chamber protected the space from water damage as well as limiting natural oxygen which would further decompose the body. Fascinatingly, her body was submerged in 80 liters of an unknown solution noted to be slightly acidic and containing traces of magnesium [1, 11]. As

observed with the Chinchorro and Egyptian mummies, personal items were found within the tomb of Lady Dai, including clothes, valuable items, and even a prepared meal for her to consume once she entered the afterlife. The practice of artificial mummification in ancient China was so sustained that her cause of death, a heart attack, could be determined [12]. While the state of her body is still considered one of the most well-preserved mummies throughout history, it was noted that by removing her corpse to complete the autopsy that her remains began to decompose [11, 12]. It is debated whether or not the acidic solution was prepared intentionally, or if it occurred naturally as her body began to gradually decay. Any other conservation methods to Lady Dai remain unknown, along with similarly preserved bodies found within 200 kilometers of the Zhui family [1]. These remains were also noted to be of elite members of the Han Dynasty, representing the privilege of the sacred practice reserved only for aristocratic members of society.

### **3.4 Chemical Analysis of the Chinchorro Mummies**

Artificial mummification methods and chemical analysis are limited for the aforementioned civilizations due to the lack of documentation from the people themselves, and limited evidence of resources. However, the intention and significance of these materials along with the resulting advancements in mortuary practice that the civilizations achieved are plentiful. Treatment of the bodies in the Chinchorro civilization varied slightly for each type of Complex and Mud-Coated mummy. Black Complex Mummies were conducted by first disarticulating the body by removing the skeletal structure [5]. Treatment with hot coals was completed before a coat of white ash-paste was applied to create facial features; the representative identification was attributed by the final layer of black manganese (cryptomelane) paint on the cadaver after the entire process was completed. The source of the paint is debated, with some sources claiming that the Chinchorro people had traveled to the highlands (90-100 km) to mine cryptomelane naturally, which was then crushed and mixed with animal fats to obtain the shiny black paint they desired [3].

Preceding Black Mummies, the Red Mummies had a very similar process, but were lastly coated with red ochre. The first Red Mummy, found approximately  $2800 \pm 155$  BCE, was found to be almost identical to the Black Mummies; however, it exhibited stripes of red and yellow ochre on their outer mud layer. Official Red Mummification practices were not dated until 4500-4000 BCE. Similar to the Black Mummies, the Red Mummies were coated with white ash-paste to sculpt their facial appearance. Further, black manganese paint was applied, though only on the facial portions, with the final unique detail being that of red ochre painted on the body, or trunk. Studies completed on the paints applied to both the Red and Black Mummies show that the red paints were reapplied several times - either before burial or after multiple exhumations [5]. The pigment composition reflects that the Chinchorro



people had developed very specific recipes to obtain a desired paint, such as grinding natural hematite (ferric oxide) before mixing it with clay and animal fat to achieve a distinct red hue [4, 5]. By 3000 BCE, complex mummification had decreased in Chinchorro civilization, and bodies were no longer eviscerated; only dried with coals before being coated in thick layers of mud material. The mud used for the Mud-Coated Mummies often contained traces of sea lion blood, fats, or other proteins. Additionally, binders added to the mud for its stability include sand, fish or egg glues, and “vegetal fiber that could have been intentional inclusions or a result of contact between the cadaver and a mat while the coating was being applied,” [3]. In contrast to the Black and Red Mummies, the Mud-Coated Mummies were treated directly next to the burial pit, and not beforehand in a separate location. Similar to the previous mummification processes, the Chinchorro people would be buried with belongings, supplies, fishhooks, spears, and other materials [3, 5].

### **3.5 Ancient Egyptian Mummification Chemistry**

The Egyptian mummification process was far more elaborate than that of the Chinchorro people. The 70-day ritual of preservation, prayer, and study was completed routinely for the aspiration of an intact, unchanged body for the individual's entrance in the afterlife. Their perspective culturally was that death was a pause in their lifespan, which continued thereafter. Similar to the Chinchorro people, the process of Egyptian mummification would begin with evisceration, in which the organs would then be stored in jars or wrapped individually before then being returned to the body [8]. The entire cadaver and interior would then be dried for forty days with natron, composed of a mixture of sodium carbonate ( $\text{Na}_2\text{CO}_3$ ), sodium bicarbonate ( $\text{NaHCO}_3$ ), sodium chloride ( $\text{NaCl}$ ) and sodium sulfate ( $\text{Na}_2\text{SO}_4$ ), which would both disinfect and preserve the skin and internal structure [13]. Once the natron was removed, the body would be filled with straw, soil, or bandages to retain its shape. Afterward, application of juniper or cedar oils and tars, along with animal fats, linens, and even false eyes were used to conserve the body, limit odor from decomposition, and retain its original life-like appearance [8, 9].

The Pyramid of Djoser, also known as the Tomb of Saqqara (approximately 664-525 BCE) contains a connected embalming workshop where jars of embalming materials were stored. Several pottery vessels and clay beakers were found within the workshop, each storing compounds such as beeswax, tar, and mixtures of fats and oils used for the treatment of the liver, perfumes for the body, and treatments for the head [9, 14]. The process of obtaining the tar and animal fats required a thermal extraction, either by smoking or boiling material [9]. Furthermore, the resin applied to the bandages required mixtures of a dense oil (such as cedar), bitumen (natural or petroleum-based asphalt), and beeswax mixed with balms, all of which required heating processes to be completed before use. The oils themselves were dry-distilled from cedar trees, where the wood would be smoked above hot coals and the oil collected [15, 16]. Bitumen, a naturally occurring tar

which is commonly referred to as asphalt, was applied and dried into a hard shell around the corpse and preserved the remains. Bitumen, while not distinctly chemically defined, has been shown to contain approximately 85% carbon, with the remaining materials shared between oxygen, hydrogen, nitrogen, and sulfur [17]. The bitumen resin showed evidence of being melted before application, and once cooled, it transitioned to a thick and dark shell over the linen bandages. The tar was obtained from smoldered cedar wood and said to be the most effective preservation material when used to secure bandages [9, 10, 14].

### **3.6 Ancient Chinese Mummy Methods**

While much remains unknown about the mortuary items used for the body of Xin Zhui in ancient China, the materials used for the chamber itself created an environment that protected the body from the effects of nature for over two thousand years. The body was enclosed within four coffins, preserved so immaculately that she retained all body hair, her limbs could still be manipulated, and most importantly, a full autopsy could be performed [11, 12]. It was determined that she had died from congestive heart failure, resulting from poor eating habits and a sedentary lifestyle. Notably, she was found to have over one hundred melon seeds within her stomach - which would have digested within one hour of consumption - implying she had been mummified immediately after her death [9]. She was laid to rest with her husband and another body, presumed to be her son [18]. The coffins themselves, each lacquered and sealed, deprived the body of oxygen and allowed the solution to remain undisturbed [18]. Visually, intricate designs were painted on the surface of the coffins, each depicting the initial rituals she would participate in once she had entered the afterlife. The chamber, which resided 12 meters underground, was lined with over 5000 kilograms of charcoal and one meter of thick white-ash paste, to withhold an almost constant and stable environment [18–20]. The white ash-paste, composed of potassium chloride (potash) would protect the body from humidity; paired with the charcoal, the chamber itself would remain preserved. The chamber entrance was sealed with one meter of clay and packed with soil to the surface. This ensured relatively constant pressure, temperature, and humidity, which created a practically sterile environment [11, 12, 18–20]. The abundance of materials used to create the chamber allowed it to be almost completely isolated from the natural environment, delaying significant decomposition for centuries.

### **3.7 Impacts of the Chinchorro Civilization**

During the periods in which artificial mummification was practiced, the methods themselves were significant both culturally and academically, but are wrought with wasted material and damages to the environment. For the Chinchorro people, the use of buried tools and belongings would have

decreased the availability for that of the living population. Prior to their establishment on the coast, the arid Atacama Desert would naturally mummify remains and preserve the dead something the Chinchorro people would have noticed and perhaps wished to continue once the humidity increased in the area, thus accelerating natural decomposition [19]. To gather materials such as cryptomelane for the mummification processes, it may have required people to travel to higher elevations, approximately one hundred kilometers away [5]. While it is debated whether or not these compounds were available on the coasts, their applications being used to preserve the dead can be argued to have wasted potential for other resourceful or practical prospects, such as building homes or more advanced tools.

The Chinchorro people were deliberate and meticulous about their methods of burial, often observed with the refinement of types of mummification and their respective influence on the more modern techniques. Their obtaining and manipulation of materials were elaborate, such as melting, crushing, and mixing certain oxides to obtain specified pigments for paints on the Red Mummies, or the thick cement-like mud on the Mud-Coated Mummies. The process of evisceration on the Black and Red Mummies would allow the practicing people to gain experience in anatomy, the application of paints to promote creativity in painting and art, and the burial to encourage cultural growth. Although there is no official religious practice that is said to have motivated mummification and burial of the Chinchorro people, it is discussed that perhaps with time, religious beliefs may have developed [3].

### **3.8 Ancient Egyptian Effects**

The Egyptian mummification practices varied greatly from the Chinchorro people, the foremost being its religious implications. Their belief in the existence of an afterlife resulted in lengthy and elaborate rituals before, during, and after the mummification and burial processes. Within the tomb of Saqqara, several 'megatombs' were found, with approximately three hundred empty coffins all painted and prepared for bodies, and one hundred occupied sarcophagi [21]. Frequently used in all Egyptian tombs, the use of gold for gilding masks and for precious items - often associated with rulers - are found. These items were buried with their owners, and unavailable for the remaining living population. Furthermore, the burying of statues, tools, and foods would then be limited to the population. The growth of language through art and hieroglyphics were used on the walls and on the coffins; however, the tombs were sealed to prevent looters from stealing the belongings of the deceased. This deliberate prevention of analysis and discovery for the sake of burial prohibited the Egyptian people from using the materials for collective advancement. Furthermore, the lengthy process of prayer and embalming duties would require priests to diligently work on the bodies for months at a time, preventing them from participating in other

societal duties that would be more practical and productive for the Egyptian society.

Additionally, much of the Egyptian embalming materials did not appear naturally and would require chemical manipulation to obtain. For example, the balms and resins for sealing the bodies required cedar trees to be dry-distilled or smoked and were even detrimental to the environment. The use of these balms and resins, specifically bitumen, were used for more humid environments - such as within the tombs themselves, to prevent the bodies from decaying at a faster rate. While it has been stated that the bitumen specifically was obtained potentially from the Dead Sea; artificially made bitumen is a petroleum-based asphalt material, requiring heating by burning of fossil fuels. Petroleum-based bitumen is considered extremely flammable in liquid state and can cause significant lung damage, something that was noted to be used on Egyptian mummies [22, 23]. The use of materials that are dangerous to the respiratory system in an enclosed space with limited ventilation could cause tremendous lung deterioration for Egyptian mortuary practitioners.

### **3.9 Ancient Chinese Cultural Outcomes**

For the practices of Lady Dai, the incredible amount of labor contributed to the creation and strengthening of the chamber would require a gargantuan effort to construct, whether that be of time or people. The careful articulation of food preparation and used materials for her preservation and coffin would result in materials being deprived from civilization, much like that of the Egyptian practices. While the Han Dynasty is renowned for its effective leadership and sustained social construct, the misuse of materials for ensuring a stable environment to reside deceased human remains would lack practical use for the living society. Furthermore, the artistic applications for the coffins, the materials within the tomb, would be wasted for future study, cultural, and artistic development.

While the solution in which Lady Dai is preserved is still unknown, the potential for future study on her remains is still active, allowing the opportunity of potentially sustainable preservation methods to be practiced or analyzed. Additionally, the tomb itself being constructed so soundly provides insight into the methods and knowledge of the ancient Chinese people; the use of charcoal and ash-paste to limit water and oxygen to allow for an almost completely unchanged environment. While no documentation has been yet published for the mortuary practices themselves, what has been established provides insight into the intentions for preservation and stabilization of the deceased elite in ancient China.

### **3.10 Overview of Prehistoric Embalming**

While there is much to be discovered about the purposes and practices of artificial mummification prior to the Common Era, what is known gives

only a glimpse into the expertise of ancient mortuary science. The ability for remains of individuals from over 3,000 years ago to still be analyzed and preserved could not have been planned by ancient civilizations, though their contributions to modern day practices are indispensable. By providing modern scientists with their examples of complex and uniquely preserved cadavers, ancient civilizations will continue to motivate study of mortuary science and growth for years to come. While the methods of the Prehistoric Era solely surrounded mummification, the progression of embalming in the Common Era provided the resources for mortuary science to be established as a field.

## **4 Embalming in the Common Era**

The history, methods, and outcomes of body preservation from prehistory to present day has attributed tremendously to the development of anatomy and culture. From the complex beginnings of mummification and evisceration to the chemically motivated use of solvents and vascular injections, the historical progression of embalming has not only assisted significantly with anatomical study, but also to the field of chemistry entirely. The motivations of preservation, chemical intricacy, and cultural impact of posthumous practices have been vital to the development of early civilizations and will continue to be studied as modern mortuary science progresses.

### **4.1 Early European Preservation**

Historically, body preservation methods for early civilizations are accredited to mummification. Prior to the common era, this practice was common for a variety of cultural motivations and purposes. For the ancient European civilizations, 'mortuary science' did not fully develop until after the Middle Ages. Prior to this time, in approximately 0-1300 CE, the ancient Greeks and Romans were known to have applied oils and alcohols to bodies to cleanse and preserve them prior to burial. The use of oils was often due to the smell of the cadavers, though both alcohols and oils did not facilitate any long-term preservation [24, 25]. The use of vanillin was common to assist in reducing odor from the body before being encased in a coffin, often lined with lead [26]. By the 13th century, France pioneered mortuary science with the discovery of dissection and anatomy, using oils and alcohols - similar to the Greeks and Romans, but also using salts to dry bodies [27, 28]. The development of anatomy and dissection contributed significantly to the progress of mortuary science and embalming methods as bodies needed to be preserved for at least a week to be studied by students and scholars alike [29]. Additionally, the use of cinnabar, gypsum, and aloe on elite religious figures was completed in the 1300s, such as with Saints and popes [30]. Bodies would be eviscerated with the bones boiled and dried, and fats would be introduced into the body and would harden as a method of preservation [31]. These

practices did not ensure long-term preservation but did decelerate the decomposition process for approximately 3-7 days [1].

## **4.2 Embalming in the Middle Ages and Renaissance**

In the Middle Ages, anatomical study in Europe had flourished and the exploration of preservation techniques greatly evolved. Prior to the 14th century, embalming methods were limited to washing the body before burial. In the early 1500s, anatomical study flourished in Europe, particularly in France and Italy, and universities began to offer courses for scholars to study the dissection of the human body. In Brittany, France, bodies were mummified and buried from the 16th-18th centuries. These bodies, once exhumed, were stored in wooden or lead coffins and their organs were encased in lead containers. The hearts were enclosed in representative heart-shaped lead cases which were engraved with the name and dates of the person that they belonged to [25]. In Italy and France, famous artist Leonardo da Vinci (1452-1519) is known to have studied anatomy by injecting waxes, inks, and oils into over 30 cadavers to observe the preservative effects over time [30, 32, 33]. Da Vinci was far more experimental than some of his peers; his practices, "... including washing organs with running water, injecting wax into the ventricles of the brain and blood vessels, cutting bones and organs. When embalming, he conducted experiments with various solutions: turpentine, lavender oil, rosin, camphor, potassium and sodium nitrates" [32]. Unfortunately, the gargantuan increase in grave-robbing related crimes caused the frequency of anatomical study to be limited, as successful attempts to preserve bodies for periods longer than one month were not achieved [33]. During the Crusades, the practice of boiling corpses in a mixture of salt water, aromatic herbs, and natural antiseptics was used to "... dismember the corpse and facilitate the storage and transportation of the relics to the places of burial," [27]. Major contributors to the study of embalming are accredited to Peter Forestus (1522-1597) and Ambroise Pare' (1510-1590), both of which who studied the use of "aqua vitae", a solution of dilute ethanol, and the forefront of vascular injections to preserve bodies for longer periods of time [32, 34].

By the 18th century, anatomical study had continued to progress to more exploratory methods, especially motivated by the studies of da Vinci. His practice of injecting liquid wax into the vascular structure of bodies motivated several other scientists to explore other substances. The use of vascular injections is not considered to officially debut until the mid-1700s, pioneered by Dr. Frederik Ruysch (1683-1781) [1, 27]. While da Vinci pioneered the use of inks, oils, and waxes, Ruysch explored a solution of 'liquor balsamicum', which "... contained clotted pig's blood, Berlin blue and mercury oxide," [1]. His methods were so perfected that Peter the Great was said to have been convinced bodies were still living after the embalming process was complete [35]. Further contributions by Jan Swammerdam (1637-

1680) used a mixture of "... alcohol, turpentine, wine, rum, spirits of wine, and colored waxes..." to retain life-like appearance of animals and insects [34].

It was noted that Ruysch practiced Swammerdam's methods on Admiral Sir William Berkley, who died at sea in Holland and was preserved to return to England for burial with great success, showing the growth in collaboration and practice of shared mortuary science methods [34]. By the end of the 17th century, methods included using alcohols, salts, turpentine, potassium carbonate, and ammonium chloride to preserve bodies for several weeks at a time [1]. Another major contributor to the progression of mortuary science is that of Jean Nicolas Gannal (1721–1783), who used a mixture of acetic, nitric, and hydrochloric acids as well as various salts of copper, mercury, and sodium for the treatment of cadavers [1]. Most successful for his practice when compared to that of his predecessors was the use of aluminum acetate, which would successfully preserve the corpse without lacerating it. This non-invasive method was so precise and mastered that a cadaver could be preserved 60-90 days without decomposition [35]. Many mortuary practitioners were also accredited to submerging the body completely in alcohol solution or in mercury (II) chloride solution [1]. The use of metals like zinc and mercury on corpses allowed them to be preserved for longer periods of time for burial or anatomical practices, which were studied fervently during this time.

By the late 18th century, several figures emerged for their successful and documented practice of mortuary science. In France and Italy specifically, the use of mercury dichloride, arsenic, and zinc chloride by Georges Cuvier (1769-1832), Francois Chaussier (1746-1823), and Louis- Jacques Thenard (1777-1857) was shown to have great success [1, 28]. Additionally, the Flemish and German regions of Europe were known to have practiced embalming methods with religious motivations during this time, where bodies would have, "Small incisions or holes were made in the body to facilitate the penetration of the liquor, which usually consisted of a distillation of alkaline solutions (such as brine, but sometimes also caustic lime and vinegar) with wine spirits, turpentine, or sulphur, and various spices," [27]. During the Napoleonic Wars, French surgeons practiced wax injections into cadavers with inks to preserve natural colors of the skin for burial. Furthermore, they practiced, "... such beauty treatments as the application of hair dye, the insertion of glass eyes, and the use of paints to tint the skin, in order to give the body the appearance of intra vitam ['dur- ing life']," [27]. It was often practiced to soak bodies in arsenic or alcohol prior to the injections to cleanse and preserve as well as prevent bacteria from inhibiting the corpse and from spreading disease.

### **4.3 Civil War and Mortuary Science**

During the Civil War, arsenic was commonly used as it prevented disease from spreading to the living; however, there required new methods to preserve bodies for longer periods of time such that they be returned to

their homes for burial. Prior to this time, the use of embalming techniques was mostly motivated for dissection or used after dissection was completed, and embalming done solely for the purpose for burial was not common. A major early documented case of embalming solely for burial would be that of President Abraham Lincoln's son, Willie, who had passed from Typhoid fever in 1862. It was one Henry P. Cattell who agreed to embalm the body for burial [36]. His methods were so perfected that Willie remained life-like; it was said President Lincoln requested his son's coffin be reopened multiple times as he appeared as if he were sleeping [34, 36]. It was the same Henry Cattell who embalmed President Lincoln himself, and in both cases, "Using a French embalming mixture described by the Chicago Tribune on May 2, 1865 as 'a concentrated solution of sulphate alumina,' the doctors were able to "make the body like marble' so that it would 'not perceptibly change for several months' and would 'never know decay,'" [37]. During the height of the Civil War, surgeons Dr. Richard Burr and Thomas Holmes explored methods of preservation by using zinc chloride and lime [1, 38]. Both Burr and Holmes initially started preservation methods for families that wished to have the bodies returned for burial, in which they would charge approximately 100 dollars per corpse for preservation. The use of sawdust was also common to ensure the bodies were preserved and dried, though injection of zinc chloride was most directly used. The preservative methods of Burr and Holmes established the use of mortuary science as a preparatory burial procedure, and no longer a precursor for anatomical study or religious motivation.

By 1859, Aleksandr Butlerov had discovered formaldehyde, though it was not used for embalming practice until 1868 by Wilhelm von Hofmann, which immediately was noticed by morticians for its long lasting effects on cadavers: upwards of over one year of retaining a preserved state [1]. Soon thereafter, "Phenol was introduced to anatomical embalming by [Fredrick William] Laskowski (1886) in the mid-19th century. He initially used a mixture of phenol and glycerine as vehicle (one part phenol, 20 parts glycerine); later on, he replaced parts of the glycerine with alcohol (one part phenol, one part boric acid, four parts alcohol, 20 parts glycerine)," [1]. Both methods were used often for the preservation of corpses due to their long-lasting effects and repetitive results. Both methods are still used today; however, they were soon found to have negative effects to the human body, with formaldehyde being the worst, "In addition, the immediate adverse effects were already known: skin irritation, conjunctivitis, irritations of the respiratory system, and headache," [1]. Phenol has been argued to be more detrimental to health; however, formaldehyde has been shown to have greater debilitating effects for short term exposure [39]. Nevertheless, current research for the replacement of both solvents has been undergoing since their introduction [1, 39].

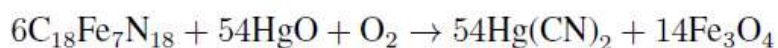


#### 4.4 Ancient European Embalming Properties

While at the foundations of the common era, the use of resins, oils, and alcohols are not necessarily chemically motivated, the increase in chemical complexity of modern embalming practices requires explanation as to the motivations and abilities of the materials. In approximately 250- 1000 CE, the use of vanillin, or vanillic aldehyde, is modernly considered a “green embalming fluid” [1]. The use of vanillin for cadavers would delay decomposition for approximately 3-7 days, allotting enough time for dissection and anatomical study. Furthermore, lead coffins were common for French embalming practices, which would both prevent decomposition from moisture in the environment as well as limit the odor from the body itself. By encasing the organs of the bodies, often embalmed themselves, their decomposition could be decelerated for centuries [25]. In the 16th century, the use of alcohol solutions was common to cleanse bodies prior to burial. More specifically, ethanol was used as well as natural wines and liquors to cleanse and dry cadavers; these substances were both antiseptic as well as preservative.

#### 4.5 Middle Ages and Renaissance Chemical Developments

For vascular injections, the use of waxes and inks were most commonly used by da Vinci and Ruysch. For Ruysch specifically, the use of clotted pig’s blood, Berlin blue, and mercury oxide were used [1]. Berlin blue, also known as Prussian blue, when reacted with mercury oxide, yields the following reaction,



The product, mercury (II) cyanide, is known to be an antiseptic but is toxic as it contains mercury, combined with clotted pig’s blood may have allowed it to solidify within the vascular system of the cadaver over time. Additionally, the use of cinnabar and gypsum, also known as mercury (II) sulfide and calcium sulfate dihydrate respectively, were used specifically for their cleansing and dehydrating properties.

Alcoholic solutions were common in the late 1600s for their antiseptic properties as well as their ability to mask smells. For the practices of Swammerdam, mixing of alcohols and turpentine to preserve corpses would result in an extremely flammable fluid but would also cleanse the body before introducing waxes. Turpentine, obtained from resins in coniferous trees, may also have been used as a perfume due to its pungent odor. Ethanol in the form of alcohol spirits (wine, rum, etc.) was also often used; however, their preservative abilities were limited to approximately 3-7 days, similar to that of vanillin [1]. The use of mercury (II) chloride was similar as it would react with bacteria in the body to produce methyl mercury, chemically cleansing

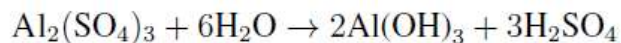
the corpse as it remained in the body. The early chemical knowledge of the antiseptic properties of these substances was known at this time, and it was often that these materials were used medicinally before their toxic effects were known, such as with mercury (II) chloride and mercury oxide. During the 1700s, arsenic was mainly used for its ability to eat away bacteria which created the odor affiliated with corpses, but unfortunately persisted without decomposition in its extremely toxic elemental form. In France and Italy, arsenic was used as well as alcohols and chloride solutions, such as mercury and zinc [1, 28]. The mixtures of heavy metals with arsenic could prove toxic in air, water, and food for scholars as both mercury and arsenic have been shown to be carcinogenic [40].

#### **4.6 Industrial Era Embalming Practices**

By the 1800s, both phenol and formaldehyde were widely used for their ability to preserve bodies much longer than that of previous materials. Phenol, also known as benzenol, is mildly acidic and can irritate the skin. Its use was quickly limited due to its acidic properties, which could injure morticians during practice; however, its formaldehyde counterpart was known as a respiratory irritant and caused debilitating effects within 15 minutes of exposure [1]. Studies completed on the concentration of phenol used in embalming practices have been shown to have little effects on the morticians' respiratory tract, and that conversely, formaldehyde is shown to have significant risk of respiratory damage when used for embalming [39, 41]. The use of phenol was not only for its antiseptic properties, but also for its ability to cauterize wounds, "The standardized use of phenol as a wound cleanser just missed the Civil War and it is interesting to speculate on the effect that phenol would have had on battlefield casualties," [42]. The significance of carcinogenic properties of solvents used for embalmers during this time may not have been thoroughly researched but could have posed health risks which were unknown at the time. While formaldehyde was almost immediately noticed for damaging health effects, phenol was often attributed to having skin irritant risks for mortuary scientists, which were only shown for prolonged exposure due to its mild acidity [42]. Formaldehyde, however, was shown to have caused respiratory issues such as asthma and more recently, known to be carcinogenic [41].

In 1886, the use of phenol and glycerine was used for anatomical embalming by Fredrick William Laskowski. This reaction causes phenol to diffuse at a much slower rate, which would continuously limit bacteria growth over time [43]. This reaction was changed to a mixture of phenol, boric acid, alcohol, and glycerine, which would increase the antiseptic properties via the mixture of boric acid with alcohol. This reaction paired with the decelerated diffusion of phenol would result in bodies which could be preserved and sterile for periods greater than 6 months. However, formaldehyde is still used in modern mortuary science, although biodegradable and non- carcinogenic substances are actively being researched

[1, 39]. For the preservation of President Lincoln and his son Willie by Henry Cattell, his use of aluminum sulfate would result in the body representing a marble-like appearance [37]. Aluminium sulfate coagulates rapidly in water, which would result in a solidified cadaver after this reaction has completed, "When dissolved in a large amount of neutral or slightly alkaline water, aluminium sulfate hydrolyzes to form the aluminium hydroxide precipitate  $\text{Al}(\text{OH})_3$  and a dilute sulfuric acid," [44, 45]. The reaction between aluminium sulfate and water is shown below. Unfortunately, the produced sulfuric acid from the reaction poses irritant risk for embalmers and cadavers alike in the case of spills or reactions within the body [46].



#### 4.7 Early European Impacts

Mortuary study throughout history did not necessarily create positive outcomes. Prior to the Middle Ages, the use of embalming was often done with religious motivation to preserve the body or honor it in some way. For the practice of preservation for Italian Saints and other religious elites, the use of materials and study for the bodies was influential as it encouraged cultural growth and anatomical study. On the contrary, the French practice of storing bodies and organs in lead containers could put embalming practitioners at risk of lead poisoning as there were hundreds of bodies preserved with these methods [25, 26]. With the introduction of anatomical study, the motivations for embalming practice were not motivated by religious affiliation, but more so that of study itself. Bodies obtained in early anatomical study were most commonly from capital punishment and male. Unfortunately, the resulting crimes committed by anatomical scholars for acquiring cadavers resulted in a negative connotation for the practice. For example, it was common for graves to be looted for corpses, especially female ones, and as such required laws to be set forth for fines to any parties found guilty of looting [29, 33].

#### 4.8 Effects of the Middle Ages and Renaissance Eras

While the increase in anatomical study was educationally progressive, there were cases in which it was not motivated by study: in Italy, a body was donated for anatomical study but was soon after discovered to have been murdered by the individual who donated it, resulting in their capital punishment for the homicide and disposal of evidence [33]. The unfortunate purpose of this action was the belief that by donating bodies for study that they would be disposed of conveniently, which was certainly not the case. Criminal acts of anatomical researchers were also a prominent issue in embalming practice during the Middle Ages. Scholar Andreas Vesalius (1514-1564) and his students were known to have "... lack of respect for persons and his candid pride in the acts of daring and deception required to

obtain what he considered an adequate supply of cadavers. He and his students forged keys, rifled tombs and gibbets, and stole in and out of ossuaries," [33]. These actions motivated fines to be set forth and regulations on the bodies received as many civilians were concerned for the risk of being buried or dissected whilst still alive. During the 1600s, toxic metals such as mercury and lead were increasingly used, which may have resulted in detrimental health effects due to their toxicity in air, water, and soil. Additionally, the lack of knowledge on the bacteria within the corpses (especially those which had been illegally exhumed) could have put risk of disease if practices were not completed thoroughly. Nevertheless, the mortuary studies completed in the Middle Ages and Renaissance provided gargantuan medical and anatomical knowledge, allowing great advances to be made in medicine which could not have been known without the study of the human body. Furthermore, the evolution in preservative solutions and vascular injections provided methods for embalming and burial and established primitive mortuary science which further developed in the 19th century.

#### **4.9 Industrial Era Outcomes and Impact on Modern Mortuary Science**

During the Civil War, the use of embalming practice was influential as it permitted many families the closure of mourning where their lost relatives could be returned to a life-like state. The ability to preserve bodies for longer periods by that of Cattell, Burr, and Holmes shaped the entire mortuary science and separated it from anatomical study. By doing so, the scientific progression of preservation itself was able to be explored and documented [37, 38]. Unfortunately, the use of formaldehyde and phenol has created much debate on their irritating properties for embalming practitioners and cadavers in modern embalming practice but have permitted the ability for corpses to be preserved for several years. By introducing these solvents, the field of mortuary science can continue to explore better preservation methods able to withstand decomposition while retaining sustainable composition.

#### **4.10 Overview of the Early Common Era and Embalming**

From the beginning of the Common Era to the modern practices, mortuary science was not officially known until the latter half of the 19th century. While the motivations for embalming methods vary, the practice itself withstands time as a way to preserve life for cultural significance and educational growth. The use of formaldehyde completely changed the process of embalming and motivated the practice of mortuary science in the Modern Era; however, its detrimental effects quickly motivated research for sustainable and preservative solvents that retained the health of both morticians and cadavers alike. Not only did anatomical study and early Common Era embalming enable to exploration of anatomical knowledge and

assist in the field of medicinal practice, it also embodies an entire branch of chemistry which explores the ability and longevity of decelerated decomposition, which has continuously been studied through the Modern Period to present day.

## **5 Mortuary Science in the Modern Era**

The development and progression of modern embalming methods from the year 1900 to present day have shaped the cultural and scientific studies of mortuary science and embalming chemistry. Current preservation methods, while complex, are deeply interconnected with the procedures of the late 19th century. The chemical advancements of modern embalming processes encourage the production of new solutions and practices which optimize sanitation, restoration, and preservation of cadavers. The cultural, chemical, and environmental impacts of modern embalming are equally significant to its history, present study, and the future.

### **5.1 Mortuary History in the Early 20th Century**

With the introduction of phenol and formaldehyde in the late 1800s, their applications in embalming science were unprecedented for their ability to sterilize and preserve cadavers for months to years at a time [1, 47, 48]. Unfortunately, the availability of embalming for civilizations was initially offered only in the United States, whereas in Europe, preservation was reserved for elite members of society until the mid-late 1950s [1, 49]. After the Civil War, it became necessary and common for bodies to be treated prior to burial. With the progression of embalming during the Industrial Revolution, the practice became a commonplace for 20th century America. Coffins were typically made out of wood, though the use of pre-made coffins were met with controversy in the early 1900s America. Construction of coffins for cadavers was completed with necessity as coffin-makers were entirely separate from mortuary practice [48]. As time progressed, modern morticians gained responsibilities for the preservation of the corpse, preparation of funeral items (i.e. service, coffin, burial), as well as carrying out the wishes of the relatives for each unique case. Education for embalmers was by certification simply by the completion of a few courses, and licenses were not fully required across the United States until the 1930s [48]. By the 1930s, state Funeral Director and Embalmers Laws were established, ensuring that mortuary practices were conducted only by licensed officials [50].

The use of formaldehyde surpassed that of arsenic in the late 19th century, not only for its preservation ability, but also due to criminal activity. Multiple homicides from arsenic poisoning, which were often falsely attributed to the embalming fluids used at the time, motivated the cessation of arsenic as an embalming fluid [51]. By the 1910s, the use of arsenic-based embalming solvents was federally banned in the United States due to the ability for arsenic to transport in groundwater and cause contamination

alongside its elusive properties for criminal investigations [52]. During this time, the production of embalming solvent companies began to emerge, such as The Hill Fluid Company, presently known as The Champion Company, which became the first to publish an encyclopedia of mortuary science research [53]. Solvents introduced by the Hill Fluid Company included that of cavity fluids, vascular fluids, and topical solutions, each with specific purposes for the treatment of the cadaver. The primarily practiced method of preservation for the 20th century is described as follows [48, 54, 55]:

1. **Arterial Embalming:** Vascular injection of embalming fluid after washing of blood and clots removed from arterial system.
2. **Cavity Embalming:** Insertion of fluids and preservatives into abdomen for cavities to substitute evisceration.
3. **Hypodermic Embalming:** Injection of colored solvents under skin to preserve color and retain appearance.
4. **Surface Embalming:** Care to any injuries on the skin and washings to retain life-like appearance via facial expression and related physical attributes.

## 5.2 Progression of Embalming in the Mid-to-Late-20th Century

While the profession of embalming did not necessarily require long periods of education, it nevertheless required background knowledge in anatomy such that the processes could be completed accurately. Acquisition and preparation of the cadaver included location of the femoral and carotid arteries to insert tubing for fluids as well as proper incisions to insert fluid into the organs [1, 48]. Corpses would often be massaged before and after the insertion of fluids to disperse any blood or clots as well as to combat rigor mortis. By the mid-late 1950s, embalming became increasingly frequent in Europe and educational licenses were required in the United States, allowing professional morticians to take precedence and ensure proper care for the deceased and living. Introduction and continuation of fluids such as ethanol washes, salts, glutaraldehyde, formalin, and dioxin were commonly used by embalming practitioners in the United States, though the amounts and concentrations of the aforementioned solvents as well as the steps for embalming varied greatly [1, 47, 54–56]. By this time, research on embalming fluids was prominent, with figures such as Woodburne & Lawrence using alcohol-glycerine-phenol-formaldehyde embalming formula in 1952 [1]. Furthermore, research in Germany and the US on embalming solutions which did not use formaldehyde or phenol were studied, such as glutaraldehyde, which has been shown to be safer than formaldehyde and equally effective for preservation [1, 47, 54–57]. The increased research on formaldehyde replacements unfortunately did not trump the usage of the solvent; formalin continued to be the standard embalming solvent to present day regardless of its carcinogenic properties.

It was not until the 1960s that the French began to use embalming as a common practice for the deceased [49]. The undertakers, known as “Pompes Fune`bres”, actually had no affiliation with the cadavers themselves but instead all of the funeral arrangements prior to burial; nurses, nuns, or midwives would wash and prepare the corpses for burial and services [49]. In Germany, Gunther von Hagens conducted research on polymer vascular injections in 1977 [48]. The injections would replace biological fluids with polymers after the use of formaldehyde, phenol, or other embalming fluids used at the time. This would result in a solidified system which would uphold the same longevity of aforementioned solvents [48, 58]. This process, known as Plastination, requires that the corpse be submerged in a liquid polymer solution under vacuum or injected with liquid polymer before being exposed to some curing gas to solidify [58]. While the preservative effects of Plastination were similar to that of formalin-based methods, its cost and requirement of large volumes limits its use as a standard embalming solvent for common mortuary practice.

Nevertheless, throughout the 20th century, formalin continued to be used as the most common method of embalming. There existed other methods, such as freezing cadavers or injecting large quantities of sodium chloride to entirely replace formaldehyde or be paired with <10% formaldehyde concentration [1]. Unfortunately, with the production of alternative solvents, the acquired sustainability came at a cost of preservative ability; corpses would decompose at a faster rate than that of formaldehyde-based embalming methods. It was not until 1992, with the introduction of Thiel’s Method of Embalming, that a minimized-formaldehyde recipe was introduced [1, 48, 55, 59]. Proposed by Walter Thiel, the Thiel embalming method involves very specific preparations of vascular, visceral, and full immersion solutions, though most notably used for its extremely low formaldehyde concentration (0.02%) [59]. By the 1990s, aqueous formaldehyde (formalin) concentrations had varied from as large as 30% to as little as 3% [1, 60–62]. Table 1 shows the required injection and immersion solutions required for the method.

Thiel Embalming Method			
<i>Solution A</i>	<i>Solution B</i>	<i>Injection Solution</i>	<i>Immersion Solution</i>
Boric Acid (3g)	Ethylene Glycol (10 mL)	Solution A (14300 mL)	Ethylene Glycol (10 mL)
Ethylene Glycol (30 mL)	4-chloro-3-methylphenol (1 mL)	Solution B (500 mL)	Formaldehyde (2 mL)
Ammonium Nitrate (20g)		Formaldehyde (300 mL)	Solution B (2 mL)
Potassium Nitrate (5g)		Sodium Sulfate (700g)	Boric Acid (3g)
Hot Water (100 mL)			Ammonium Nitrate (10g)
			Potassium Nitrate (10g)
			Sodium Sulfate (7g)
			Hot Water (100 mL)

Table 1: Walter Thiel embalming method (1992) [62].

While the Thiel model was considered a pinnacle of methodology of embalming in the 1990s, the solutions were expensive to make and difficult to obtain. Additionally, the method itself was argued to be far more elaborate than previously developed processes; the collective desire for a standard embalming method continued to be out of reach for mortuary scientists. The use of phenol, ethanol, and formaldehyde still dominated the embalming market and continues to in present day [1, 60]. Unfortunately, formaldehyde-based and phenol-based preservation methods are soluble in groundwater and transport similarly to arsenic [52]. As a result, research has been conducted on replacements for both formalin and phenol such that the environment and embalmers alike are safer [1].

### **5.3 21st Century Developments**

In the 21st century, embalming methods primarily still use formaldehyde and phenol, though in low concentrations. Much research has been conducted on the comparison between formaldehyde, phenol, and other aldehydes, such as glutaraldehyde, which has been shown to be a much safer alternative [1, 47, 57]. Studies into the environmental and health impacts of formaldehyde over the last century have shown its carcinogenic properties and dangers to the environment [47, 62]. Since the dangers of formalin were known prior to the 20th century, there have been developments of embalming techniques which do not use formaldehyde, or if so, very low concentrations [1, 55, 63, 64]. In the early 2000s, preliminary studies were completed for ionic solvents, such as 1-methyl-3-octyl-oxymethyl-imidazolium-tetrafluoroborate, which are known to be weakly toxic but do not contain formaldehyde and achieve similar preservation results [64]. Additionally, there exist formaldehyde-releasing agents, which can naturally produce formaldehyde via decomposition or generate formaldehyde through a reaction between formaldehyde-containing reagents and byproducts [64]. While these methods limit formaldehyde exposure for practitioners, they continuously produce fresh formalin within the cadaver which can be transported in groundwater and contaminate the environment over time.

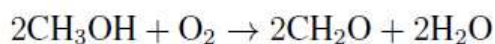
The progression toward green embalming methods has created debate on what is considered a 'mortuary practice standard'. The method of embalming and burial has been shown to be debilitating for the environment and the health of active morticians, even with proper ventilation and decreased formaldehyde concentrations [1, 47, 48, 55, 57]. Presently, chemical studies for new solutions used and their economical and environmental impacts have dominated mortuary science study [51, 55, 64, 65].

### **5.4 Chemical Developments in the Modern Era**

Throughout history, the chemical composition of solvents used for cadaver preservation, restoration, and sterilization have dominated the motivation of solvent production. The consistent use of formaldehyde and its



related solvents have dominated the modern methods of embalming for the last century. Formaldehyde, also known as methanal ( $\text{CH}_2\text{O}$ ), is typically stored in aqueous solution as formalin. Gaseous formaldehyde is typically produced by the oxidation of methanol, via the following chemical reaction:



Its hydrated form, formalin ( $\text{CH}_2(\text{OH})_2$ ), is often injected into the vascular system and is the main component of formaldehyde-based embalming methods [1, 47, 66]. Its counterpart, phenol ( $\text{C}_6\text{H}_5\text{OH}$ ), is also often used for its ability to sterilize as well as cauterize wounds on cadavers. Both formaldehyde and phenol are able to retain moisture, especially in aqueous form, allowing the cadaver to remain life-like and not appear dry or brittle [1, 66].

### 5.5 Early 20th Century Embalming Chemistry

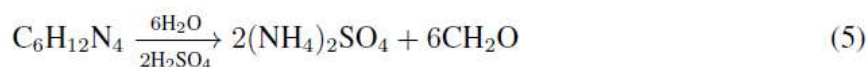
In the early 1900s, there existed companies which produced other embalming fluids, such as dioxin. Dioxin debuted as an embalming fluid in as early as 1909, produced H.S. Eckels and Company, though it is accredited to being sold commercially from 1920-1940, and contained a mixture of formalin and hydrogen peroxide, and was claimed to "... have twice the power of disinfection, drying, penetration and preserving of other fluids which contain the poorer grades known as Commercial Formaldehyde," [56]. Formaldehyde-free substances, such as glutaraldehyde, have continued to be used to present day and are considered prominent competitors to formaldehyde.

Glutaraldehyde first debuted as a method of sterilization in hospitals and industrial establishments and replaced formaldehyde in the leather tanning industry in the 1950s [57]. It has not been shown that glutaraldehyde contains any carcinogenic properties, though it can cause skin irritation for prolonged exposure [57]. Its counterpart, formaldehyde, has been shown to be carcinogenic, debilitating for the respiratory system, and extremely irritating on skin, causing contact dermatitis [47, 50, 57]. Glutaraldehyde has been shown to have a low threshold for inhalation, with mild irritant effects appearing at 0.3 PPM and significant effects at > 1 PPM [47, 57]. On the contrary, formaldehyde can cause severely irritating respiratory effects as low as 0.5 PPM, and it is said, "If you can smell formaldehyde, you are overexposed. There is no safety margin," [57]. The danger of formaldehyde for embalming practitioners motivates the cessation of its use in modern embalming methods.

## 5.6 Late-20th Century to 21st Century Chemical Progression

Other potential replacements for formaldehyde include ethanol-glycerin, introduced in 2012, which can be added at different ratios for BMI values of cadavers [1, 59]. Injections are completed after the cadavers are washed and prepared, and then lastly submerged in 65% ethanol solution by volume [59]. After bodies are stored at 3 to 5°C for a specified period, they are shown to retain their appearance for approximately 3 years [59]. Embalming with ethanol has been used throughout history for washes and injections for cadavers [1]. Furthermore, glycerine has commonly been used with formaldehyde or phenol for modern methods, but a mixture of both ethanol and glycerine with thymol powder has shown long-term preservation with less respiratory risk [1, 59, 66]. Unfortunately, using ethanol can have high explosive risk due to its flammability, and embalming laboratories must be well ventilated to prevent hazards as well as respiratory risks for the use of large quantities of ethanol.

Formaldehyde-releasers are often considered as viable replacements for formalin solutions used in mortuary practice. Common examples include decomposition releasers, such as bronopol and methenamine. The following reactions show the decomposition or aided decomposition reactions for both bronopol and methenamine, respectively:



It has been shown that bronopol has a higher percentage of formaldehyde recovery yield after one year in water, at 3.5%. In comparison, there was no apparent formaldehyde released by the methenamine, which was attributed to the slightly basic pH (0.1 M concentration at pH 7.4) [64]. Higher concentrations and lower (more acidic) pH levels have attributed to greater formaldehyde production with methenamine. For bronopol, higher concentrations also attributed to greater formaldehyde production, with a concentration of 0.273 M producing up to 19% formaldehyde recovery yield [64]. The higher recovery of formaldehyde correlates to its increased production with time, ensuring a cadaver which is preserved for longer periods due to the reaction producing and continuous release of fresh formaldehyde.

## 5.7 Dangers of Traditional Solvents and Burial

While there exists a plethora of different solvents for embalming practices, not all methods are entirely progressive. Naturally, formaldehyde has been shown to be extremely carcinogenic and dangerous for the environment [1, 47, 57, 63, 64, 66]. Unfortunately, its persistence as a state-of-

the-art embalming solvent has overshadowed studies for newer solvents to be developed. A significant competitor, glutaraldehyde, has been studied and shown to be similar in effectiveness and non-carcinogenic [47, 57]. Unfortunately, as with all embalming fluids, their ability to produce strong fumes and irritant characteristics requires a significant amount of knowledge and precaution to be considered for their continued use [1, 47]. Nevertheless, the commercialization of embalming products by companies and mortuary scientists has allowed future embalming to be explored with different solvents and methods that may become better for the planet and future practitioners [1, 55, 57, 59, 64, 65].

Unfortunately, formaldehyde-releasing agents are often used in cosmetic products and have been shown to cause contact dermatitis on the living. For example, in certain cultures or groups, individuals may kiss their deceased relative. In this case, formaldehyde releasing agents may cause contact dermatitis to the living; however, this is more commonly caused by the use of formaldehyde-releasing agents in cosmetic products such as makeup or shampoos [64, 67]. While other solvents are also shown to be mildly irritating, such as phenol, glutaraldehyde, and dioxin; the use of formaldehyde has shown to be the most dangerous for this process yet is continuously used as a commonplace for modern embalming.

While the practice of embalming itself is full of debate, the burial practices and impact on the environment have been shown to be dangerous in its own right. For example, the carrying of formaldehyde in groundwater can be dangerous for both humans and animals alike and has motivated laws to be put forth to ensure the safety of the human population and environment alike [50, 52, 68, 69]. The practice of burial limits long-term funeral practices due to overcrowding of body disposal. While cremation may be a suitable answer to this issue, the emissions of gases from the process are just as damaging to the environment as the runoff of formalin in groundwater [52, 69].

## **5.8 Embalming and Burial Significance in Criminology**

The practice of embalming has in turn permitted the ability of exhumation of cadavers to be completed for various purposes. For example, the death of an unknown child in Philadelphia in 1957 baffled the nation as for over 30 years he was never identified. It was not until 1998 that police were given authorization to exhume his remains for DNA, and by this he was able to be identified as Joseph Augustus Zarelli [70]. The case of the 'Boy in the Box' is one of many in which bodies were exhumed for criminal investigations for their identity or autopsy. The process of embalming has allowed the bodies to retain their appearance upon death such that investigation may be conducted post-mortem, in some cases, giving families closure as to their cause of death or identity.

## 5.9 Overview of the Mortuary Science in the Modern Period

Overall, the historical progression, chemical composition, and cultural impacts of embalming throughout history have shown its significance as a science. The practice of embalming has continuously progressed the cultural relationship between grief and closure and is often interconnected with religious practices. Furthermore, embalming has motivated the study of anatomy and contributed significantly to medical practice as it has allowed scientists to discover the inner-workings of the human body. Presently, the ritual of embalming pre-burial is considered a standard for post-mortem handling, with over 50% of American deceased embalmed each year [71]. As research continues methods that are safer for the environment and for embalming practitioners, the progression of mortuary science continues to shape life after death for years to come.

## 6 Conclusion

From the Prehistoric to Modern Era, mortuary science has been deeply interconnected with cultural practices. The methods of mummification, dissection, and preservation for cadavers have individually impacted the future of embalming research. For the prehistoric civilizations, the complex chemical properties developed were far from intuitive yet vital for societal progression and connected to religious practices. In the Middle Ages, the curiosity for the functionality of the human body resulted in new methods for preservation and care for cadavers which could be applied for burial. By the Modern Era, mortuary science developed as a practice strictly for burial and cultural standards. Presently, the ever need for sustainable and safe embalming standards is necessary and vital for the future of mortuary science. Nevertheless, the relationship between life and death; embalming and chemistry; show the future of mortuary science and embalming practice, something that will impact death for the rest of human life.

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## **Honorable Mention, *The Navigator's* Best Writing Award**

### **Advocacy as Persuasion: A Rhetorical Analysis of Reusable Menstrual Product Advertisements**

Lillian Floyd

#### **Introduction**

Younger generations are increasingly interested in social activism. Some of the biggest names in climate change activism, such as Greta Thunberg, belong to Generation Z or the Millennial generation. Millennials are contributing to climate change activism more than any other generation, with Generation Z following close behind (Tyson, et al. 3). Additionally, Generation Z is changing the way in which society thinks about gender. They are breaking down gender stereotypes and pushing for the consistent inclusion of “more options other than ‘man’ and ‘woman’” on official forms (Kenney 2). These younger generations are discussing the taboo. They are refusing to turn a blind eye to pollution or allow gender stereotypes to rule their lives.

But Generation Z and Millennials are not the only ones getting in on the game of activism. Many companies are shifting their focus to these social issues in order to attract younger consumers. CEO of Reimagine Gender, Lisa Kenney, says “companies are starting to realize that this shift is no longer something they can ignore” (2). If a business wants the attention of the younger generations, they must attune to their interests and ways of life.

Reusable menstrual product brands are doing this very effectively. Traditional menstrual product brands have a history of targeting cisgender women in a way that focuses on stereotypical femininity (Sitar 777). While those traditional brands have moved into the territory of breaking down stereotypes of femininity, the reusable brands are widening that scope in order to truly target Generation Z and Millennials. In this paper, I will analyze three different reusable menstrual product brands: Saalt, Flex, and Period Aisle. Ranging in size and consumer reach they provide a full scope of reusable menstrual product advertising tactics. The advertisements of Saalt, Flex, and Period Aisle target Generation Z and Millennials through brand activism rhetorical appeals centered around breaking down the menstrual and sexual taboos, environmental protection, and a broader definition of gender.

#### **The Demographic**

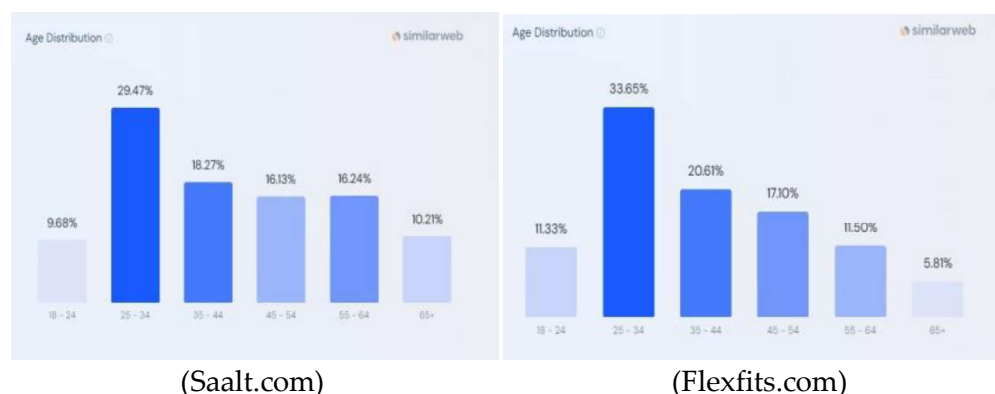
As previously mentioned, the reusable menstrual product brands Saalt, Flex, and Period Aisle range in size as determined by brand



recognition and availability. Saalt is the largest of the three. Their products are often listed at the top of ‘best menstrual cups’ lists on popular websites, such as *CNN* and *Women’s Health* (Shaw; Davis, et al.). Saalt is most known for their menstrual cup, though they also sell period underwear and menstrual discs. Their products can be found at a variety of in-person stores, including Target, Walmart, and CVS, or ordered online to a wide variety of countries (Saalt).

Flex is quite similar to Saalt, with the exception of brand recognition. Their products often don’t appear on ‘best menstrual cups’ lists on popular websites and when they do, their products are at the bottom of the list. Flex is equally known for their menstrual cups and discs; however, they also sell menstrual disc cleaning supplies and menstrual related supplements. Like Saalt, their products can be purchased in-person or online. Though their accessibility is still expansive, they have a smaller reach of countries to which they ship (Flex Fits).

Saalt and Flex also have similar website demographics, as seen in the two infographics below.

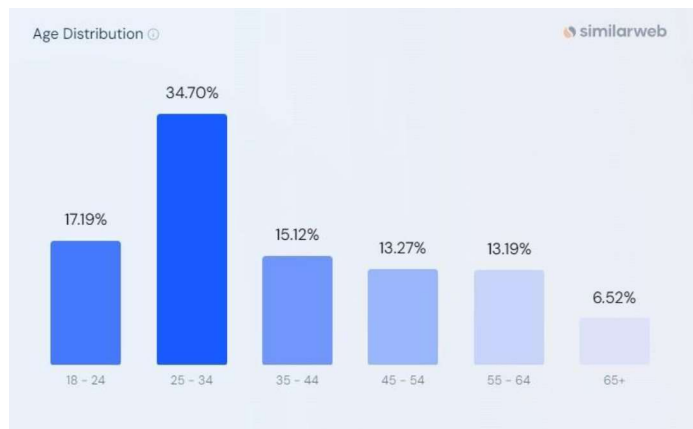


The majority of visitors to the Saalt and Flex websites are consumers between the ages of twenty-five and thirty-four. Assuming most visitors to the website have the intent to buy Saalt products, it is reasonable to assume that most Saalt customers are between the ages of twenty-five and thirty-four. This covers both older Generation Z and younger Millennials. The next highest age group is thirty-five to forty-four. These are the oldest of the Millennials. This could either reflect the interest of that age group or the interest of their children. Most beginning menstruators will not be buying their own products, and their parents, who will be buying products for them, fall in that thirty-five to forty-four age group. It is important to note that the dropped interest after the age of forty-five is likely due to menopause and the subsequent lack of need for menstrual products.

Period Aisle, formerly known as Lunapads, is the smallest of the three brands discussed in this study. Their products are not well-known and almost never discussed on popular culture websites. They got their start with reusable pads, but now also sell menstrual underwear and cups.

Rather than being stocked at big name stores like Target or Walmart, customers can only purchase Period Aisle products in-person at independently-owned small businesses. There are only twenty-one stores in North America selling the products and only seven stores elsewhere in the world (Period Aisle). This results in the majority of their consumer reach being done through their website. When ordering from their website, customers outside of the United States and Canada face increased shipping and customs fees, making it less accessible. Due to this, Period Aisle has a very small customer reach.

Period Aisle's small reach and focus on online retail may explain why their demographic is slightly different from Saalt and Flex.



(Periodaisle.com)

Like Saalt and Flex, most visitors to the Period Aisle website are women between the ages of twenty-five and thirty-four. However, their second largest age demographic is different. For Period Aisle, the second most common age group is eighteen to twenty-four. This means that Period Aisle is capturing the attention of younger members of Generation Z.

Between the three brands, the full range of both Generation Z and Millennials are captured as the target demographic. This is important to note because marketing strategies have had to change for these generations. Marketing specialists have acknowledged “a major shift in viewing patterns, and all signs point to mobile devices” (Munsch 12). Many brands used to rely on channel surfing and televised commercials, but they cannot do that anymore. Generation Z and Millennials are “digital native(s) that are distracted multitaskers” (Munsch 22). They spend less time watching television and more time scrolling through social media, on which they have infinite options of what to view. Due to this, brands have to work especially hard to capture the attention of younger generations. They must hook young consumers by appealing to their interests.

## Literature Review

### *Marketing Discourse on Advertisements*

The history of visual advertisements has marked an important shift in the early 2000s. When studying this shift, technology development researchers, Corina Rotar and Alexandru Potor, saw a “rise of brand logos” and an increase in images “displaying people rather than objects” when compared to advertisements in the past (111). Modern advertisements introduce products as a way of life by displaying what the consumer’s life could be like if they bought the product in question. The visual aesthetics of advertisements is crucial for this modern focus. Advertising researchers Ileyha Dagalp and Jonatan Sodergren believe that “the role of aesthetics is not a moral one to improve the lives of consumers (i.e., good, beneficial) but to gratify their senses (i.e., beauty, pleasure)” (5). By choosing specific color schemes, actors, camera angles, and other visual elements, advertisements can create a desire for that life and transfer that new sense of desire onto the product itself.

Many companies have continued this indirect advertisement for their products through brand activism. They use the textual elements of narratives from advocacy movements to “show that the brand takes a stand on sociopolitical issues” (Dagalp & Sodergren 13). Brands do this with a wide variety of advocacy movements, from equality to environmental protection. Rather than advertising products, brands advertise themselves as good companies that consumers should support. It is a type of “values-driven brand activism” that allows consumers to “vote with their wallets” (Lee & Yoon 146). By showing that the brand stands for a social cause, the consumer can support the brand in order to support the agenda of the cause. Brand activism provides the prospect of purchasing the brand’s products as an opportunity for the consumer to make a positive impact on society. These advertisements appear as if they are selling desirable change, not material goods.

#### *Analysis of Traditional Menstrual Product Brands*

Brands that specialize in traditional menstrual products, such as disposable pads and tampons, often employ this concept of brand activism. In the early 2010s, these brands shifted their advertisement approach to prioritize “communication tactics that advocate for feminist values” (Campbell, et al. 228). Their chosen social movement to make their brand look desirable was women’s empowerment. In order to promote the concept of delicate discreteness, advertisements for menstrual products in the 1980s used a lot of pink and lilac flowers and never referenced blood (Sitar 777). Rather than the “sweet feminine tones and angelic white doves of the past,” menstrual product advertisements in the 2010s featured women “playing rugby and weightlifting” (Campbell, et al. 229-230). Companies used the space of their advertisements to change the narrative around women’s nature and capabilities. They displayed women as strong and powerful. The Always brand did this with their #LikeAGirl campaign that focused on “girl empowerment and championing for girls” (Lee &

Yoon 148). By showing girls being athletic and reclaiming the phrase 'like a girl' as a tool for empowerment, Always built the self-esteem of their consumers in order to build interest in their brand. It was a campaign that "energized the public and started a social movement" (Lee & Yoon 148).

Jungyi Guo, et al., communication researchers, call this specific type of brand activism that focuses on women's empowerment and breaking down gender stereotypes "femvertising" (378). Even other products surrounding menstruation partake in this marketing strategy. Carly S. Woods, a communication researcher, found that many contraceptive pill brands build on this "long tradition of marketing discourses borrowed from social movement rhetoric" (279). The brands she studied particularly use the contemporary feminist ideal of "choice, or the illusion of choice" (267) in order to sell their products.

While menstrual product femvertising exists all over the world, it is more common in the United States than some other countries. Houda Driss Chabih and Mohamad Hamas Elmasry compared the menstrual product advertisements in America to those in the Middle East. They found that ads shown in the Middle East used more "secrecy terms," were "less likely to label menstrual fluid as 'blood,'" did not use red liquid, and showed women in isolation (Chabih & Elmasry 40). This style of advertisement falls more in line with the western advertisements that existed before the shift towards brand activism and femvertising.

This marketing approach of brand activism and femvertising has been found to be very successful, particularly for encouraging online consumer engagement and improving brand image (Lee & Yoon 154). It gets consumers' attention and makes them feel as though they are a part of something bigger. However, some scholars believe that these attempts at women's empowerment focused menstrual product commercials only serve to hurt the people they claim to help. Annemarie Jutel, a gender studies researcher, believes these marketing ploys reduce "women's biological cycles to embarrassing, restrictive, and dreaded occurrences with strict rules of behavior" (225). By focusing on women outside of the constraints of menstruation, these commercials have the potential to reinforce the concept of menstruation as a burden. At their core, advertisements focusing on social causes are still capitalistic in nature. They use the rhetoric of advocacy, but the ultimate goal is still to encourage consumers to buy products.

### *Critical Lens*

In order to further explore the visual rhetoric of advertisements and the combined pathos and ethos of brand activism, marketing discourse can be combined with the critical lens of gender studies and rhetoric. In her book about studying visual materials, Gillian Rose says those materials can be thought of "in terms of three sites: the site of *production*, which is

where an image is made; the site of the *image* itself, which is its visual content; and the site where the image encounters its spectators or users, or what this book will call its *audience*” (19). The meaning of a visual advertisement is influenced by each of these three stages. Because there are “different social practices that structure the viewing of particular images in particular places,” context is needed in order to truly understand the meaning of visual materials (31). In order to understand an advertisement, a scholar must pay attention to the societal context.

One of those pieces of context can be provided by the gender studies lens. Menstruation is often linked to gender, so it is important to consider a society’s concept of gender when analyzing menstrual product advertisements. Rhetoricians Sonja Foss, Mary Domenico, and Karen Foss discuss gender as a performance of gendered behaviors that enforce “cultural categories of gender” (165). Their work reinforces Judith Butler’s now commonly accepted theory of gender performativity. Most members of Generation Z and the Millennial generation believe this theory to be true. The common thought today is that gender is a human-made construct based on arbitrary stereotypes. However, as a construct, gender is continually influencing and being influenced. These rhetoricians say that “much in the same way that the repeated gender performances of individuals create and maintain a stable gender identity, repeated gender performances also function to tell cultural stories and maintain cultural gender categories” (Foss, et al. 167). The way in which people perform gender is both influenced by societal ideals as well as society’s concept of gender. For this reason, advertisements concerning gender, such as menstrual product advertisements, both are influenced by societal concepts of gender and in turn influences those same concepts. Combined with special attention to environmental symbolism, this creates a visual ecofeminist rhetorical lens.

### **Breaking the Taboos of Menstruation and Sex**

Saalt and Flex both ignore menstrual and sexual taboos and opt instead to use plain straightforward language that appeals to Generation Z and Millennials. “As citizens and consumers,” members of these younger generations “are more pragmatic” (Confetto, et al. 758). They discuss topics of life as they are and prefer the brands they buy from to do so as well. In the video advertisement titled “Saalt Menstrual Cups and Discs,” the customer service representative says “You don’t need to whisper period, I’ve heard it all” (4:04). This communicates the idea that periods are nothing to be ashamed of and they can be talked about in an honest way. Similarly, Flex’s advertisement titled “How to Not Let Your Period Ruin Your Life,” uses the word ‘vagina’ freely throughout the video and their website states that they “believe in a world where vagina isn’t a bad word” (Flex Fits). They take a clear stand on the concept that discussing vaginas and menstruation should not be considered inappropriate for the public.

There is a historical tradition of shame surrounding menstruation. In the early days of commercialized menstrual products, terms like ‘hygiene products’ and ‘sanitary products’ were used, “implying that there is something unhygienic about it” (Sitar 721). For a long time, period product advertisements promoted secrecy and shame. That established the open discussion of menstruation as taboo, being considered an inappropriate topic of discussion. Traditional brands like Tampax and Always have worked to change this, and Saalt and Flex are continuing that work.

Yet, Saalt and Flex take it even further. In addition to using clear anatomically correct language, these brands discuss sexual activity and model the insertion of their products. Both Saalt and Flex advertise that customers can have “mess free period sex” with the use of their reusable menstrual discs (“How to Not Let Your Period Ruin Your Life,” 2:10; “Saalt Menstrual Cups and Discs,” 2:40; The ocean says YES to FLEX,” 1:15). In the Flex advertisement “The ocean says YES to FLEX,” this information is accompanied by the female marine biologist making suggestive facial expressions while she looks at a sexy merman tossing his hair back and forth.



(The ocean says YES to FLEX,” 1:15)

Through this, Saalt and Flex not only break the taboo of publicly discussing sex, but they break the taboo of women acknowledging their sex drive. Flex plainly demonstrates this appeal by beginning one of their commercials with a woman sitting at an office desk saying “Hi, I’m Terra and I love to F\*\*\*, but I hate my period” (“How to Not Let Your Period Ruin Your Life,” 0:00). While the word ‘fuck’ is bleeped out, it is heavily insinuated. This breaks taboos of cursing on public media, discussing sexual activity on media, and women claiming their sexuality. Terra is unashamed of her strong sex drive; in fact, it seems to give her confidence. Having this scene at the very beginning of the commercial also helps to catch the audience off guard in order to capture their attention. When a consumer is subconsciously used to sex and menstruation being taboo, the blunt discussion of both topics will make them stop and pay attention. It sets a casual and authentic tone for the advertisement. Once they have that

attention, they are able to persuade the audience that their menstrual products have the power to improve lives, particularly sex lives.

Saalt and Flex also break the visual taboo of public advertisements. Saalt uses a vaginal model molded into a rocky cliff to demonstrate how to insert both their menstrual cups and menstrual discs (“Saalt Menstrual Cups and Discs”). Flex does something similar, but with digital drawings. They have an animation on the screen of female anatomy with a menstrual disc being slipped inside while the woman in the commercial explains what is happening using scientifically correct language, such as “vaginal fornix” (“How to Not Let Your Period Ruin Your Life,” 1:25). While neither of these visual demonstrations resemble the fleshy human body, having displays of vaginal anatomy still breaks through the historical taboo of discussing female reproductive health. Flex also breaks the taboo of visual menstruation on their website. Their ‘About Us’ page contains this image.



(Flex Fits)

Similar to historical shame, there is a historical tradition of hiding menstruation. Advertisements in the 1960s “depicted [menstrual products] as a means of concealing the signs of menstruation” midst of this taboo, Flex fights for the opposite. The imagery of an art canvas being painted on with a menstrual disc and red paint representing vaginal blood establishes freedom of expression as a core value for Flex. It is advocacy through art, forcing people to see and acknowledge menstruation. As a brand, they stand for the importance of breaking taboos surrounding the open discussion of menstruation. They are telling their customers that they will fight for their freedom to discuss their bodily functions. This will especially appeal to the previously mentioned pragmatism of younger customers. Both Saalt and Flex have made it a point to not only ignore taboos surrounding menstruation and sex, but intentionally break them. They aim to make a change in society in order to gain the support of consumers who crave similar changes.

### Environmental Appeals



## Connecting Women to Nature

In addition to being more pragmatic, Generation Z and Millennials tend to be “more mindful of sustainability,” particularly when it comes to their consumption of goods (Confetto, et al. 758). They are concerned with the state of the environment and how their purchases impact the environment. Saalt, Flex, and Period Aisle use a combination of three different appeals related to nature in order to connect themselves to the social movement of environmental activism. The first is connecting menstruation and femininity to nature. The Saalt mascot in “Saalt Menstrual Cups and Discs” is the image of either Mother Earth or a nature goddess from ancient Greece.



(“Saalt Menstrual Cups and Discs” 0:32)

She is a tall curvy woman dressed in loose flowy garments in a light shade of brown. They use similar natural color schemes on their website as well. On their ‘About Us’ page, Saalt’s founders are dressed in green, brown, and white flowy clothing. Their hair is loose in the wind as they stand in front of a rocky cliff side.



(Saalt)

When Saalt chooses a character or person to represent them, they portray that person as connected to the Earth in an almost primal way. This allows them to borrow ethos from the reliability of the Earth and use pathos to invoke a sense of wild freedom and grounded connection in the consumer.

In the video advertisement, the Mother Earth figure takes the group of characters from the grocery store to a magical forest dimension in which Saalt cups grow on trees and waterfalls represent the intensity of different menstrual flows. She invites them to “manage [their] monthly *naturally*”



("Saalt Menstrual Cups and Discs," 0:26). Through this fantasy setting and slogan, Saalt perpetuates the idea that both their products and menstruation in general are completely natural. It tells the consumer that menstruation is beautiful like a verdant forest, while leaving out the difficulties of menstruation and unpleasant aspects of nature alike. Being able to connect their biological function of menstruation to nature may help consumers themselves to feel like nature goddesses. It allows consumers to identify with the power of the waterfalls and the grace of butterflies in the advertisement.

Giving consumers a feeling of confidence and power through connection to nature could allow for a transfer of those positive feelings onto the menstrual product or the brand itself. If people in advertisements who use these reusable products find confidence and power through their connection to the environment, then the consumer will believe they can also find confidence and power by using those same products. However, some feminist scholars believe connecting women to nature is regressive and insulting, summoning up images of women as earth mothers, as passive, reproductive animals, contented cows immersed in the body and in the unreflective experiencing of life (Plumwood 20).

Due to this, connecting women to nature has the potential to backfire on these reusable menstrual product brands. An audience more versed in feminist ideology and the historical implications of connections to nature being used to paint women as cattle may not be persuaded by this appeal. Despite this negative history of the appeal, the use of nature connection in these advertisements are wholly positive in our modern context. As Generation Z and Millennials increase their interest in the environment, they also increase their sense of connection to nature. Fantasies of the cottage-core lifestyle include living closely with nature. The image of Saalt's mascot is desirable to these younger generations because it aligns with the cottage-core lifestyle that many want to live. However, just in case of negative interpretation of this appeal, these brands also use another environmental appeal to make their priorities clear.

### *Protecting the Environment*

Saalt, Flex, and Period Aisle all make claims surrounding how their products reduce waste and aid in climate crisis activism. Flex states that their products "produce 60% less waste than traditional period products" and they "reduce energy usage and emissions that come from transit" because their production facilities are in close proximity to their warehouses ("How to Not Let Your Period Ruin Your Life," 2:05; *Flex Fits*). They paint themselves as sustainable and good for the environment. Period Aisle does something similar in their introduction video. The two co-founders describe

the way they consider the environmental impact of every aspect of their business ("Meet Aisle"). They want their customers to know that being an environmentally aware company is one of their priorities. As "values-driven brand activism is on the rise," sustainability claims like this become incredibly important (Lee & Yoon 146). Consumers often want to believe that the brands from which they are making purchases stand for something larger than themselves. They want to support social causes by buying from particular brands. Generation Z and Millennials who are concerned about the concerning state of the environment can buy from these brands in order to feel like they are doing something to help the cause.

Advertising experts, Nigel D. Steenis, et al, stress the importance of sustainability claims made by brands coming from a place of truth. They found "when discrepancies between the firm's claimed sustainability and its actual sustainability arise, consumers feel deceived" (Steenis, et al. 166). This finding may seem obvious, but it is important to consider when it comes to brand activism. Should consumers discover information contradicting the sustainability claims made by Saalt, Flex, or Period Aisle, they will feel betrayed by the company. This will reflect worse on the brand than if they had never made the claims in the first place. However, these brands should be able to safely avoid such scandal, as third-party research reveals reusable menstrual products have the potential to reduce menstrual product waste by "79%" (Blair, et al. 4). Having this evidence supporting the appeals of environmental protection makes this marketing strategy very successful. The use of social media for marketing has the ability to "spread awareness and activate engagement" (Confetto, et al. 766). Being able to directly engage with environmental advocacy gives consumers a sense of impact as well as a sense of trust in the brand.

#### *Consumers' Fear of Chemicals*

While these brands are selling products that actively reduce waste, they also appeal to a more fear driven environmental appeal. Flex and Period Aisle both appeal to a fear of chemicals. With trends like cottage-core, younger generations are more interested in using 'all-natural' products. They want products made out of bamboo rather than plastic. This has brought about a general fear of anything labeled to contain chemicals. In their "How to Not Let Your Period Ruin Your Life" advertisement, Flex makes the statement that their products use "no chemicals" (1:60). They do not define what they mean by 'chemicals' and when taken literally, their statement is inherently false. Everything on Earth is made up of chemicals. The air we breathe is made up of oxygen, nitrogen, dihydrogen monoxide (H<sub>2</sub>O), argon, and carbon dioxide. This could be considered misleading, but it appeals to younger generations nonetheless. In popular culture,

Period Aisle does something similar in their short form video, “PSA: PFAs.” In this educational style video, Period Aisle explores the ways in which PFAs can “contaminate our water and air ways” and have “adverse health impacts” (@periodaisle. “PSA: PFAs”). They do not cite all chemicals as being bad, but rather cite “harmful chemicals” such as PFAs (@periodaisle. “PSA: PFAs”). They also include lab reports showing that their products are proven to be clear of PFAs.

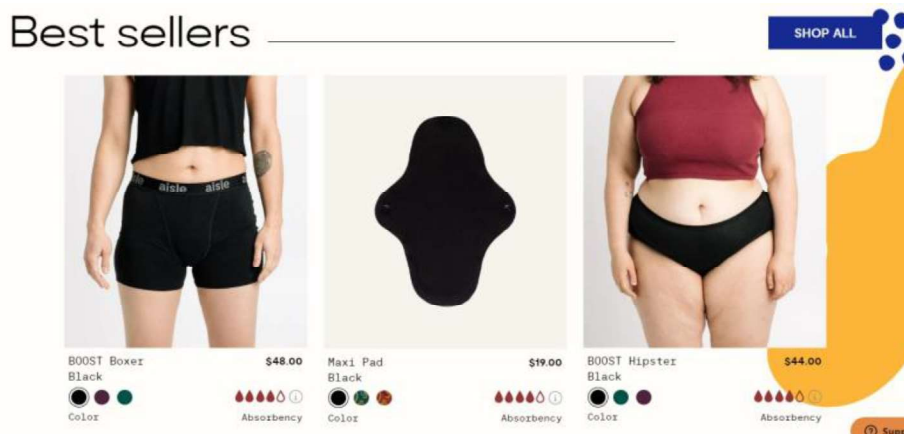
(@periodaisle “PSA: PFAs”)

## Gender Stereotypes

Menstrual products have traditionally targeted cisgender women of a menstruating age. When walking down the aisle of traditional menstrual products at the grocery store, customers are likely to see many

pink packages, flowers, butterflies, and other stereotypically 'girly' designs. The products perform the "cultural gender categories" (Foss, et al. 167). Saalt and Flex both keep this general target of cisgender women, but they do so in a way that breaks down some of those restrictive stereotypes. As discussed previously, their rebellion against the menstrual and sexual taboo helps to empower women to speak about their menstrual health. Though they mostly have feminine presenting actors in their commercials, those characters are portrayed as powerful and authoritative. Saalt's mascot is a goddess and Flex's "The ocean says YES to FLEX" video centers around a female marine biologist who is taking charge of her sexual life. There is one primary exception to the mostly female cast of characters. In the "Saalt Menstrual Cups and Discs" video, there is a dad supporting his young daughter who is just starting her period. He is portrayed as being ignorant on the topic of menstruation, particularly in how menstruation relates to sexual activity. Yet, he is also portrayed as being willing to learn. He and his daughter learn about menstrual cups together. This invites men into the conversation of menstruation as well as appeals to women who may be frustrated by a lack of trust that their male partners will be active caregivers to their children. Saalt and Period Aisle are communicating that menstruation is not just a women's issue; rather, it concerns a wide range of people.

Period Aisle furthers this by explicitly rebelling against the gender binary. In their "Meet Aisle" video, Period Aisle states that they want to create "a place for everyone who menstruates to have a more comfortable, sustainable, and inclusive period" (2:30). They take gender out of their marketing by demonstrating a more fluid performance of gender. By using terms like 'menstruators' and 'everyone who menstruates' instead of 'women,' Period Aisle opens their products to transgender men and nonbinary menstruators. Their founders explicitly say they are a brand for "any gender" ("Meet Aisle," 3:04). On the front page of their website, the brand advertises both masculine and feminine styles of period underwear.



(Period Aisle)

Along with the gender-neutral color scheme of the website, it can be seen that Period Aisle stays true to their mission of more inclusive period products. One of their advertisements on Instagram even features a customer saying that the boxer style period underwear “makes me feel so confident and really helps with my gender dysphoria” (@periodaisle, “It’s giving period protected”). For many menstruating transmen, they have not had the option of masculine style period products. Period Aisle is giving them that option.

In addition to appealing to multiple genders, this also appeals to a more fluid and neutral performance of gender. Boxer style period underwear can be worn by any gender, just as hipster style period underwear can be worn by any gender. There are more options for a wider range of consumers. Each customer can choose whichever style they find to be the most comfortable or stylish, no matter which gender they identify with. This is especially effective considering that Period Aisle targets the youngest demographic of the three brands. They are appealing to the increased inclusivity of gender queerness as well as supporting the concept of gender as a construct, both popular ideologies among Generation Z.

### **For the Modern Menstruator**

In addition to appealing to the activism interests of younger generations, these three reusable menstrual product brands paint themselves as the modern choice. Saalt, Flex, and Period Aisle may use or build off of the successful tactics of the traditional brands, but they do so while portraying those brands as barbaric and unsafe. Saalt includes an exaggerated mini history lesson in their advertisements in which they explore what women throughout history used before the Saalt cup was invented (“Saalt Menstrual Cups and Discs,” 0:54). This demonstration lumps traditional disposable products like pads and tampons in with the ancient ways of dealing with menstruation. Contrasting the menstrual cup with these methods communicates to the consumer that Saalt’s menstrual cups are the way of the future. Cups are the modern woman’s product of choice. When making this comparison, the Saalt mascot even mentions that Saalt aims to treat periods as a natural process rather than a wound, insinuating that traditional products are as barbaric as battle wounds.

In order to paint themselves as modern and desirable, the reusable brands throw traditional brands under the bus as something of the past. Flex uses a HUGE menstrual pad to show the inconvenience of traditional products.



("How to Not Let Your Period Ruin Your Life," 0:35)

Rather than showing the average traditional product, Flex caricatures their competitors in order to drive home their own desirability. Whereas traditional products are huge to not only carry around but to have in your underwear as well, Flex showcases their products as small, compact, and convenient for people on the go. Period Aisle communicates their superiority to traditional products through means of quality. They say that their products "perform three times better than your average disposable product" ("Meet Aisle," 3:58). Rather than comparing their products to other reusable brands, each of these brands exaggerate the downfalls of traditional brands in order to make themselves look better. They establish their reusable products as the product of choice for Generation Z and Millennials, while leaving disposable products as those of their mothers and grandmothers. It's not your mother's period product; it's the way of the future.

## Conclusion

Brands that sell menstrual products must always be aware of the interests of the younger generations. They cannot establish lifelong customers because menstruators eventually hit menopause and no longer need their products. Rather, these brands must keep their finger on the pulse of the youth and adapt to their ever-changing interests. The youth of almost any given era are concerned about activism. They want to enact change within their society, but the focus of that activism often shifts slightly from one generation to another. Saalt, Flex, and Period Aisle have all been able to identify the primary focuses of Generation Z and Millennials as pragmatic speech that breaks menstrual and sexual taboos, environmental concern, and a more fluid/neutral concept of gender. They are then able to use those social issues for their own brand activism. They make claims about how they support the cause and back those claims up with action so consumers can trust their dedication. By supporting the social issues, they are able to attract other supporters of the social issues as potential customers.

Analyzing product advertisements like these is a great source of information about society, particularly the menstruating population. As the menstruating population is mostly made up of cisgender women, transgender men, and nonbinary menstruators, these advertisements show the values of repressed members of society. The strong focus on the environment and the rebellion against gender stereotypes indicates that those concerns are important to younger generations. In the future, this study could be expanded by analyzing the appeals of reusable menstrual brands in relation to the race and socioeconomic class of consumers rather than age. Advertisements reflect the interests of society as well as enforcing them. In turn, seeing advertisements focusing on those concerns, such as environmental activism, will make consumers even more aware of and interested in the social cause. It is a two-way street of influence. Due to this, academics can also look at the advertisements of brands that continuously focus on younger generations to examine how society values are likely to shift.

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# The Controversial and Divisive History of Huckleberry Finn

Max Hall

*Adventures of Huckleberry Finn* by Mark Twain has remained an instantly recognizable book to most Americans since its release in the United States on February 18, 1885. Now, nearly one hundred and forty years later, it's considered by the Library of Congress to be one of the "Books That Shaped America" (Billington). In the last one hundred and forty years, over twenty million copies have been sold.

Despite its success, it may be one of the most controversial classic novels in American history. The American Library Association placed *Huck Finn* on its list of the top 10 most challenged books for the 2002 and 2007 school years (ALA). Challenging Twain's novel is not exclusive to the twenty-first century, however. It was first pulled from bookshelves in March of 1885, a mere month after its release. *Huckleberry Finn* has remained divisive among school administrators, parents, critics, and literary theorists throughout its entire publication history.

The debates surrounding *Huck Finn* have changed and evolved since the late nineteenth century. Upon release, the main debates regarded Huck's behavior, the morals present (or not present) in the novel, and Twain's humor. By the early twentieth century, many of those complaints seem to have fizzled out or evolved. They were replaced by literary discussions regarding the ending, or debating whether or not *Huckleberry Finn* was truly a "great American novel." As the twentieth century progressed, discussions turned to the way Twain handled race in the novel. Many began to question and analyze how Twain characterized Jim, the slave that Huck joins on an adventure towards freedom. By the late twentieth century, this theme was still being discussed, and would transition into the next controversy that surrounded the novel: its use of the n-word. That is the controversy modern readers will find themselves most familiar with, as it is still being discussed today. In this paper, the controversies will be presented and discussed in chronological order.

*Adventures of Huckleberry Finn* began its long tradition of being banned in March of 1885, when the Public Library of Concord, Massachusetts elected not to have Twain's newest novel on their shelves. The librarian and the library's committee told the *Boston Transcript* that the novel was "rough, coarse and inelegant" and that the book was "suited to the slums than to intelligent, respectable people" (Mailer). Louisa May Alcott, the well-known author of the children's book *Little Women*, was a member of this committee. Alcott likely believed that Twain intended the novel's audience to be children (The University of Virginia Library). She was far from the only person to think this. Even a positive review of the novel from the *Saturday Review*, written in January of 1885, refers to the novel as

“juvenile fiction” (Matthews). Alcott, being a children’s fiction writer, likely believed that authors writing for younger audiences had an obligation to present the best values possible. By making Huck disobedient and by implementing humor that may not have been suitable for children, Twain was doing a disservice to children in Alcott’s eyes (Black 15).

When presenting these arguments, it’s important to note that Mark Twain did not intend for the novel to be a work of juvenile fiction. In a letter regarding *Huck Finn* to W.D. Howells, he stated the novel was “not a boy’s book, at all. It will only be read by adults. It is only written for adults” (Twain 361). Twain also seems to have expected some backlash regarding the morals presented in the novel. At the very start of the novel, a warning reads that “persons attempting to find a moral in it will be banished” (Twain 3). These may have been two precautions Twain attempted to take in order to avoid backlash posed by those like Alcott. Regardless of Twain’s intention, it’s clear that readers then thought the novel was intended for younger audiences, and today that still remains true. Amazon is selling a new box set of American classic novels for children 7 and up featuring *Huckleberry Finn*, pictured below. Ironically, *Little Women* is also included in the set.



(Amazon et al.)

The humor of *Huck Finn* was also a point of contention for critics at the time of its publication, no matter who the intended audience was meant to be. Two separate reviews, both from Boston newspapers in March of 1885, cited Twain's humor as one of the novel's major flaws. The *Boston Evening Traveler* stated "Mr. Clemens has contributed some humorous literature that is excellent and will hold its place, but his Huckleberry Finn appears to be singularly flat, stale and unprofitable[.]" In addition, the *Boston Daily Advertiser* wrote "here and there are patches of Mark Twain's best work... but one cannot have the book long in his hands without being tempted to regret that the author should so often have laid himself open to the charge of coarseness and bad taste." Much like all other aspects of the novel, this was not agreed upon by all critics. An 1885 review from *The Atlanta Constitution* said "the humor is sometimes excessive, but it is genuine humor." Mark Twain was known for his humor, so it was often discussed in reviews of his works at the time. Twain was known as a humorist. With so many reviews of *Huck Finn* criticizing the humor, one may think the novel would be a failure. That was far from the case. According to Andrew Levy, the biographer of *Huck Finn's America*, "between 1885 and 1895 it was one of the top ten best-selling books" (Levy 158).

As America entered the twentieth century, *Adventures of Huckleberry Finn* proved that the discourse surrounding it would not stay in the past. While the debate around its morals, values, and humor largely stopped, debates around other content in the novel appeared. It's difficult to find many criticisms from the very early twentieth century, but by the 1950s, the novel had undeniably become a classic, and literary theorists and critics were beginning to analyze it in ways not done to it before.

The ending of the novel was one of the most criticized elements of the novel at this time. At the end of the novel, we learn that Jim has been freed by Miss Watson upon her death. Leo Marx, a well-known literary critic, wrote of the ending: "I believe that the ending of *Huckleberry Finn* makes so many readers uneasy because they rightly sense that it jeopardizes the significance of the entire novel" (Levine et al. 292). One major hangup Marx had with the ending was how Jim was freed. Not only did his owner (who was previously going to sell him) free him, but by the end of the novel we know he has been free for months at this point. Another issue Marx took with the ending was the regression of Huck's development from the titular character to Tom Sawyer's sidekick yet again. Marx writes "most of those traits which made him so appealing a hero, now disappear." Even Ernest Hemingway, who felt that "all modern American literature" came from *Huck Finn*, criticized the ending, stating that the reader should stop when "Jim is stolen from the boys [sic]. That is the real end. The rest is just cheating" (Hansen 45). As with all other aspects of this novel, not everyone was in agreement about the ending. T.S. Eliot had more positive sentiments about it, writing that it "rounds off the story and brings the reader back to the level of the childish, boyish beginning" (Gullason 45).

By the time most of these opinions were publicly emerging, the novel was nearing sixty years old. At this point, it was a classic, and was being taught in schools across the country. If Hemingway is right, then the novel inspired tons of other American literary works. Yet, the ending, or last third of the novel, was so unsatisfying to some that they wrote entire literary papers analyzing why they disliked it. Many of those critics seem to have thought the ending made the rest of the work pointless or insignificant. Interestingly enough, this topic is still discussed often online and in classrooms.

Likely, when modern audiences think of the controversial aspects of *Huck Finn*, one of the first thoughts that cross their minds regards how Twain handled racial elements in his book. For example, the book's use of racial slurs. From the sixties onward, this seems to have become one of the most discussed topics surrounding the novel. However, one might wonder why such a significant criticism has not been mentioned up to this point.

Andrew Levy writes that "in the black newspapers, Twain was invisible, and his book seemingly ignored" at the time of the book's publication (Levy 154). Since the novel did get a decent amount of coverage otherwise, it's possible that this was an intentional choice not to cover Twain or *Huck Finn* in these newspapers. Like the late nineteenth century, it is also difficult or nearly impossible to find sources from the early twentieth century discussing how Twain characterized black Americans in his novel. However, around the time of the civil rights movement in America, more criticisms of Jim's characterization began to emerge. In 1963, Chadwick Hansen wrote a paper that actually largely defends Jim's character, yet he still writes that the "dialogue might have come from any minstrel show" and that Jim is "part of a more general type-character, who is often the butt of low comedy, and whose essential quality is his insensitivity to mental or to physical pain" (Hansen 46-48).

Many critics have likened Jim's character to a minstrel. A minstrel was a performer that caricatured stereotypes of African Americans. This often included blackface, which utilizes makeup to mock a black person's appearance. While there were still blackface performances in popular media past the sixties, the Jim Crow Museum website states that "the civil rights movement forced the end of the amateur minstrel show" (Comer). However, they were still popular forms of entertainment when Twain was writing *Huck Finn*. In fact, Twain himself was a fan of minstrel shows, and included one in *The Adventures of Tom Sawyer* (Levy 30).

While there are no minstrel shows or blackface present in *Huck Finn*, an argument can be made that Jim himself exists as a minstrel. He was written by a white man, for a form of entertainment, and he features exaggerated stereotypes of a black person. Literary critic Ralph Ellison wrote in 1958 that "Twain fitted Jim into the outlines of the minstrel tradition" and Huck seems more like the adult within the novel (Twain 388). Ellison felt

that Jim's characterization made black readers uncomfortable. This could be one reason it took so long for it to be criticized by black readers. Another possibility is that by this point, because of the civil rights movement, black critics were no longer having their voices silenced. More people were willing to listen to their arguments.

Like the arguments surrounding the ending, the characterization of Jim has continued to be analyzed and discussed as people become more willing to understand and learn about racism in classic literature. In 1984, author Julius Lester wrote that "Jim is a plaything, an excuse for 'the adventure of it,' to be used as it suits the fancies of the white folk" (Levine et al. 296). When *Huckleberry Finn* was listed as one of the most challenged books in 2007 by the ALA, the only reason cited was racism. However, the stereotypical nature of Jim's character is far from the only racial element that readers may find themselves uncomfortable with.

The last controversy that will be discussed in this paper is likely the one modern readers are most familiar with. In *Adventures of Huckleberry Finn*, the n-word is used over two hundred times (Kaufman). This has been one of the most commonly cited reasons for censoring or banning the book, especially from classrooms. The book was banned from classrooms in Winnetka, Illinois in 1976. This is one of the earliest examples of the book being banned due to its use of the racial slur. John H. Wallace, a public school official, discusses the reasoning behind schools banning *Huck Finn* in the 20th century in his essay 'The Case Against Huck Finn'. He describes the novel as "the most grotesque example of racist trash ever written" (Twain 375). Wallace argued that the language was making students, teachers, and parents uncomfortable. Many have instead elected to read and teach censored versions of the novel that omit the racial slur entirely. Alan Gribben wrote in an introduction to a censored version of *Huck Finn*, "students and audience members seemed to prefer this expedient, and I could detect a visible sense of relief each time" (Levine et al. 303).

Some argue that censoring *Huck Finn* is a bad idea. Many point to the idea that Twain was likely using the slur synonymously with the word "slave." Due to this, many censored versions have replaced the slur with "slave" entirely. Michiko Kakutani, a literary critic, believes censoring the novel in this way is a bad idea. She writes "attaching the epithet *slave* to the character Jim—who has run away in a bid for freedom—effectively labels him as property, the very thing he is trying to escape" (Levine et al. 304). In a response to several schools banning the book in the eighties, African American writer Toni Morrison wrote that it was "a purist yet elementary kind of censorship designed to appease adults rather than educate children" (Levine et al. 301).

The debate of whether or not to censor *Huck Finn* is one that continues on in the twenty-first century. In 2011, writer and critic Lorrie Moore published an opinion piece in the *New York Times* about the novel.

She called for the novel to be taught exclusively in college classrooms, where it can be properly contextualized (Moore). Similarly, in 2022, the Burbank Unified School District in California removed *Huckleberry Finn* and several other books that use the racial slur from classroom reading lists. However, they did not ban the books from the library for individual student reading and have allowed teachers to use them in small groups so long as the teachers have undergone “training on facilitating conversations on racism, implicit bias, and racial identity” (Marshall University).

In some ways, it seems that the controversies surrounding *Adventures of Huckleberry Finn* have come full circle. It began by being criticized for the lack of morals presented to young audiences, and now, nearly one hundred and forty years later, the main debate that surrounds it is whether or not it should be taught in schools, to young audiences. Whether Mark Twain ever imagined the novel could become a great American classic, or the novel that “all modern American literature” came from, as Hemingway put it, is impossible to know. However, there is a lot of significance in the fact that the novel is still being discussed with such passion so many years later, and those discussions have hardly wavered since its release.



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## Stitch by Stitch: Knitting to Find Peace

...and to manage the stress of living in 21<sup>st</sup> Century America

Isabella Clark

(This text was prepared for EN204: Writing for Online Environments and was originally written in Markdown, a markup language used to construct HTML texts. It was written as a feature article meant for publication in a professional online media outlet, and special care was taken to maximize its readability and functionality as an online text. Please visit *The Navigator* website to view the piece in its original format and access the hyperlinks.)



*Image by Rebecca Grant on Unsplash.*

When the stress of the world is too much to handle, is there anything to help someone find any sort of solace? Enter the serendipitous, stitch-by-stitch act of knitting. Since the age of 5, I've used knitting as a means to express my own creativity, whether it be through a poorly made scarf or a neon-rainbow hat, and also as a way to ground myself—finding comfort and grounding in the repetitive stitch patterns.

### Benefits of Knitting

Many knitters have found this art to be not only a gorgeous expression of a knitter's self, but a form of self-care. As discovered by a number of researchers, and even from the personal experience of these crafters, knitting

has a multitude of benefits that reach far beyond just creating a thoughtful work of art, with knitting even being described as both a ["skilled and creative occupation"](#), demonstrating its incredible range.

### Knitting Boosts Mental Health

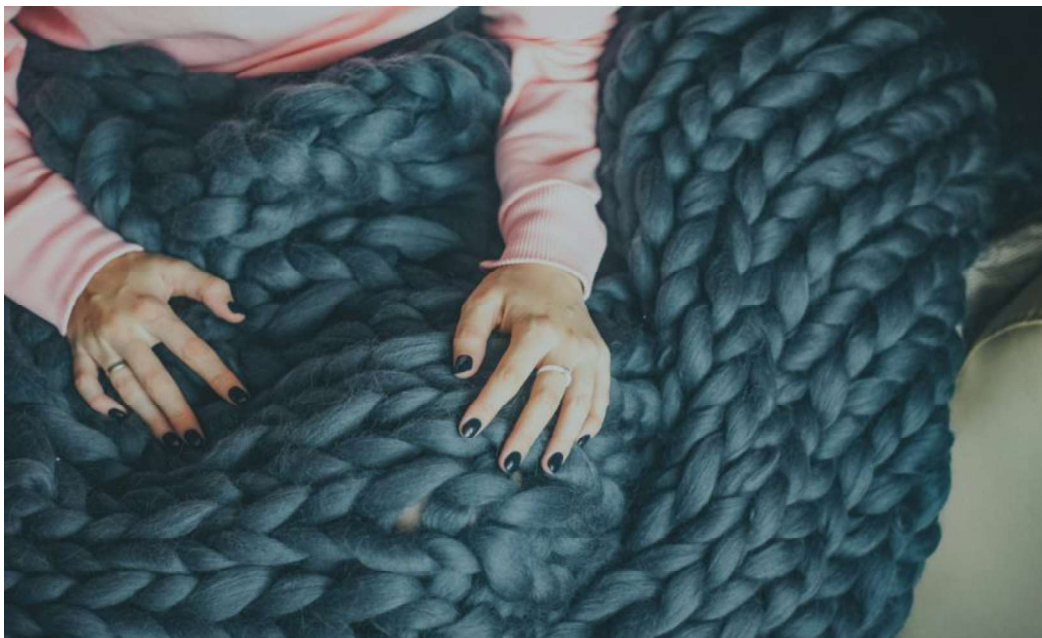
Therapeutic knitting—yes, it's an actual thing!—has been used to help a wide variety of conditions including: [stress, depression, anxiety, PTSD, addiction, eating disorders, and more](#). Not only is knitting a pleasurable hobby, but it can also aid people who struggle with a large range of mental health issues in dealing with their condition.

*Holding the hands together in front of the body creates the sensation of having a protective "bubble" of personal space and comfort and is especially helpful in threatening or anxiety-producing situations.*  
- Betty Houtman, nurse and lifelong knitter

After you've learned how to knit, the practice can even ["reduce blood levels of cortisol—the stress hormone,"](#) leaving the crafter feeling calmer, more content, and more peaceful overall.

Dr. Paula Redmond, a clinical psychologist and knitter, states that knitting can engage an individual in the theory of "behavioral action" which ["suggests that people experiencing low mood benefit from engaging in activities which allow them to experience pleasure and/or a sense of achievement."](#) Because you can knit either rows at a time or even just one stitch at a time, it can help encourage individuals by reminding them that even small progress is *still* progress.

### Knitting Encourages Mindfulness



*Image by Ekaterina Krusanova on Unsplash.*

Knitting can also help individuals practice mindfulness. According to an article featured on UCLA's mindwell page, the repetition of knitting is similar to the patterned breathing in yoga and other meditation exercises. Just the stitch-by-stitch pattern of knitting has been shown to [increase mindfulness while decreasing levels of stress](#).

Mindfulness can ["leave you feeling more in touch with the world,"](#) making the individual that practices this art feel more centered in their life, even boosting their motivation and self-confidence.

As Becky Stewart states, knitting helps her mental health, giving her a mood boost just from the mindfulness it encourages her to partake in.

*"Knitting slows me down. It grounds me and allows me to get lost in my thoughts. It make[s] me feel relaxed, in control, and happy."*  
- Becky Stewart, therapeutic knitting teacher and creator of KnitOm.

### Knitting Connects People

Knitting is often seen as a sociable activity, providing an activity for the hands while conversing with others. In this way, knitting can also help connect others in the form of local knitting groups and classes. Knitting can be a great way to connect with others that have similar interests, and maybe even something to teach you, especially since knitting is so versatile and takes such a wide variety of forms.

Houtman points out that knitting groups can also be [low-pressure social environments](#) for those with anxiety because eye contact is not necessary to keep in the conversation. Also, being able to "choos[e] whether or not to participate means that you are in control".

[Research](#) has found that knitting has a range of benefits, including social ones, which can improve the quality of life for individuals that knit.

### Knitting Helps Manage Chronic Pain

Knitting has also been linked to [helping individuals cope with chronic pain](#). Knitting can help slow and ground individuals, calming their minds and bodies while they engage in the repetitive pattern of stitching. Research even suggests that knitting [aids in the release of serotonin](#), which can help boost someone's mood and aid in increasing the body's pain threshold.

*"[Depression and chronic pain] make it difficult to concentrate the mind. Knitting is exciting because it opens up the benefits of Mindfulness to everyone."*  
- Betsan Corkhill, teacher of therapeutic knitting and mindfulness meditation.



It's astounding that something as small as moving yarn from needle to needle can aid someone in coping with chronic pain, but it has been proved time and time again as a small way to encourage individuals in their healing and coping processes.



*Image by Ungureanu Ionut on Unsplash.*

### Knitting Aids with Aging

Knitting can even help buffer the effects and onset of dementia and Alzheimer's. A study done by the Mayo Clinic found that crafting activities [reduced mild cognitive impairment by 28 percent](#), with mild cognitive impairment defined as "intermediate stage between normal cognitive aging and dementia."

Harvard Medical School's Mind and Body Institute found that knitting can also reduce an individual's heart rate to 11 bpm less than it would be without the activity, meaning that [knitting could result in lower blood pressure](#).

Rachel Moss, writing for HuffPost, states that [knitting isn't something that goes away with aging](#), but that it is a skill that can still be used even as an individual loses sight and strength. It's also a skill that can help aging individuals stay connected, as the community of the craft is a very sociable one.

### How can you start?

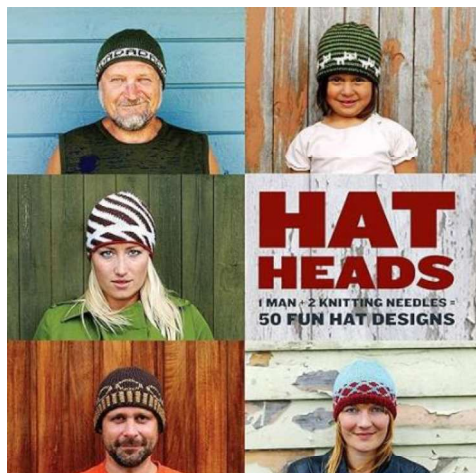
Now that you know some of the wide range of benefits knitting has to offer—where can you go next? While my mom helped me greatly in my journey to becoming an intermediate knitter, I am still continuing to learn more knitting skills— there is always more to find!

There are a variety of resources that will turn up from just a simple online search including books, YouTube videos, and even some free online classes. It can be pretty overwhelming. To help you start your journey, I'll start you off with some of my favorite books, YouTube channels, and blogs!

## Books

From “Knitting for Dummies” to a book dedicated to knitting cute monsters, I’ve read and followed patterns from a variety of authors and knitters. Here are a couple of the most useful books I’ve come across!

### *Hat Heads* by Trond Anfinnsen



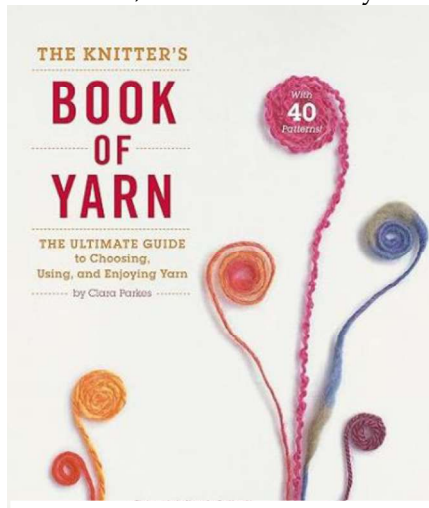
You can buy a paperback of this book on [Amazon](#) for \$13.99.

I actually used this book to knit my first hat (see picture below)! Not only are there 50 customizable hat designs, but Anfinnsen also includes parts of his story and stories from the people he knit these 50 hats for. While there are patterns that incorporate fair isle knitting techniques for advanced knitters, there are also simple, beginner-friendly designs included, relying on stitch patterns (instead of colors) to help make an eye-catching design.

This book is definitely 13-year-old Bella approved– hopefully it can help you in your hat-making pursuits as much as it helped me!

### *The Knitter's Book of Yarn* by Clara Parkes

This book, recommended by Norman of Nimble Needles, gives the reader a



You can buy a hardcover of this book on [Amazon](#) for \$18.15.

detailed explanation of different yarns and even patterns that go along with each type, highlighting strengths of each weight, type, and feel of each one. As a beginning knitter, I had trouble knowing which yarn to get for each type of project and look I was going for– this is a great resource to have for all yarn-crafters!

While this may seem intimidating at first, learning the types of yarn can be beneficial for knitters of all skill-levels, so it's definitely worth keeping on your list of to-reads.

## Blogs

If you don't care to make a trip to your local bookstore or library— don't worry! There are plenty of knitting blogs out there. From free knitting lessons to free, beginner-friendly patterns, there are plenty of great resources to start up your knitting journey in the blogs below!

### Nimble Needles

Norman, the creator of Nimble Needles (pictured above), incorporates [free knitting lessons](#) on his website going by the same name of his Instagram



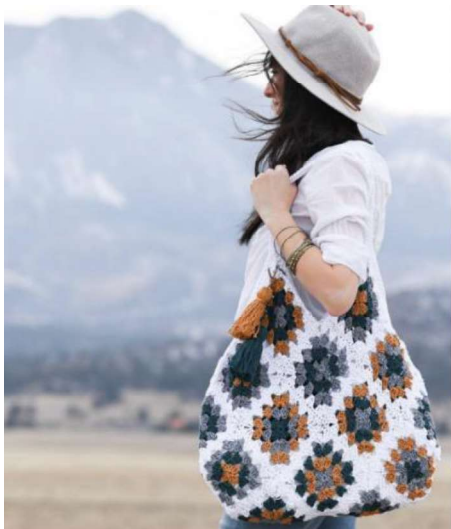
*Image from the Nimble Needles Instagram page.*

account, Nimble Needles. Through clear photos, detailed text instructions, and even slow-motion videos, Norman offers a variety of instructional materials to help even the most novice knitter learn this yarn craft.

Nimble Needles also boasts a range of [free knitting patterns](#) from patterns for scarves, hats, and mittens, to bigger, more complicated projects, such as sweaters and socks! I was surprised at the number of resources on his blog the first time I came across it— you can explore Nimble Needles [here](#)!

### Mama in a Stitch

Mama in a Stitch's blog, created and run by Jessica, also boasts a variety of



*Image from the Mama in a Stitch Instagram page.*

[free knitting patterns](#). Compared to Nimble Needles, these patterns are elegantly simple, but executed in a unique way. Not only does she provide free knitting patterns, but she also posts [free crochet patterns](#).

This blog includes patterns for a range of blankets, tote bags, vests, cardigans, and more! I also enjoy that Jessica includes a link to her most recent video in her blog posts, offering a visual explanation to some of her most popular patterns. It's easy to get lost in her earthy colorings, classy designs and clear explanations of how a pattern works— check out Mama in a Stitch's blog, patterns, and more [here](#)



## YouTube Channels

If you're a visual learner, these YouTube channels are for you! From examples of the most basic knitting stitches to videos in which creators walk you through a full pattern, these YouTube channels each have a great and unique variety of content.

### Sheep & Stitch

[Sheep & Stitch](#)'s YouTube channel not only has knitting patterns, but also includes knitting tips, like how to make seamless joins when knitting in the



*Image from the Sheep and Stitch Instagram page.*

round, and a collection of knitting stitches that are beginner friendly.

This channel is a great resource for all crafters, regardless of if you're a beginner, novice, or advanced knitter, because there are tutorials for advanced stitches and techniques, yet also videos addressing common questions beginning knitters may have, such as [how to fix extra stitches](#) and [how to loosen up tight knitting](#). Even if you're an advanced knitter, I can confidently say that

Sheep & Stitch will have a new technique, stitch pattern, or inventive pattern that will snag your interest.



*Image from Elise Rose Crochet's Instagram page.*

### Elise Rose Crochet

While Elise's YouTube channel is named "Elise Rose Crochet," she also posts great informational [knitting videos](#)! From videos explaining [creative ways to use yarn scraps](#) and [facts about Victorian-era knitting](#), even to [why she knits as a form of self care](#), there is a variety of great crafting content on her channel.

Elise also specializes in [amigurumi](#), which are crocheted or knit animals, so

her YouTube boasts an assortment of both knit and crochet amigurumi patterns. As a beginner, she even has a video dedicated to easy, [beginner-friendly, knit toys](#). You can look more into Elise's amigurumi and general yarn crafting advice [here](#)!

## **Go Knit!**

Picking up knitting means that little by little, you can find inspiration from the smallest places and create peace for yourself in an engaging and meditative way. Because it's such a versatile art, especially with the range of projects one can make—from a rectangular scarf to practice a stitch pattern to the journey of knitting a full sweater—there is something for anyone that is determined to try.

No matter when you begin, who you are, or why you want to learn, there is always a benefit to be gained from the traditional, versatile, and beautiful art of knitting. As I create more projects, learn new stitches, and meet new people, I realize that the journey of knitting will never truly be over and will always offer me (and you!) something more to explore.

## Honorable Mention, *The Navigator's* Best Writing Award

### Henry Moore's *Seated Woman*: Modern Surrealist Abstraction

Cheri Regis

#### Seated Woman: An Introduction

If there is ever any 20th century post-war modern European sculptor in the world who has created, shared, and imparted to the world an oeuvre so richly and evidently informed by modernism, the natural world, and his home country, this position, without a shadow of a doubt, would be filled by the English presence known as Henry Moore. His modern artistic contributions have proven time and again to be monumentally commanding and symbiotically engaging. Such is the case for Moore's *Seated Woman*, a utilitarian but feminine figure seated not in a static manner, but rather in a form-fitting, nature-conforming manner. Presenting herself to us as an organic maternal life form in a sleek, subtly textured bronze sitting at 4 feet and 9 inches high, the *Seated Woman* gracefully makes herself not only at home in a mere institutional setting, but also at home and one with nature, past and present. Just as the sculptor, as with his collective body of work, had originally intended.

#### A Closer Look

The *Seated Woman*, made and cast in bronze by Moore in 1957 as an edition of 6, consists of the tried and true subject matter of a female nude rendered not in a realistic Classical, traditional manner, but rather in a semi-abstract figurative manner reminiscent of previous modernist sculptors of the 1920s and 30s. Accompanying the model is a support and base that seems to be the only sole object in the composition that has been rendered realistically and with precision that is stylistically in stark contrast with the primary subject, front and center in the foreground. As for the medium, the bronze deceptively fools the viewer's judgment of color and tone by alternating between colors of what seems to be a cool toned green-gray and black-gray when viewed at multiple angles and under artificial lighting. The features of the sculpture are simplistically carved and serve as indicators that the model is facing both directly above the viewer while simultaneously gazing into the horizon, as if there is a sense of longing. The position of the model's pose, one of asymmetry, suggests that while she is sitting contentedly, she is also endeavoring to fend off any signs of discomfort and pain. An element of distinction that gives the artwork its elemental, painterly, and industrial feel is the collective texture of scratches varying in thickness and depth, as if showcasing both the intimate working partnership

between artist and muse in the exclusively unique realm that is the artist's studio.

With all these elements and details in play, Moore's artwork is one of graceful, parental, taxing resiliency, and he chose to magnify this by way of scale, variety of surface texture, and form. As for the context, the viewer is provided and equipped with the insight and knowledge that the figure is an expectant mother. This is exhibited by the dense and expansive mass of the figure's torso and the tilted weight on the figure's right side. As Moore's early and later works will show, themes of motherhood, childhood, and organic environment with a surrealist abstractive lean will be dominant in much of his artistic output, with the human figure, whether as individual or as a unit of a group, as his primary subject.

### **Moore's Early Inspirations and Influences**

A lifelong native of Great Britain, Moore was born and raised into a working-class family who lived in Castleford, a small, industrious mining town located in Yorkshire. According to Moore, writers, observers, and critics of his work have an inclination for linking his early upbringing, one of adversity and grit, to his present, "almost as if one hasn't changed" (Moore, 1986). It is widely known throughout the artist's life and career that he constantly recalls and looks back to his childhood and early formative years as sources of inspiration and influence for his body of work, which covers a limited but diverse range of media from sculpture to drawing.

Some of Moore's observers tried to emphasize and refer to Moore's current innovative style and approach to sculpture when regarding his earlier encounters. Regarding this, Moore makes a statement wherein he suggests that they failed to recognize other aspects of his modern life as well as his encounters with other modern artists and how their lives and modernist contributions to visual art and visual art history had served to shape and define the sculptor artistically, developmentally, aesthetically, and personally. In other words, Moore and his oeuvre had become multifaceted and stylistically diverse, and both cannot be simply tied to a moment of time in art history. According to modern art scholars and authors of the book *History of Modern Art, Seventh Edition*, by the early 1930s, Moore was well aware, influenced, and informed of modern art movements such as abstraction and Surrealism. He was instituted by the likes of essential sculptors such as Auguste Rodin, Constantin Brancusi, Alberto Giacometti, and Pablo Picasso, as well as advances, discoveries, and developments in sculpture and his absorption of Classical, pre-Classical, African, and pre-Columbian art he viewed and studied in English and European museums during and after his academic years (Arnason and Mansfield, 2013).

Also, by this time, Moore was well developed, prolific, and mature as an artist who rose to international acclaim by 1945. These earlier formal sources of inspiration are apparent in Moore's earlier reclining figure sculptures, which hearken back to sculptures and monuments of earlier

cultures and periods. These would prove to be a defining asset to both the artist's process, design, and overall production and presentation in much of his work and professional career. One work of art that is a perfect example of cross-cultural aesthetic and artistic originality is Moore's 1929 reclining female nude *Reclining Figure*, which, given the shape, mass, the rusty earth red of the stone that is carved in, and the model's pose, Moore masterfully integrates central Mexican sculpture design and background with his own original voice. Additionally, he lends credence to his forward-thinking approach to modern sculpture. One figure in particular that is evident in this pivotal sculpture is the chacmool, an athletic warrior figure in Mexican Toltec culture that symbolizes sportsmanship and human sacrifice and also represents the losing participants who took part in the ancient ball games, which were deadly and challenging in nature. Given Moore's travels to Mexico and his exposure to central Mexican sculpture, he transferred and translated his inspiration and reference of the chacmool into his *Reclining Figure* and several of his public sculptures, which would leave an indelible impact on his artistic career and legacy. In *Seated Woman*, while there is little to no indication of ancient cultural references, there is strong indication of Moore's preference and gravitation towards massive, shapely forms and natural conforming space. Furthermore, this art piece also serves to perpetuate Moore's fascinating foray into surrealist modern abstraction that was prevalent in the early to late 1920s and 30s.

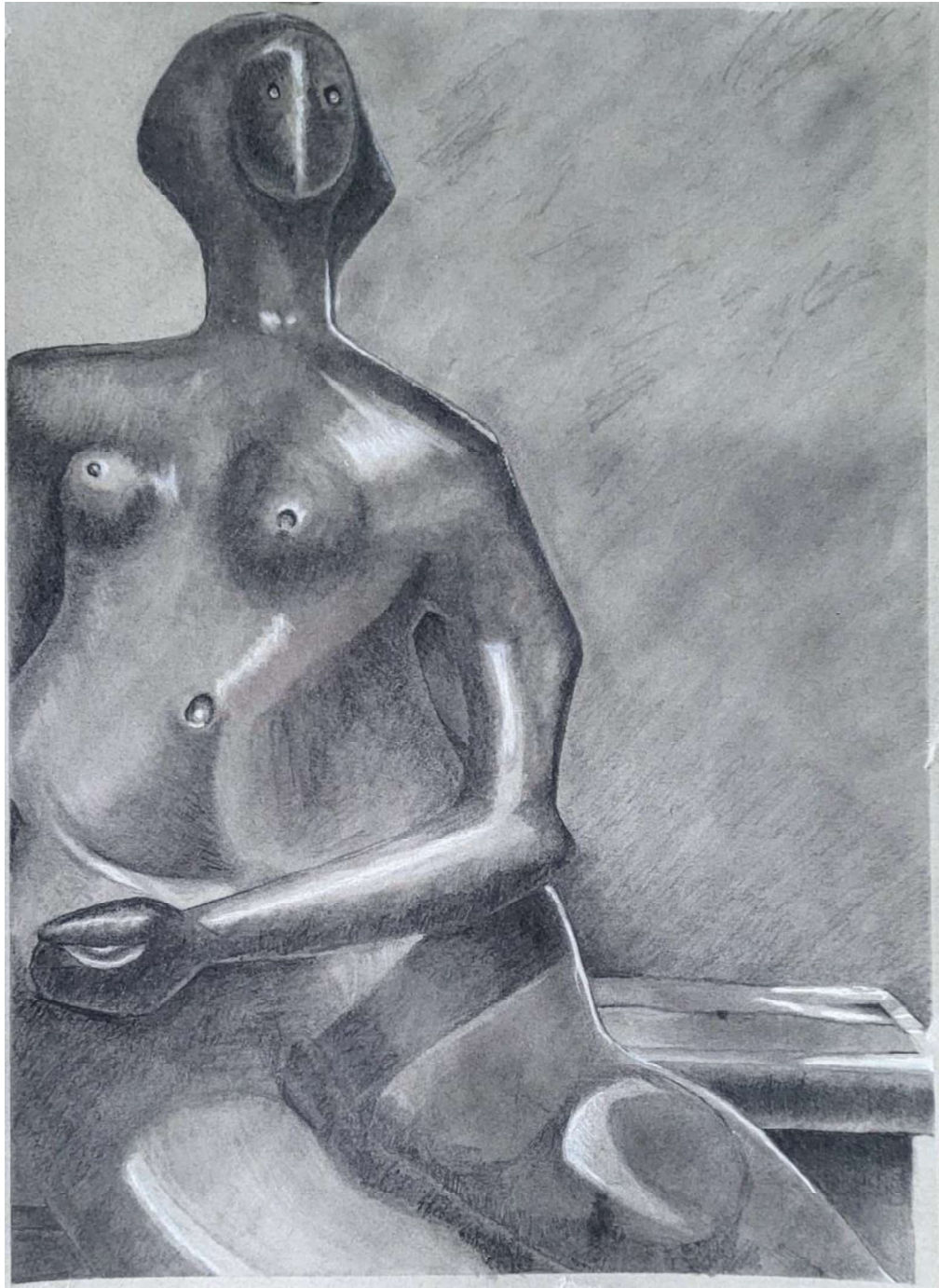
### **Abstract Surrealists Moore and Picasso**

As stated previously, during the late 1920s and well into the 1930s, Moore readily embraced and absorbed Surrealism and Surrealist informed abstraction, and that can be attributed to the aforementioned modern artists, especially Picasso. Moore, like Picasso, explored and made evident Surrealistic tendencies and aesthetics in the production of his sculptures from a stylistic standpoint. He accomplished this by way of experimenting with other materials commonly utilized in the sculptural tradition such as bronze, specialized stones, and even wood. In his later sculptures, Moore would go on to create and present them in a variety of materials, such as 1951's *Reclining Figure*, another semi-abstract reclining nude figure made of yellowed white plaster and string. This particular work is an acknowledgement and tribute to Picasso and Surrealism, as the figure is made up of vast gaping holes and is formatted in a pose that the viewer can easily identify the subject as both figure and landscape. What makes this sculpture distinct from Moore's earlier reclining figures is the graphic linework throughout the areas of the figure that serves as a texture that gives the figure an aged, skeletal appearance. This gives the impression that this figure, while full and curvaceous, is also a skeleton propped up as a traditional still life. As a whole, the artwork's inspiration and influence can be directly linked to Picasso and one of his Surrealist paintings, *Seated Bather* of 1930. This particular artwork features a seated nude female rendered in

organic semi-abstraction with the head and features completely incomprehensible and abstract, just as the head and features of Moore's innovative and stylistically similar sculpture are incomprehensible and abstract. Taken the two works together, they both share an acknowledgement to Surrealism, abstraction, its artists, and its groundbreaking qualities. Meanwhile, when taking both works in contrast, they differ and translate in size, medium, approach, method, and timeframe.

## Summary

While Moore's *Seated Woman* is a testament to the artist's crucial modern voice and devotion to his fascination of nature and the female form as subject, it is a vast departure from Moore's earlier experimentations of Surrealist aesthetic and total abstraction seen in earlier post-WWI works. However, the sculpture retains a few aspects and parts of the artist's forays into these two attributes as well as his flirtation with art of ancient cultures. Some of these references are conveyed through the voluminous use of negative space, the abstract simplification of the head and its features, and the block-like shape and form of the earlier reclining figures of the late 1920s and 30s. In the modern art historical canon, *Seated Woman*, the hand behind this formidable work of modern art, and his richly diverse and widely acclaimed oeuvre have proven not only invaluable and timeless in the history of modern sculpture, but also in the history of modernism. The world continues to look to this celebrated and beloved 20th century European modernist for groundbreaking, dynamic, sculptural inspiration.



Cheri Regis, *Seated Woman (after Henry Moore)*, 2022. Graphite on recycled toned paper, 9" x 12". Collection of the artist.



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- Harris, B. & Zucker, S (April 6, 2019). *Describing what you see: Sculpture, Henry Moore's Reclining Figure*. Smarthistory. A <https://smarthistory.org/describing-moore/>.

## Art References

- Henry Moore, CBE, British, 1898-1986  
*Seated Woman*, 1957  
Bronze, ed. of 6  
61 x 57 ½ x 41 ¾ in. (154.7 x 146 x 106 cm)  
The Hall Family Foundation at The Nelson-Atkins Museum of Art  
Kansas City, Missouri
- Henry Moore, CBE, British, 1898-1986  
*Reclining Figure*, 1951  
Plaster and string  
105.4 x 227.3 x 89.2 cm.  
Tate Britain  
London, England
- Pablo Picasso, Spanish, 1881-1973  
*Seated Bather*, 1930  
Oil on canvas  
64 ¼" x 51" (163.2 x 129.5 cm.)  
The Museum of Modern Art  
New York, New York



## From Traitors to Heros: Examining the Motivations and Consequences of the American Revolution

Joshua J. Wood

The American Revolution stands as a pivotal moment in history, marking the birth of a new nation that dared to challenge the established order of the British Empire. Within this transformative period, the concept of treason and loyalty emerged as a divisive and complex issue, sometimes turning fathers and sons into bitter enemies, as individuals were labeled traitors based on their allegiance to the British crown or their subsequent betrayal of the rebel cause. The fluidity of loyalty and the subjective nature of treason during the American Revolution raises fundamental questions about how traitors are defined and categorized. By examining the American Revolution through the lens of treason, the motivations, actions, and consequences of those deemed traitors by history during this turbulent era can be scrutinized. In a letter from John Adams to Nathaneal Greene on March 9, 1777, Adams quotes Count La Tour “The Lot is cast. If We prove victorious, We shall be a just and free Sovereign People; if We are conquered, We shall be Traitors, perjured Persons, and Rebels.”<sup>1</sup>

This research endeavors to provide a comprehensive understanding of the individuals deemed traitors during the American Revolution and how both sides perceived each action. Their backgrounds will be scrutinized, their decisions examined, and the impact of their actions evaluated in relation to the course of the Revolution. By doing so, we aim to unravel the intricate web of loyalties and allegiances that existed, shedding light on the subjective judgments and shifting alliances that blurred the boundaries between loyalty and treason. Moreover, this study will offer insights into the broader implications of defining treason within the context of a revolutionary struggle and how that view has softened with time. The motivations and justifications presented by both the British and American sides will be explored, investigating how individuals and institutions labeled their adversaries as traitors to undermine their cause. Through this examination, we will gain a deeper appreciation for the complexities inherent in defining treason, challenging simplistic notions, and illuminating the ethical, legal, and political considerations at play.

In order to understand the American Revolution and the subsequent tensions between Britain and the American colonies, it is essential to explore the factors that led up to this transformative period in history. The road to revolution was marked by a series of events, policies, and ideological shifts that gradually eroded the relationship between Britain

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<sup>1</sup> “Founders Online: From John Adams to Nathanael Greene, 9 March 1777,” *National Archives and Records Administration*, n.d., <https://founders.archives.gov/documents/Adams/06-05-02-0058>.

and its American colonies. One crucial aspect was the colonial relationship with Britain, which was rooted in mercantilism. Under mercantilist policies, the colonies were seen primarily as a source of raw materials and a market for British manufactured goods, instead of their fellow countrymen entitled to representation. Trade regulations, such as the Navigation Acts, were implemented to ensure that most colonial goods were sold exclusively to Britain and transported on British ships. These policies restricted the colonies' economic autonomy and led to growing resentment as colonial merchants and entrepreneurs sought greater economic opportunities.

The Seven Years' War from 1756-1763, also known as the French and Indian War, played a significant role in intensifying tensions between Britain and the colonies. Certainly, George Washington's animosity towards the British grew from his denial of a royal officer's commission in the British Army despite his excellent service during the war.<sup>2</sup> The war fought primarily between Britain and France, resulted in a British victory but left the British Empire heavily indebted. In an effort to recover the war debt, Britain began to assert greater control over the colonies and implemented a series of new taxes and regulations.

One of the most notable acts that added to the growing discontent was the Sugar Act of 1764. It aimed to raise revenue from the colonies by imposing duties on sugar and other imported goods. The following year, the Stamp Act of 1765 imposed a direct tax on various legal documents, newspapers, and other printed materials. These acts marked a significant departure from previous trade regulations and were perceived by the colonists as a violation of their rights as British subjects, as they were being taxed without their consent. The imposition of these taxes without colonial representation in the British Parliament sparked widespread protests and resistance throughout the colonies. Colonists organized boycotts of British goods, formed non-importation agreements, and established groups such as the Sons of Liberty to resist British authority. The rallying cry of "No taxation without representation" encapsulated the colonists' growing sense of injustice and desire for greater political rights.

The tensions escalated further with the Townshend Acts of 1767, which imposed duties on various imported goods, including tea, glass, and paper. In response, colonists again organized boycotts and protests, leading to increased clashes with British authorities. The Boston Massacre of 1770, where British soldiers fired on a crowd of protesting colonists, further fueled anti-British sentiment and served as a powerful symbol of colonial grievances.<sup>3</sup>

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<sup>2</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.l.: Penguin Books, 2022).

<sup>3</sup> "Boston Massacre," *ushistory.org*, n.d., <https://www.ushistory.org/declaration/related/massacre.html#:~:text=The%20Boston%20Massacre%20was%20a%20signal%20event%20leading%20to%20the,armed%20rebellion%20throughout%20the%20colonies>

However, it was the Tea Act of 1773 that triggered a dramatic turn of events and set the stage for open rebellion. The Tea Act granted the financially troubled British East India Company a monopoly on tea sales in the colonies. This not only angered colonial merchants and tea smugglers who faced economic losses but also raised concerns about the British government's ability to impose its will upon the colonies. In protest against the Tea Act, the Sons of Liberty staged the Boston Tea Party in December 1773. Disguised as Native Americans, they boarded British tea ships in Boston Harbor and dumped the tea cargo into the water.<sup>4</sup> This act of defiance further strained relations between Britain and the colonies and led to the enactment of harsh measures by the British government, known as the Coercive Acts or Intolerable Acts, in an attempt to suppress dissent in Massachusetts. The Coercive Acts included the closure of Boston Harbor, the imposition of martial law, and the strengthening of British military presence in the colonies. These acts not only affected Massachusetts but also galvanized support and sympathy for the American cause throughout the other colonies. Colonial leaders convened the First Continental Congress in 1774, where they denounced British policies and called for unified action to address the grievances. The mounting tensions and a deepening sense of alienation from Britain ultimately led to the outbreak of armed conflict. The battles of Lexington and Concord in April 1775 marked the beginning of the American Revolutionary War, where American colonists took up arms against British forces. The desire for self-governance, the defense of colonial rights, and the quest for independence became the driving forces behind the rebellion, fueled by years of frustration and perceived injustices.

Prior to the 1770s, Benjamin Franklin was considered a loyal servant of the British government, a sentiment he passed on to his son William Franklin but when Benjamin Franklin turned towards revolution, his son remained loyal to the crown. The paradoxically radical father and conservative son highlight the complexities of family loyalty during a revolution. The Franklin split underscores the ambiguity of loyalty as both men were intelligent Oxford degree holders who loved their English heritage as well as King George, but they still found themselves on opposite sides of the conflict.<sup>5</sup> Benjamin Franklin did not believe parliament had the right to levy new laws and taxes as the colonies were without representation and believed in it so strongly that for nearly eight years the two didn't write or meet until after the war was over. It wasn't until 1784 that Benjamin Franklin responded to his son William who had attempted reconciliation. Benjamin responded warmly but not as understanding as his son might have hoped, "I received your Letter of the 22d past, and am glad to find that

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<sup>4</sup> "Boston Tea Party," *Encyclopedia Britannica*, June 8, 2023, <https://www.britannica.com/event/Boston-Tea-Party>.

<sup>5</sup> Matthew C. Simpson, "Benjamin Franklin and His Son, Divided by Independence," *The New Republic*, July 3, 2017, <https://newrepublic.com/article/143683/benjamin-franklin-son-divided-independence>.

you desire to revive the affectionate Intercourse that formerly existed between us. It will be very agreeable to me. Indeed, nothing has ever hurt me so much and affected me with such keen Sensations, as to find myself deserted in my old Age by my only Son; and not only deserted, but to find him taking up Arms against me, in a Cause wherein my good Fame, Fortune and Life were all at Stake. You conceived, you say, that your Duty to your King & Regard for your Country requir'd this. I ought not to blame you for differing in Sentiments with me in Public Affairs. We are Men, all subject to Errors."<sup>6</sup> Despite his son's attempts, Benjamin did not find his son's apologies adequate and would leave him out of his will, aside from some worthless land in Nova Scotia, remarking "The part he acted against me in the late war, which is of public notoriety, will account for my leaving him no more of an estate he endeavored to deprive me of."<sup>7</sup>

William Franklin had a promising career and was appointed Royal Governor of New Jersey in 1763, but this appointment created a sense of loyalty that superseded the implicit loyalty to family and father first. He refused attempts by his father to join the patriot cause and instead gave speeches before the New Jersey Legislature imploring them to side with England, which the legislature promptly ignored in support of the rebels in Boston. Unwilling to follow public opinion and private counsel, William decided to betray his fellow colonists by secretly reporting patriot activities back to the authorities in London.<sup>8</sup> His letters were found and when he was questioned, "Mr. Franklin refused to answer the questions put to him, denying the authority of this body, which he alleged had usurped the King's Government in this Province."<sup>9</sup> Although his sentence was light and he was trusted with house arrest, it was found that William had continued to try and help the loyalist cause and violated the terms of his house arrest. William was jailed and placed in solitary confinement. Surprised by the harsh treatment he was now facing, he wrote to the Governor of Connecticut, Johnathan Trumbull. Not realizing the Governor was a close friend of General Washington and had no sympathies for William's discomfort, "I suffer so much in being buried alive, having no one to speak

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<sup>6</sup> Benjamin Franklin, "Founders Online: From Benjamin Franklin to William Franklin, 16 August 1784," *National Archives and Records Administration*, n.d., <https://founders.archives.gov/documents/Franklin/01-43-02-0004>.

<sup>7</sup> "Philadelphia Reflections," *Philadelphia Reflections: A Grievance Carried to the Grave*, July 21, 2010, <https://www.philadelphia-reflections.com/blog/1970.htm>.

<sup>8</sup> Kathryn Braun, "Divided Loyalties: Benjamin and William Franklin," *Monticello*, March 21, 2021, <https://www.monticello.org/research-education/blog/divided-loyalties-benjamin-and-william-franklin/>.

<sup>9</sup> "Letter from the New-Jersey Convention to the President of Congress, with Their Proceed-Lugs on the Arrest of Governour Franklin," *Northern Illinois University Digital Library*, n.d., <https://digital.lib.niu.edu/islandora/object/niu-amarch%3A103174>.

to day or night...that I should deem it a favor to be immediately taken out and shot.”<sup>10</sup> William petitioned Washington himself to see his dying wife but was denied again and was only released to British-controlled New York in part of a prisoner exchange once his health started to fail. He continued to work in support of the loyalists, but William would later leave for London, always under the belief that the British would eventually win the war. For all his troubles, lost possessions and property, he was compensated by the British government £1,800 from the Commissioners of Loyalist Claims as well as a half-pay for a brigadier, totaling £800 a year.<sup>11</sup> His career had been in America and his lineage as a child born out of wedlock was more prominent in England, effectively meaning he lost his family, fortune, and career for remaining loyal to an institution that saw no further use for him.

Loyalists to the Crown who had fled were not welcomed back after the war and Benjamin Franklin helped make sure of it. Benjamin voted to deny compensation or amnesty to anyone who supported the Crown and had left the colonies. William saw his father deny him a chance to return to his home and the country of his birth and deny his requests for reconciliation. His wife died alone while he was in jail and his son sided with his grandfather, leaving their relationship strained. The last time William ever saw his father, Benjamin, was a cold and formal affair where William signed over property and financial records which had been trusted to him but were now trusted to his son instead. The revolution cost William Franklin everything, even so, he didn't regret his part but for ignoring the "Natural Duties" owed by a son to his father. In the end, he would die alone, buried in a forgotten grave.<sup>12</sup>

In certain circles in British society, there was an understanding and empathy for the loyalists' plight. They were seen as fellow subjects who had endured losses and were in need of support. Loyalists who sought refuge in England often received some base assistance and resources from sympathetic individuals. Not all British citizens were so supportive of loyalist refugees who some saw as a reminder of British failure and loss of authority in American colonies. Others saw them as an unnecessary burden to support, and loyalists who sought financial assistance or support from the government were sometimes met with resentment and criticism. The government itself understood and appreciated the sacrifices made by the loyalists but the influx of refugees added another debit to the already

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<sup>10</sup> Kathryn Braun, "Divided Loyalties: Benjamin and William Franklin," *Monticello*, March 21, 2021, <https://www.monticello.org/research-education/blog/divided-loyalties-benjamin-and-william-franklin/>.

<sup>11</sup> Willard Sterne Randall, "Franklin, William (1731-1813), Loyalist Leader and Last Royal Governor of New Jersey," *American National Biography Online*, 2000, <https://doi.org/10.1093/anb/9780198606697.article.0100300>.

<sup>12</sup> Sheila L. Skemp, "Benjamin Franklin, Patriot, and William Franklin, Loyalist - JSTOR," *JSTOR*, 1998, <https://www.jstor.org/stable/27774078>.



strained resources. The opinions of loyalists were varied but they were not met with the universal acceptance or support they might have expected before they arrived.

Arguably the most famous traitor in American history whose name has become synonymous with the act of treason is Major General Benedict Arnold. While his legacy as a traitor will likely stand the test of time, his bravery and talent on the battlefield could have made him an American hero. In a telling insight into the motivations and mindset of traitors, Arnold could, and did, argue that his action was in service to his country. In order to bring a more swift and reasonable end to the conflict, he was willing to sell out his country and those he had fought with. It wasn't just the act of switching sides that made Arnold a traitor, but his willingness to act maliciously using the trust of his friends and comrades in hopes of bettering his station no matter how it might impact his country and fellow colonists.

Benedict Arnold was born in Connecticut in 1741 to a respectable colonial family. His mother was the daughter of a wealthy family while his father, once a successful businessman, became an alcoholic after the death of two of Arnold's siblings. Before Arnold was fourteen, his father had squandered his family fortune, but his mother was able to use her family connection to get him an apprenticeship which he eventually turned into his own trading business. When his trading business was endangered by the revolution, Arnold joined the growing American army in Boston. Arnold would act bravely while in service but it's important to note that his motivations to fight came from threats to his business. John Brown seemed to have realized Arnold's true character because, during the winter of 1776, he printed and distributed a handbill attempting to warn the populace of their supposed "hero's" character stating "Money is this man's God, and to get enough of it he would sacrifice his country."<sup>13</sup> Brown's warning fell on largely deaf ears as Arnold distinguished himself by helping capture Fort Ticonderog, but felt the acclaim he received wasn't enough and that some of his fellow officers were taking credit for his achievements.

Arnold was wounded in the left leg for a second time, which took him off of the front line. Arnold fought bravely if not a little recklessly, and for his efforts, his leg would lose two inches and he would forever walk with a limp.<sup>14</sup> Giving him time to heal, General Washington assigned Arnold to the position of acting military governor of Philadelphia. As military governor of a city that had recently been under occupation by the British and was thought to be largely loyalist, Arnold would be convicted of malfeasance for using his power and resources and ensuring he gained a

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<sup>13</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.l.: Penguin Books, 2022).

<sup>14</sup> "9 Things You May Not Know about Benedict Arnold," *History.com*, January 13, 2016, <https://www.history.com/news/9-things-you-may-not-know-about-benedict-arnold>.

profit from any business deals going on in the city.<sup>15</sup> It's possible the stress from his impending court-martial pushed Arnold to seek better conditions working for the British. The icing on his financial problems came when 37-year-old Arnold met 18-year-old Margaret "Peggy" Shippen, daughter of a prominent loyalist. Shortly after meeting and once Arnold had taken out several loans to prove his financial status to her family, on April 8, 1779, at the age of nineteen Peggy was wed to Arnold. Although there is no definite proof to link Arnold's turn toward treason to his new wife, within a month of their marriage Arnold sent a letter to British General Henry Clinton offering his loyalty and service to the Crown. When Arnold raged at home to his wife about his mistreatment and ongoing court-martial, instead of calming or reassuring her husband, there is every indication that Peggy stoked his frustration which might have pushed him towards treason.<sup>16</sup> Saying to a loyalist friend, Peggy stated "She was hardly tired of the theatrics she was exhibiting, that through great and unceasing perseverance she had ultimately brought the General to an arrangement to surrender West Point."<sup>17</sup> Peggy not only took credit for her husband's actions but assisted in the treason itself, holding letters and passing messages on behalf of her husband. In order to maintain the lavish lifestyle, he and his wife expected, he began a correspondence with British Major John André, a close friend of his wife. While all the information around Peggy's involvement cannot create direct ties to her being the catalyst for Arnold's betrayal and are largely circumstantial, in 1782, Peggy was granted by King George III a total annual pension of £500 for "...her services, which were very meritorious."<sup>18</sup>

Before Arnold received any compensation from the British, he was already selling out his country. While he was hammering out the terms of his services Arnold provided the British with American troop locations and movements as well as the placement of supply depots. Unable to get a field command due to his leg, Arnold had himself promoted to a command position at West Point in order to have something worth selling. British General Henry Clinton authorized the payment of £20,000 as well as a high position in the British army if Arnold could weaken the fort in preparation

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<sup>15</sup> "Benedict Arnold Is Court-Martialed," *History.com*, November 13, 2009, <https://www.history.com/this-day-in-history/benedict-arnold-is-court-martialed>.

<sup>16</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.I.: Penguin Books, 2022).

<sup>17</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.I.: Penguin Books, 2022).

<sup>18</sup> William R. Griffith IV William, "10 Facts: Benedict Arnold and Peggy Shippen," *American Battlefield Trust*, August 24, 2021, <https://www.battlefields.org/learn/articles/10-facts-benedict-arnold-and-peggy-shippen>.

for surrender. The plot was uncovered when John André was caught carrying the correspondence, but Arnold was able to flee on a ship before he could be captured.

General George Washington expressed willingness to trade John André to General Clinton in exchange for the return of Arnold but was refused. André had been discovered by three local militiamen whose actions Washington commented had “prevented in all probability our suffering one of the severest strokes that could have been mediated against us.”<sup>19</sup> Unlike Arnold, André would face punishment for his actions as a spy but for his sacrifice, also unlike Arnold, he would be mourned and remembered by his countrymen. In 1782, a monument would be erected in his honor at Westminster Abbey and a century after his hanging, another monument would be established at the site of his execution in America.

Washington reportedly authorized kidnapping operations charging The Marquis de Lafayette to bring him back for execution if unable to kill him on the spot.<sup>20</sup> Despite being America’s most famous traitor, he never faced punishment. Arnold would serve as a Brigadier General in the British army fighting against the very same men he had just commanded. Arnold’s fortune soon turned, and when General Clinton was replaced, so was Arnold. At the end of the war, Arnold was able to flee to England but never achieved the success or fortune he aimed at.

Benedict Arnold was never able to work his way into lucrative contracts with British trading companies nor continue his military career in the British military. He was widely criticized in the American press and portrayed as a traitor and symbol of treachery. This negative perception followed him to England, where he was met with hostility and social isolation. Many people in British society considered him a pariah and avoided associating with him. His military career was essentially killed the moment he switched sides as there was always a fear he might switch again, and he was treated with contempt by the people around him. One instance was so serious, the people of Saint John burned an effigy of Arnold on his lawn, in front of his family.<sup>21</sup> Arnold never received the full £20,000 either, in a letter seized by American agents he stated he only received £5,000.<sup>22</sup>

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<sup>19</sup> “John André: Officer, Gentleman...and Spymaster,” *Intel.gov*, n.d., <https://www.intelligence.gov/evolution-of-espionage/revolutionary-war/british-espionage/john-andre>.

<sup>20</sup> Mike Duncan, *Hero of Two Worlds: The Marquis de Lafayette in the Age of Revolution* (US: Perseus, 2023).

<sup>21</sup> “That Greatest of All Possible Villains: Benedict Arnold and the first slander case in New Brunswick, Part 1,” *The Loyalist Collection*, April 18, 2018, <https://loyalist.lib.unb.ca/atlantic-loyalist-connections/%E2%80%99C-greatest-all-possible-villains%E2%80%99D-benedict-arnold-and-first-slander>.

<sup>22</sup> Leslie Landrigan, “Benedict Arnold’s Treason Unmasked to Washington-in Arnold’s Own House,” *New England Historical Society*, April 1, 2023,



Overall, life in England for Benedict Arnold after the American Revolution was characterized by a complex mix of sympathy, suspicion, and isolation. While he received some support from the British government, his reputation as a traitor and the public animosity towards him made it difficult for him to fully reintegrate into British society. In 1781, Benjamin Franklin wrote to Lafayette about Arnold as “a miserable bargain especially when one considers the quantity of infamy he has acquired to himself and entailed in his family.”<sup>23</sup>

Not unlike Arnold, recent history shows that men in places of authority can still fall victim to the influences of strong women in their lives. FBI agent Richard Miller would commit treason and pass on top secret documents to his handler and lover Svetlana Ogorodnikova, who denied involvement with the KGB. When Arnold turned traitor, his fate was sealed and had he been caught, he would have been hung or shot depending on the condition of his capture. When Miller was caught and convicted as the first FBI agent to commit espionage against the United States, he would ultimately only serve twenty years in Federal prison before being released on May 6th, 1994.<sup>24</sup> In contrast to the lenient punishment Miller received, on November 4th, 1778, Abraham Carlisle and John Roberts were hanged on the common of Philadelphia for providing assistance to the British forces.<sup>25</sup> In correspondence to Nathaniel Green, Joseph Reed would defend the execution of convicted traitors writing “Unless an example is made of these men, the cause of American freedom was sure to suffer... Treason, disaffection to the interests of America, and even assistance to the British interest are called openly only errors of judgment.”<sup>26</sup> What is remarkable about Reed’s statement is that in late December 1776, fearing for the state of the war thinking the British were poised to win it, Reed decided to spend the night at a home in Hessian occupied New Jersey. Ready to defect to the British if Washington’s assault on Trenton ended in an American defeat, Reed was now explaining why others should be tried but he should not.<sup>27</sup>

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<https://newenglandhistoricalsociety.com/benedict-arnolds-treason-unmasked-to-washington-in-arnolds-own-house/>.

<sup>23</sup> Mike Duncan, *Hero of Two Worlds: The Marquis de Lafayette in the Age of Revolution* (US: Perseus, 2023).

<sup>24</sup> “Richard Miller,” *HistoryofSpies.com - Your Resource for Espionage on the Web*, December 13, 2019, <https://historyofspies.com/richard-miller/>.

<sup>25</sup> Peter C. Messer, “A species of treason & not the least dangerous kind,” *JSTOR*, October 1999, <https://www.jstor.org/stable/20093317>.

<sup>26</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.I.: Penguin Books, 2022).

<sup>27</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.I.: Penguin Books, 2022).

The confusing fluidity of loyalty during this time is personified in Major General Charles Lee. Born in Cheshire, England on January 26, 1731, Lee served as a Lieutenant in the British army during the French and Indian War. His father was General John Lee, and his mother Isabella was the daughter of Sir Henry Bunbury.<sup>28</sup> In 1763, after purchasing a commission as Captain, Lee's unit was disbanded, and he was reduced to half pay. He continued to serve in different theaters and in 1772, he was promoted to Lieutenant Colonel, the highest rank he would obtain while in British service and still at half pay. During the course of the revolution, officers from all over Europe would emigrate to America and demand commissions in the American Army in exchange for their knowledge and services. To Lee's benefit, he was already in America when the revolution started and received the office of the Second Major General. Instead of taking his promotion with grace, Lee threw a tantrum and circulated a series of pamphlets casting contempt upon his seniors General Ward and General Washington. Lee was a well-educated man from a respectable family, an outspoken critic of some of the monarchy's policies, and had every reason to follow the enlightenment ideas of his fellow comrades. Instead, Lee is better described as a soldier of fortune who thought the revolution was a chance to increase his fame and fortune.

General Lee always thought he knew best and despite the warnings of General Washington, Lee made his headquarters four miles from his army. He was conveniently captured by British dragoons and although it was reported he put up a fight, Lee surrendered into British custody and was taken to British-controlled New York.<sup>29</sup> During his imprisonment, Lee was given a suite to stay in and a servant to take care of him. Instead of remaining faithful to his country, Lee would provide the British army with a plan to take back the colonies. During the onset of the revolution, there is no doubt that Lee provided moral support to his troops as well as genuine military skill which he displayed during his defense of Charleston in 1776. Lee may have been vain and self-centered but up until his capture of the British, there is every indication to believe he was truly committed to the revolution. Once in captivity, it seems Lee's opinion on American success changed and although his actions were not found out while he was alive, he was a traitor to the revolution. Articles of war that applied to Lee, Arnold, and even Peggy as the wife of an officer, clearly defined their actions as treason, subject to death upon conviction. Article 19 section 13 for the Articles of War 1776 states "Whosoever shall be convicted of holding correspondence with, or giving intelligence to the enemy, either directly or

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<sup>28</sup> J. H. Brunner, "Gen. Charles Lee: The Arch Traitor of the revolution," *JSTOR*, January 1897, <https://www.jstor.org/stable/45340190>.

<sup>29</sup> J. H. Brunner, "Gen. Charles Lee: The Arch Traitor of the revolution," *JSTOR*, January 1897, <https://www.jstor.org/stable/45340190>.

indirectly, shall suffer death, or such other punishment as by a court-martial shall be indicted.”<sup>30</sup>

For the next several months, Lee would enjoy his captivity until he was finally released in 1778 when he was exchanged for General Richard Prescott.<sup>31</sup> Lee had enjoyed catered dinners with up to 5 friends each night, “all the liquors he wanted” and all furnished at expense of the British. It’s not surprising once released he began working against colonial efforts and had likely completely abandoned the American cause in his heart. When General Clinton was in the process of abandoning and retreating from Philadelphia, Washington ordered Lee to pursue and engage. Lee initially declined the command but when the young General Lafayette was posed to take the position, Lee decided his pride and honor demanded he led. With just a little hesitation, Washington agreed. Lee would later argue there was no direct order to attack but instead to advance and keep within striking distance of the enemy should they attempt to resume their march.<sup>32</sup> Lee’s force eventually engaged Clinton’s rear-guard but when Clinton’s main force wheeled around to assist, Lee’s forces began to scatter. Washington had ridden ahead of his forces when he heard musket fire where he saw his men retreating. When Washington asked a soldier who ordered their actions and the militia man reported it was General Lee, it was reported Washington responded with “Damn him.”<sup>33</sup> There has been much made of the interaction between Lee and Washington during the confusion of battle but according to Captain Jon Mercer, who was Lee’s aide and confirmed present at the event, Washington simply “passed him by” instead choosing to worry about commanding his troops instead of scolding Lee.<sup>34</sup> There was likely no screaming or swearing at Lee by the normally reserved Washington, but Lee was quietly relieved of command, replaced later that

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<sup>30</sup> “Articles of War; September 20, 1776,” *Avalon Project - Journals of the Continental Congress*, September 20, 1776, n.d., [https://avalon.law.yale.edu/18th\\_century/contcong\\_09-20-76.asp](https://avalon.law.yale.edu/18th_century/contcong_09-20-76.asp).

<sup>31</sup> Dan Bubis and Jax Bubis, “On This Day in History - December 13, 1776,” *Revolutionary War and Beyond*, n.d., <https://www.revolutionary-war-and-beyond.com/general-charles-lee-is-captured-at-basking-ridge.html>.

<sup>32</sup> William R. Griffith IV, “Major General Charles Lee and the Battle of Monmouth,” *American Battlefield Trust*, April 13, 2021, <https://www.battlefields.org/learn/articles/major-general-charles-lee-and-battle-monmouth>.

<sup>33</sup> Nathaniel Philbrick, *Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution* (S.l.: Penguin Books, 2022).

<sup>34</sup> William R. Griffith IV, “Major General Charles Lee and the Battle of Monmouth,” *American Battlefield Trust*, April 13, 2021, <https://www.battlefields.org/learn/articles/major-general-charles-lee-and-battle-monmouth>.

day, and never again given a command on the battlefield. Lee was later court-martialed and would never be known as a traitor in his lifetime. It wasn't until Lee's plans for defeating Washington were found in Howe's possessions in 1857 that his true treason was revealed. Lee wasn't reviled in his lifetime, nor did he face death by noose, but he died from a fever reported to be with only his dogs.<sup>35</sup>

The American Revolution brought about a profound evolution in the definitions and perceptions of treason. The revolutionary struggle against British rule challenged the traditional understanding of loyalty and treason, forcing colonists to reevaluate their allegiances and consider the broader implications of their actions. When Washington revealed the news of Arnold's betrayal, he was reported to have stated "Arnold has betrayed us" and asked sadly to Lafayette "Whom can we trust now?"<sup>36</sup> The American revolutionaries no doubt felt the sword of Damocles hanging nearby, as a failure on the battlefield would mean death to them and their new country. During this period, there was a need to set an example in order to deter others from selling out the new country but once the immediate threat from Britain subsided, the need to find and punish traitors diminished too. The lax feeling didn't arise from a lessening of espionage or feelings of unity among the colonies but likely from an understanding that such acts do not threaten the growing nation. Revolutionary Brigadier General James Wilkinson, who was reported to have hidden in a chimney when the British captured Lee, would later become the highest-ranked traitor of the United States.<sup>37</sup> When his senior commander died while investigating Wilkinson's treasons, not only did he escape any sort of conviction and punishment, but "Agent 13" would be promoted to commander of the United States Army while serving as a spy for the Spanish. When asked by Hamilton what his thoughts were on promoting Wilkinson, McHenry responded with "Of this however be assured that until the commercial pursuits of this gentlemen with and expectations from Spain are annihilated he will not deserve the confidence of government. Further, I would recommend it to you most earnestly to avoid saying anything to him which would induce him to imagine government had in view any hostile project however remote or dependent on events, against any of the

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<sup>35</sup> Christian M. McBurney, *George Washington's Nemesis: The Outrageous Treason and Unfair Court-Martial of Major General Charles Lee during the Revolutionary War* (El Dorado Hills, CA: Savas Beatie, 2020).

<sup>36</sup> Willard Mosher Wallace, *Traitorous Hero: The Life and Fortunes of Benedict Arnold* (New York, NY: Books for Libraries Press, 1970).

<sup>37</sup> Howard W. Cox, *American Traitor: General James Wilkinson's Betrayal of the Republic and Escape from Justice* (Washington, DC: Georgetown University Press, 2023).

possessions of Spain.”<sup>38</sup> Where previously Wilkinson would have been investigated and hung by his neck for selling his country out during the American Revolution, now it was looked at as rumor and instead limited actions Wilkson could take. This is not generations later but a man commanded by General Washington before and after the revolution and whose handlers at one point released the information of Wilkinson's treason directly to the United States military officers was still not prosecuted. What makes treasons and traitors more dangerous and when do their actions call for the ultimate punishment?

The American Revolution stands as a complex and transformative period in history, where loyalty and treason were redefined amidst the birth of a new nation. The examination of various figures, such as Benedict Arnold, William Franklin, and Major General Charles Lee, reveals the intricate web of loyalties, motivations, and consequences that shaped the course of the Revolution. No man set out to betray his country and each would likely have argued their actions were in service of their country. The fluidity of loyalty during this era challenged simplistic notions of allegiance, as individuals made difficult choices based on personal circumstances, ambitions, and conflicting loyalties.

Betrayals against friends, family, fellow soldiers, and country don't always fall under easily definable cases of treason. To be convicted as a spy or traitor comes with strict qualifications that make obvious cases of treason turn into acts of judgment against criminality, seemingly lessening the actions and punishment.<sup>39</sup> In the modern era, spies who sold secrets to countries who were friendly to countries we were at war with escaped harsh punishment and served less time than some drug dealers. Before selling out one's country meant possibly facing them on the battlefield such as in the case with Arnold, but now it means giving enemy countries advance intelligence, new technologies or simply giving them first-strike nuclear winning capabilities.<sup>40</sup>

The cases of Arnold and Franklin illustrate the profound impact that familial ties and personal relationships could have on individuals' decisions to stand with or against the revolutionary cause. These examples serve as a reminder of the complexities inherent in defining treason, where actions could be seen as both acts of betrayal and attempts to serve what one perceived as their country's best interest. Franklin, despite having every reason to follow his father's lead, did his duty to the Crown as Royal Governor of New Jersey and Arnold was likely swayed to act against his

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<sup>38</sup> Howard W. Cox, *American Traitor: General James Wilkinson's Betrayal of the Republic and Escape from Justice* (Washington, DC: Georgetown University Press, 2023).

<sup>39</sup> "Robert Hanssen," *FBI.gov*, May 18, 2016, <https://www.fbi.gov/history/famous-cases/robert-hanssen>.

<sup>40</sup> "Traitors Within - Spies Who Sold Out America," *YouTube*, May 14, 2018, [https://www.youtube.com/watch?v=FS6rFAxgt7g&ab\\_channel=TVJunkie](https://www.youtube.com/watch?v=FS6rFAxgt7g&ab_channel=TVJunkie).

country by his new wife. Each highlight how families can or sometimes can't change the opinion and actions of others.

The American Revolution also brought about a shift in perceptions of traitors. During the war, decisive measures were taken against those considered treasonous to deter potential acts of betrayal. However, in the post-revolutionary period, leniency seemed to prevail as the young nation sought to consolidate its identity and foster unity. This shift raises significant questions about the appropriate response to acts of treason and how societies weigh the dangers posed by traitors in different contexts. Moreover, this examination of the American Revolution underscores the subjectivity and malleability of loyalty and treason throughout history. The motivations and justifications presented by both the British and American sides reveal the ways in which individuals and institutions labeled their adversaries as traitors to undermine their opponents' cause. There was an understanding that colonists who supported the Crown acted publicly or kept their opinions quiet and did nothing to hamper their fellow colonists, but traitors like Arnold betrayed this practice. His honor didn't prevent him from working for the British in secret and then later charging into battle against the men he used to lead.

As we delved into the complexities of treason during the American Revolution, we gain a deeper appreciation for the ethical, legal, and political considerations that influence how societies perceive and respond to acts of betrayal. It becomes evident that the definitions of loyalty and treason are shaped by the prevailing societal norms, circumstances, and power dynamics. In light of the American Revolution's lessons, it is essential for contemporary societies to grapple with these complexities when confronting cases of disloyalty and treason in our own time. The evolution of perspectives on treason throughout history highlights the need for nuanced and thoughtful responses, considering the context and motivations behind such actions. The examination of treason and loyalty during the American Revolution offers us a valuable opportunity to reflect on the multifaceted nature of human allegiances and the complexities of defining treason in different historical and social contexts. By critically analyzing these historical episodes, we can gain valuable insights into the intricacies of human loyalties and the lasting impact of such actions on individuals, families, and societies as a whole.

## Byzantine Bust or Komnenoi Triumph?

Cody Evans

The Fourth Crusade shattered the Byzantine Empire into multiple rump states, chief amongst them were the Empires of Trebizond and Nicaea as well as the newly formed Latin Empire. Based on the Byzantine Empire's collapse, was there an alternative, besides Nicaea, that could have reunited Byzantium?

The Eastern Roman Empire, colloquially known as the Byzantine Empire, was founded when Emperor Diocletian (242-312) split the Roman Empire into halves. Unlike its sibling, the Eastern Roman Empire survived into the medieval period, only falling in 1453 with the capture of Constantinople by Sultan Mehmed II (1432-1481) of the soon to be Ottoman Empire. While the eastern half of the Roman Empire once controlled most of the eastern 'known world', since the birth and surge of Islam in 610 CE, it had permanently lost multiple provinces on their frontier. Throughout the next centuries, the Byzantine Empire slowly shrunk, occasionally gaining back a foothold before taking a significant blow it would never completely recover from until there was nothing left but their capital.

Roman autocracy kept the empire together while other nations tried different methods of governing that required less centralization. Feudalism became the norm in the West, where peasants were contractually tied to land as nothing more than indentured slaves. The Byzantines had two millennia of experience and legacy to appeal from, using antiquated, if still efficient, processes and laws to maintain government sovereignty in the face of civil strife and famine. The Byzantine imperial foundation would be the cause of so many coveting the throne, leading to Byzantines fighting civil war after civil war from pretenders as there was not an established succession system in place, unlike their feudal counterparts.

One of these tumultuous periods, in 1203, caused the greatest blow to the Byzantines that it had ever faced, shattering the empire completely. The Roman torch would be carried on by pretenders until its reunification in 1261, finally restoring Roman rule after decades of foreign occupation and wresting control of the crown jewel of the Mediterranean, Constantinople, from the hands of the Latins and their crusaders. There were numerous rival dynasties, like the descendants of previous Byzantine royalty and opportunistic nobles, that had their sights on the imperial throne.

Prior to the collapse of the Byzantine Empire, the Angelos family had ruled as emperors. Founded by Constantine Angelos (1093-1166) who married Emperor Alexios I's (1057-1118) daughter, Theodora Komnenos; the Angelos held high title and military command through the twelfth century until the disposition of Andronikos II (1117-1185) by Isaac Angelos (later Isaac II 1156-1204). The Angelos failed to hold the throne as the dissolution

of the empire followed the disastrous Fourth Crusade (1204). While the Angelos tried to establish themselves by marriage to various western families, their end came through the actions of the Venetians and their never-ending search for more lucrative trade. The Angelos shall be known as more effective administrators and commanders prior to their ascension to the throne, then failures after.

The most preeminent of the rival dynasties was that of the Komnenoi. Founded by Manuel Erotikos Komnenos (955-1020), a competent military general and envoy who served under Basil II Makedon (958-1025); his son, Isaac I (1007-1060) was the first of the Komnenoi to become emperor. The famous Alexios I (1057-1118) turned the rotten and desiccated corpse of the Byzantine Empire into a strong, fit, and robust empire that allowed it to survive for the next few centuries. The Sultanate of Rum was pushed back from the very borders of Constantinople and the empire flourished in a Komnenoi Golden Age. The government was restricted, taxes were efficiently collected, and the military was reorganized in a more local manner without sacrificing imperial oversight. More land was held under the Komnenoi compared to any other dynasty since that of Emperor Justinian and Empress Theodora (482-565). "The sebastokrator Manuel Komnenos Doukas, father of the founder of Trebizond, was thus evidently the son of emperor Andronikos I Komnenos, possibly by a Doukaina of uncertain parentage. He was blinded at the time of his father's deposition and appears to have died soon after, leaving two sons, Alexios and David."<sup>1</sup> Their grandfathers deposition resulted in an exile to Georgia, a bastion of familial relations.

The last of the imperial dynasties to contend with the Latin-held throne was the Laskaris family. While their origins are uncertain, pieces of evidence record a Laskaris family in 1059, though they seemed to have been minor land-owning gentry. Theodore I (1175-1221) was the first Laskaris of significance to lay claim to the imperial throne in 1204 under the title of Emperor of Nicaea. He had married the daughter of the penultimate emperor, Alexios III Angelos (1153-1211), in which he staked a majority of his claim. Owning the rich and fertile provinces of Nicaea and Opikion, due to their previous military and administrative service, the Laskaris were in a prime position to contend with any surrounding nations. The Empire of Nicaea succeeded, though not under the auspices of the Laskaris family.

Central to this imperial struggle was the Fourth Crusade. A folly of mankind, the Fourth Crusade was a mistake in every sense of the word. Mistake after mistake, sacrilege after sacrilege. Called by Pope Innocent III (1161-1216), this holy war was the fourth of its kind aimed for the liberation of the Judean holy land from the Muslim heathens. The infamous, to the

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<sup>1</sup> Kelsey Jackson Williams, *A Genealogy of the Grand Komnenoi of Trebizond*, Foundations 2, no. 3 (2006): 173



Western world, Sultan Saladin (1137-1193) had been laid to rest for little more than a few years when Innocent, in 1198, decreed a new crusade be launched. The European nobility was slow to respond, and it took two more years before any real effort was put into the organization and conscription of a crusading force. While the nobles had access to large masses of troops and conscripts, they had no means to transport such numbers across the Mediterranean. Enter the notoriously greedy merchant republics of Venice and Genoa who had a fierce rivalry that spanned centuries.

During the previous crusades and the basis for the first, the Byzantines had been critical linchpins for the Western Europeans in the foreign and confusing lands of the Middle East. Acting as guides, translators, administrators, and officers, the Byzantines had proved mostly reliable for their Christian brethren. The goal of the original crusade (1096-1099) was to restore rule to the Byzantines, but the subsequent division of the Holy Land by opportunistic crusaders dashed that hope. While the land would never fully return to Byzantium, the presence of militaristic orders on their borders gave the Eastern Romans breathing room to deal with their own problems instead of constant Muslim incursions.

The Fourth Crusade, however, was nothing like the previous beneficial crusades. The lack of proper payment for ferrying the crusaders, combined with Venice being the meeting grounds of the crusaders from all over Europe, the Venetians had the brilliant idea to use this idle fighting force for its own benefits after the crusaders had run out of money to pay them for shelter and food. An excerpt from Robert of Clari's journal details an exchange between the Crusaders and Venetians, "'Nevertheless,' said the doge, 'we want you to pay us the sum which you promised.'" When the crusaders heard this, they debated and arranged that each knight should pay four marks and four marks for each horse, and each esquire two marks; and those who paid less, should pay one mark. When they collected this money, they paid it to the Venetians. But 50,000 marks still remained due."<sup>2</sup>

While the Venetians could not use this army to attack a fellow Catholic, they figured fighting the now deemed unorthodox eastern Christians might gain a free pass from Pope Innocent. Under Doge Enrico Dandolo (1107-1205), the Venetians demanded payment in the form of the sacking of the Croatian city of Zara. Word of the demand was suppressed to only a 'need to know' basis and the crusaders left to winter in Zara, regardless of the unaware citizens' consent or not. When the crusaders arrived, Enrico demanded the surrender of Zara or all the citizens would be killed. The citizens of Zara refused to capitulate, citing their status as fellow

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<sup>2</sup> Robert of Clari, *La Prise de Constantinople*. Edited by Dana C. Munro. Philadelphia, Pa.: The Department of history of the University of Pennsylvania, 1896: 7

Christians and vassalage of the Papacy. Enrico refused and the city was taken after two weeks of fighting.

The rough and unholy start to the Fourth Crusade was enough for Pope Innocent, the very man who campaigned on a holy war, to call it off. Due to the widespread pillaging and destruction the crusaders brought upon fellow Christians, as well as the sinful infighting over plunder which left hundreds of crusaders dead, Pope Innocent halted the crusade. His next step was to excommunicate all the crusaders for their horrid behaviors, writing "Behold your gold has turned into base metal and your silver has almost completely rusted since, departing from the purity of your plan and turning aside from the path onto the impassable road, you have, so to speak, withdrawn your hand from the plough [...] for when [...] you should have hastened to the land flowing with milk and honey, you turned away, going astray in the direction of the desert."<sup>3</sup> When more firsthand accounts filtered in months later, Innocent rescinded the excommunication of those who did not participate in the sack. Now as a band of excommunicated Christians, the crusaders were beholden to no higher power and greed set in.

Regardless of the ill-intentions the crusaders had on the periphery of their empire, the Byzantines were desperate for support against the Muslims. Saladin had reconquered the entirety of the Holy Land from the Crusaders who had let the Sultanate of Rum run rampant across the Anatolian Hinterlands and into the heart of the eastern portion of Byzantium. Planning to use the crusaders as a weapon against both usurpers and the Muslims, Prince Alexios IV (1182-1203) offered to pay the Venetians an exorbitant amount of money to help him win back the throne of his father. The Marquis of Montferrat, Boniface I (1150-1207), had been a leader of the Fourth Crusade since its inception. While he was not present for the sack of Zara and the other Croatian cities, he had indeed ordered them. While meeting with his brother-in-law, the exiled Prince Alexios shared his plan with Boniface to usurp his uncle, Alexios III. There, Boniface agreed and returned to the Croatian coast to begin the next stage of the ill-fated Fourth Crusade.

Enrico had a personal vendetta against the Byzantines on account of the humiliation he faced as Venetian envoy in the 1170's; however, there were many accounts attesting to him being blinded on the orders of Emperor Manuel I Komnenos (1118-1180). "...ordered his eyes to be blinded with glass; and his eyes were uninjured, but he saw nothing..."<sup>4</sup> Some crusaders stuck to their original vow and sailed with part of the fleet to the

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<sup>3</sup> Alfred Andrea, *Contemporary Sources For The Fourth Crusade*. Leiden, the Netherlands: Brill Academic Publishing, 2008: 191-192

<sup>4</sup>Thomas F Madden, *Enrico Dandolo and the Rise of Venice*. Baltimore: Johns Hopkins University Press (2003): 64

Holy Land, but the majority of the crusaders, tempted by gold, continued on the path of least resistance. Pope Innocent again decried the situation and demanded that no Christian be harmed, but those crusaders who respected the pope had already left the army. The crusaders arrived on June 23, 1203, and the city of half a million was guarded by a relatively light, if professional, force. Two attacks on Constantinople were repulsed before the crusaders settled in for a long siege.

Boniface and Enrico devised a plan to breach the city in two parts, by land and by sea. The route by land was to be led by Boniface, which focused on attacking the towers holding the giant chains across the Bosphorus Strait that blocked the Venetian armada from attacking the city and harbor. The Tower of Galata was mostly manned by mercenaries and repelled the invaders a handful of times before succumbing or surrendering.<sup>5</sup> Now with the chains lowered, the Venetian armada passed through and harassed the city with ship-mounted siege engines and sallied out to wear down the citizens' morals with raids and fire attacks.

A brief attempt by Alexios IV to win the hearts of the citizens was made. "The barons consulted together on the morrow, and said that they would show the young Alexius, the son of the Emperor of Constantinople, to the people of the city. So, they assembled all the galleys. The Doge of Venice and the Marquis of Montferrat entered into one, and took with them Alexius, the son of the Emperor Isaac; and into the other galleys entered the knights and barons, as many as would."<sup>6</sup> Alexios' attempt was met with apathy. The crusaders were forced to continue the siege. A few attempted sallies were performed by Emperor Alexios III, but he lost heart and retreated back into the city, a fatal mistake. The next day, the crusaders attempted to breach the walls and the harbor, but Alexios III fled. Chaos reigned in the city; the old, deposed Emperor, Isaac II, was re-crowned and soon declared his son, Alexios IV, as his co-emperor. The crusaders were baffled at the chain of events as the mighty Theodosian walls had not even been breached, but they won the largest city in Europe without a serious fight. The next few months were met with rising tensions as the crusaders stayed in Constantinople without paying for any amenities, on top of their ludicrous payment Alexios had sworn them. Riots were commonplace and, in the end, Alexios was left powerless when his father died in January 1204.

Isaac's death had a domino effect with widespread repercussions over the course of a single week. Alexios lost his grip on power as citizens of the city actively stormed the palace to depose him, the Imperial Chamberlain instead deposed Alexios and declared himself Alexios V

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<sup>5</sup> Alfred Andrea, *Contemporary Sources For The Fourth Crusade*, Leiden, the Netherlands: Brill Academic Publishing, 2008: 193

<sup>6</sup> Geoffrey de Villehardouin, *Memoirs or Chronicle of The Fourth Crusade and The Conquest of Constantinople*. Trans. Frank T. Marzials. London: J. M. Dent, 1908: 35

Doukas (1140-1204), and the crusaders re-sieged the city to free their puppet emperor. This action culminated in the Siege and Sack of Constantinople (1204). The three-day siege was brought short by a mixture of a handful of crusaders in the city and the Venetian ships docked in the harbor with their siege engines still able to be deployed quickly. Towers sprang up and the crusaders poured in through the harbor, capturing the area and using it as a base of operations to systematically capture and loot the city. Three days of sieging was followed by three days of unadulterated looting.

Pope Innocent was further outraged at the horrors that filtered back to Rome. "How, indeed, is the Greek church to be brought back into ecclesiastical union and to a devotion for the Apostolic See when she has been beset with so many afflictions and persecutions that she sees in the Latins only an example of perdition and the works of darkness, so that she now, and with reason, detests the Latins more than dogs? As for those who were supposed to be seeking the ends of Jesus Christ, not their own ends, whose swords, which they were supposed to use against the pagans, are now dripping with Christian blood - they have spared neither age nor sex."<sup>7</sup> His excommunication stayed against the Venetians and the Frankish crusaders who compromised most of the remaining faction.

The imperial family deposed, the crusaders sought to install one of their own as emperor. Boniface was the obvious choice with some Byzantine blood in his veins, though the other faction of crusaders, the Venetians, were wary as Boniface would have pre-established connections with the nobility and be less malleable to their demands. With their gold and trade influence, the Venetians formed a coup to oust Boniface from the election. They succeeded when Baldwin of Flanders (1172-1205) was elected as the first Emperor of the newly renamed Latin Empire, a mimicry of the former Byzantine Empire. Boniface was granted the Kingdom of Thessalonika as compensation, becoming the first of two kings before his kingdom would be absorbed by other players.

While the former empire's western lands were being divvied up by the crusaders, there was a stirring in the eastern reaches of the empire. The grandsons of Emperor Andronikos I, Alexios and David Komnenos, had launched an invasion force from their familial stronghold of Georgia. Their aunt, Queen Tamar (1160-1213) was queen regnant of a resurgent Georgia and had sent her nephews to lay claim to the throne in early or mid-1203. Alexios and his brother arrived at Trebizond in early 1204, to capture the city and proclaim himself emperor at the young age of 22. While Alexios had great ambitions of reuniting the Byzantine Empire, it would not be him or

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<sup>7</sup> Pope Innocent III, Ep 136, *Patrologia Latina* 215, 669-702, translated by James Brundage, *The Crusades: A Documentary History*, (Milwaukee, WI: Marquette University Press, 1962): 208-209

his descendants who would do so, thus historians relegated him the title of Emperor Alexios I of Trebizond (1182-1222).

Trebizond was a prime location for the base of operations, or future capital, of any burgeoning warlord. Located on the precipice between the Black Sea and the Silk Road, Trebizond had both hands in the eastern trade.<sup>8</sup> In the fifteenth century, Cardinal Bessarion (1389-1472) claimed his native town Trebizond to be “the world’s common storehouse and workshop”, and its commercial quarter to constitute “an entire thriving city in and of itself.”<sup>9</sup> Alexios and his brother David, with such a wealthy city and the surrounding region, under their control, they set out to conquer more of Anatolia to increase standing amongst the nobility and to assuage doubts about their lofty claim. Alexios seemed to have been the brains and David the brawn, as David won a series of battles along the Pontic Steppes towards Nicaea and their rival claimant, Emperor Theodore I (1175-1221).

Theodore I was the Emperor of Nicaea and one of the key claimants to the defunct Byzantine throne that so many fought over. Theodore was an obstacle that Alexios and David had to fight if they sought to continue forward with their claim after conquering much of the northern Anatolian coastline and gaining fealty of the various Greek towns across the Black Sea. “David conquered Paphlagonia and held it until his death without issue at Sinope...”<sup>10</sup> Theodore proved an admirable rival and stalled the Komnenoi advance through a temporary alliance with Sultan Kaykhusraw I of Rum (?-1211) which split the Komnenoi focus on two fronts, eastern and southern.

Another contender was the grandson of an Angelos and Komnenos, Michael I of Epirus (1170-1215), who was founder of the Doukas line of Byzantine royalty. Michael would be a thorn in the side of the Latin and Frankish crusaders for many years and who chipped away at their various fiefdoms and petty kingdoms. Michael’s relative, Theodore (?-1253) would conquer the Kingdom of Thessalonika in 1224, which expanded the Doukas influence to the doorstep of Constantinople. The people of Epirus were proud, having claimed descendants of Alexander the Great’s cousin, Pyrrhus, as well as staunch loyalists to the traditional Orthodox ways of the Greeks.

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<sup>8</sup> Koray Durak, “The commercial history of Trebizond and the region of Pontos from the seventh to the eleventh centuries: an international emporium.” *Mediterranean Historical Review* 36, no. 1 (January 2021): 8

<sup>9</sup> Koray Durak. “The commercial history of Trebizond and the region of Pontos from the seventh to the eleventh centuries: an international emporium.” *Mediterranean Historical Review* 36, no. 1 (January 2021): 3

<sup>10</sup> Kelsey Jackson Williams. “A Genealogy of the Grand Komnenoi of Trebizond.” *Foundations* 2, no. 3 (2006): 173

Three Latin emperors, in Constantinople, would have already reigned by the time of Epirus' nearby conquests. Though, the first emperor, Baldwin I, had little influence as his death occurred shortly after his ascension. He was followed by his brother, the more apt Henry I (1176-1216) and son-in-law to Boniface I. This familial relation to Boniface proved to have both advantages and disadvantages for Henry as he had claims to Thessalonika, though waging war against the Bulgarians did secure his western borders. Henry proved wise in the integration of those native Greeks around him, "though a Frank by birth, behaved graciously to the Romans who were natives of the city of Constantine, and ranked many of them among his magnates, others among his soldiers, while the common populace he treated as his own people."<sup>11</sup>

Had Alexios maintained a more politically savvy mind with his and his brother's marriage, perhaps the tides could have shifted more in the Komnenoi's favor. Married to a middling, and deceased, nobleman's daughter, Alexios could not leverage his marriage for any military support or political influence. His brother, David, wife was unknown, had left no children either. The lack of any powerful matches resulted in a brief usurpation of Komnenoi rule in Trebizond when Alexios' son-in-law, Andronikos I (?-1235) took the throne.<sup>12</sup>

Alexios, with the right marriages to himself and his brother, as well as playing the Nicaeans and Turks against one another, would have been that much closer to the Imperial throne that his grandfather had once sat upon. Unfortunately, Alexios failed to announce his claim to the throne. In 1203, Alexios should have sent letters to all corners of the empire to declare his intent, but instead he was only discovered after cities had fallen and was viewed as more of a dishonorable thief than a grandson trying to restore his grandfather's legacy. While fighting the Nicaeans, Alexios should have tempted the Latin Emperors with gold to backstab their nearby opponents, properly utilizing the wealth he had gained and the allied soldiers he had at his temporary command.

The likeliest of contenders for the Byzantine throne, outside of Nicaea, were the Komnenoi of Trebizond if they had not fallen for a few simple mistakes (overextension, non-strategic marriages, etc.) as they had a superior position, great economic wealth, and a large family legacy.

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<sup>11</sup> Akropolites, George. *The History*. Translated by Ruth Macrides New York: Oxford University Press, 2007: 153

<sup>12</sup> Kelsey Jackson Williams. "A Genealogy of the Grand Komnenoi of Trebizond." *Foundations* 2, no. 3 (2006): 174

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# **How Applying Interdisciplinary Studies Can Benefit Veterans with Non-Combat PTSD**

Kelly A. Lillard

How can the Veterans Affairs (VA) support veterans with non-combat-related Post Traumatic Stress Disorder (PTSD)? As a veteran after 10 ½ years of military service, I struggle with non-combat-related PTSD. After multiple deployments to the Middle East and being injured, my life changed drastically. Finding the support needed was difficult. Once I started receiving care at the VA, I saw just how much support was out there. Jervy Fermin said it perfectly, “the courage it takes to leave behind what’s not for you anymore, is the same courage that will help you find your way to what is” (The Minds Journal, 2022).

## **Method**

Interdisciplinary problem-solving is the ability to integrate knowledge, methods, and perspectives from different disciplines to address complex and real-world issues. It takes many different disciplines for the VA to successfully support veterans who struggle with PTSD not related to combat. And because it is not directly related to combat, it requires a higher burden of proof to earn a service connection and VA disability benefits. Many different disciplines are needed to best treat PTSD such as psychologists, nutritionists, and sociologists. An entire team of medical professionals needs to come together to help the veteran become healthy again. A high level of problem-solving is best used in this case to better understand what these non-combat veterans need.

The integration method used is problem-centered integration. This question requires many different disciplines to come together to do something about a difficult problem. The overall goal of problem-centered integration is to help solve a problem. The VA does a great job at that, having different disciplines working to help assist veterans in any way they can.

## **Justification for the Interdisciplinary Method**

An interdisciplinary approach is needed for this question because it requires expertise from different disciplines. This is to better understand PTSD in veterans and find support through the VA. PTSD is a very complex mental health condition. It is most often caused by exposure to death, threatened death, serious injury, or sexual violence done upon the sufferer or to someone close to them. It is characterized by recurring distressing memories, nightmares, flashbacks, avoidance of triggers related to the trauma, detachment, anger, irritability, and trouble sleeping, among other symptoms. Non-combat-related PTSD must be service-connected, meaning



it must be related to a veteran's service, and may include traffic collisions, training accidents, military sexual trauma, survivor's guilt, fear of hostile military, and ongoing exposure to death and violence, to name a few. Despite many misconceptions, veterans with non-combat PTSD typically experience the same symptoms and hardships as veterans with combat PTSD. Non-combat PTSD stressors are taken just as seriously as combat PTSD by medical professionals and the VA. (Craig, 2021).

This is an important question because non-combat veterans can experience PTSD just like combat veterans do. Non-combat veterans face many hurdles as well and the symptoms for them are often the same as those that have PTSD as a result of direct combat. This just shows that these veterans need support from the VA as well, which is important for individuals to remember (Writer, 2022). Most people have the assumption that service members only get PTSD from combat-related trauma and experiences, when in reality many service members never see combat and still develop PTSD. The disciplines of psychology, sociology, and nutrition will be justified in better understanding PTSD in non-combat veterans.

### **Psychology Discipline**

Psychology is an important discipline in answering this question. The science of psychology benefits society, enhances our lives, and helps to understand and improve the world around us. This discipline has a wide range of benefits including; researching mental health to enhance well-being, better understanding of relationships, self-improvement, and battling addictions. The specific symptoms that manifest in the veteran may differ from person to person. Over 1.7 million veterans received mental health services at the VA last year. The services range from peer support with other veterans to counseling, therapy, medication, or a combination of these options. The goal is to help the veteran take charge of their treatment and live a full and meaningful life (Veteran Affairs, n.d.). The VA provides mental health services for PTSD. One specifically is the VA's TeleMental Health program. This program remotely connects veterans with a VA mental health provider from any location. Another option is the VA's suite of mental health apps. These apps enable veterans to be more involved with their care and symptoms. Veterans have access to these free self-guided apps and have a quick connection to the support they need. The VA apps have the best and latest research including input from subject matter experts and other veterans. Although, these apps are not designed to replace treatment with a healthcare professional. Veterans are encouraged to schedule an appointment with a provider by using their VA medical services (VA News, 2023). The provider will refer the veteran to the psychology department where they can receive more in-depth assistance. Effective treatments for PTSD are greatly needed for non-combat veterans. Clinical trials have shown that prolonged exposure (PE) therapy has been highly successful (Eftekhari, et al., 2013).

VA psychologists can help the veteran with first-line, second-line, and alternative pathways for treatment. The first-line approach is the use of psychological interventions for PTSD by a range of authoritative sources. Two of the most studied types of cognitive behavioral therapy (CBT) are cognitive processing therapy (CPT) and prolonged exposure (PE) therapy. These are recommended as first-line treatments in PTSD practice guidelines around the world, including the guidelines jointly issued by the VA and the Department of Defense (DoD). If a patient does not respond to nondrug treatment alone, then pharmacotherapy is also recommended as a first-line approach. Second-line therapies are less strongly supported by evidence, and many have more side effects. For example, Prazosin is effective in randomized clinical trials in decreasing nightmares in PTSD. Its effectiveness for PTSD symptoms other than nightmares has not been determined. Alternative pathways are other treatments rather than relying on antidepressants. Researchers are looking at the role of the inhibitory neurotransmitter gamma aminobutyric acid (GABA) and the excitatory neurotransmitter glutamate in PTSD. Both of these play a role in encoding fear memories. Clinical research also suggests that smoking cannabis (marijuana) reduces PTSD symptoms in some patients. The table below shows suggested nonpharmacological and pharmacological treatments for PTSD. The drugs listed are the only ones approved to treat PTSD by the Food and Drug Administration (Reisman, 2016).

First-Line	Second-Line	Alternative Pathways
<b>Nonpharmacological</b> <sup>29,38-47</sup>		
<ul style="list-style-type: none"> <li>• Cognitive behavioral therapy <ul style="list-style-type: none"> <li>◦ Cognitive processing therapy</li> <li>◦ Prolonged exposure therapy</li> </ul> </li> <li>• Eye-movement desensitization and reprocessing</li> </ul>		
<b>Pharmacological</b> <sup>48-60</sup>		
<ul style="list-style-type: none"> <li>• Antidepressants <ul style="list-style-type: none"> <li>◦ Sertraline*</li> <li>◦ Paroxetine*</li> <li>◦ Fluoxetine</li> <li>◦ Venlafaxine</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Nefazodone</li> <li>• Mirtazapine</li> <li>• Tricyclic antidepressants (e.g., imipramine)</li> <li>• Monoamine oxidase inhibitors (e.g., phenelzine)</li> <li>• Prazosin</li> </ul>	<ul style="list-style-type: none"> <li>• Gamma-aminobutyric acid</li> <li>• Glutamate</li> <li>• Vortioxetine</li> <li>• Vilazodone</li> <li>• Anticonvulsants (e.g., topiramate)</li> <li>• Antiepileptics</li> <li>• Cannabis</li> </ul>

Figure 1. (Image provided by the Food and Drug Administration; Reisman, 2016.)

Nick Wilson conducted a study in 2021 that compared the lifespans of World War II veterans with and without combat exposure. The combat-exposed military personnel were derived from a random (10%) sample of the military roll of the 28th (Māori) Battalion from New Zealand. One non-combat cohort was the 15th Reinforcements of this same Battalion, since the

war ended before they reached the front line. The other non-combat cohort was Māori personnel who were only involved in Jayforce, which occupied Japan at the end of WW2. Data on lifespan were mainly derived from an official repository of birth and death records, but supplemented with other sources, including military files. By 1985, more than 10,000 of these veterans were officially recognized as suffering from 'nervous system disabilities', with cases of PTSD and alcohol misuse. A more current study published in 2020 of New Zealand military personnel reported that 10% of participants had symptoms indicative of a clinical diagnosis (a diagnosis made based on medical signs and reported symptoms, rather than diagnostic tests) of PTSD. It also reported that risk factors for PTSD were trauma exposure, older age, male sex, and Māori ethnicity. It found that there was no statistically significant reduction in the average lifespan associated with combat exposure. That is, the mean lifespan of the combat-exposed veterans was 66.7 years versus two non-combat-exposed cohorts at 67.2 years and 66.9 years. There were no statistically significant reductions in lifespan between combat and non-combat-exposed veterans (Wilson et al., 2021).

Kathryn Macia conducted a study in 2020 to examine the PTSD networks of veterans with combat versus non-combat identified trauma, or index trauma. Network structure, connectivity, and centrality of PTSD symptoms were examined in veterans with combat and non-combat criterion with stressors as their perceived worst trauma. This is the first study to examine PTSD networks associated with combat versus non-combat index trauma. The study included 944 veterans who presented for psychological services to PTSD specialty clinics at two VA facilities. All veterans completed a PTSD checklist for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (DSM-5) Posttraumatic Stress Disorder Checklist, (PCL-5) with Criterion A face page. This data was collected as part of routine clinical care without informed consent. Of the 944 veterans in total, 599 (63.5%) identified combat-related trauma as their index event. The remaining 345 veterans reported non-combat types of index trauma, including physical/sexual abuse in adulthood (22.8%) and childhood (2.5%), witnessing violence (6.5%), serious accidents (2.0%), and other events (2.8%). Many similarities were made between the combat and non-combat trauma networks. The network theory approach views disorders as systems of mutually interacting symptoms. Network analysis provides a better understanding of the structure and a foundation for explaining which symptoms are most central, and which ones impacted by or have the greatest spreading influence to other symptoms. There were strong positives between symptoms that were theoretically related or similar like avoidance. Negative emotion was a highly central symptom. Of course, there were some differences associated with certain symptoms. Detachment was relatively more central and the connections of negative emotion with blame and lack of positive emotion with reckless behavior were stronger for veterans with combat-related index trauma (Macia et al., 2020).

In 2001, Begić and Jokić-Begić conducted a study to analyze violent behavior in 116 combat veterans. 79 of these veterans were diagnosed with PTSD. 37 veterans had a diagnosis of other psychiatric disorders. Of 116 veterans (79 with PTSD), 86 (74.1%; 75 with PTSD) presented some kind of aggressive behavior. Aggression is a very common symptom in both combat and non-combat veterans and is usually the main reason for seeking help. In this research, it was shown that aggression appeared more often in combat veterans than the non-combat. Aggression was typically aimed at the spouse who is usually the first to insist on treatment. The number of violent acts in the past year for veterans with PTSD was 18.2, and for non-PTSD veterans, it was 2.7. Violent behavior is far more frequent among combat veterans with PTSD.

#### AGGRESSIVE BEHAVIOR AND ACTS OF VIOLENCE IN THE PRECEDING YEAR

	Combat Veterans with PTSD (n = 79)		Combat Veterans without PTSD (n = 37)	
Aggressive behavior	75	94.9%	11	29.7%
Acts of violence	18.7 <sup>a</sup>		2.7	

Figure 2. (Begić & Jokić-Begić, 2001, p. 672)

There are various types of aggression. They can be combined, and with time, one type of aggression can be replaced with another. Auto-destructive behavior dominates (attempted suicide), followed by heteroaggressive behavior (physical and verbal aggression). In two-thirds of examinees, aggression appears more than one year after being exposed to traumatic experiences in war; on average, it lasts 10 months before the start of treatment.

#### DIRECTION OF AGGRESSION

	Combat Veterans with PTSD (n = 79)		Combat Veterans without PTSD (n = 37)	
Autoaggression	13	17.3%	2	18.2%
Heteroaggression	47	62.7%	8	72.7%
Combined aggression	15	19.9%	1	9.1%

Figure 3. (Begić & Jokić-Begić, 2001, p. 672)

It was shown that aggression can be directed toward belongings such as damaging a telephone booth, throwing a television through a

window, and demolishing furniture. Besides being cruel to people, aggressive behavior towards animals was also found. Aggression toward objects was found while a veteran was under the influence of alcohol, and they damaged the inventory of a bar. Sexual aggression, fast driving, disregarding traffic rules and signs, driving under the influence, use of weapons, and mistreatment of children are some other aggressive behaviors that were found. According to this study, 43 veterans go to a psychiatrist mainly for aggressive behavior. Most of the veterans go on their own or are persuaded by their partners. Others attend treatment with a close person. Eight veterans were brought to treatment by the police. The frequency of aggression is increased in veterans of lower socioeconomic status, less education, previous maltreatment, and earlier manifestations of aggression. Aggressiveness in veterans mainly with PTSD is a problem for the individual and also for the health service (Begić & Jokić-Begić, 2001).

### **Sociology Discipline**

Social connectedness is an important factor related to PTSD in veterans as their behaviors and relationships are highly affected. The VA has multiple social services to help with everyday life changes. Social connections, support, and resources can provide the veteran with information or emotional support that can be used to deal with the challenges of a stressful event. Veterans with many social connections such as high social support and social capital tend to have better well-being as compared to those who are more socially isolated (Adams et al., 2017). The VA offers regular outreach events such as online support groups, seminars, networking sessions, and coffee & community to name a few. The VA also works with accredited organizations to obtain service and therapy dogs. These dogs act as a social facilitator between the veteran which reduces the risk of social isolation. Animals are largely dependent on humans for exercise, feeding, grooming, etc. This enabled the veteran to express nurturing and protective behaviors and engage with other individuals. These dogs are known to work as social facilitators via their learned behaviors and their presence as companion animals. The dogs help their handler reconnect with society, improve individual quality of life, and most importantly, help the veteran reclaim control of their life (Veteran Affairs, n.d.).

It is important to understand how transitioning military veterans to civilian life works along with the variables that affect their transition. In 2020, Gary Blau and Glen Miller conducted an online survey of 153 military veterans. This survey was broken down into combat (92) versus non-combat (61) veterans. Comparing the mean differences between continuous variables, the combat veterans reported an overall higher education level, higher perceived occupational alternatives, and higher life satisfaction versus the non-combat veterans. Both combat and non-combat veterans reported significant relationships between negative traumatic events and

positive personal accomplishments to life satisfaction. Positive relationships between the highest education level and perceived occupational alternatives to life satisfaction were only found for combat veterans. The survey results did suggest that work-related variables are important for understanding military veterans' life satisfaction. In this survey, higher meaningfulness of volunteer work was stronger for smaller subsets of the non-combat versus combat samples. There are a few different factors that mitigate PTSD. First, volunteering was positively related to posttraumatic growth in a survey of 3,157 US veterans. Volunteering can be even stronger when employees perceive less meaning in their jobs. These combined results suggest that finding meaningful work, either paid or volunteer, may be important to both combat and non-combat veterans as they transition back to civilian life. Second, higher education can be one way to help military veterans find rewarding, meaningful work to help increase their life satisfaction. This can also help to reintegrate veterans into their communities. A qualitative study found the university-related educational experiences of 11 student veterans helpful as they transitioned from military to civilian life. In this study, veterans going back to school to further their education perceived higher occupational alternatives than those not going back to school. Veterans who had a more recent powerful traumatic event were more likely to be going back to school than veterans whose traumatic event was longer ago. The results between combat and non-combat veteran samples support personal accomplishment as a positive correlation for life satisfaction. Third, veterans find it very important to have meaningful work, either through perceived occupational alternatives, or volunteering. Education can be one means to help veterans perceive greater occupational alternatives. As veterans transition back to civilian life, military out-processing should continue to counsel/prepare transitioning veterans on finding/interviewing for jobs as well as identifying realistic new careers (Blau & Miller, 2020).

Meaghan Mobbs and George Bonanno published an article in 2018 to address the expanding needs of returning veterans. While dealing with PTSD, veterans have a high-stress level during the transition to civilian life. Veteran treatments and supports need to not only consider PTSD, but also the wider range of challenges, rewards, successes, and failures that transitioning veterans might experience, as well as the factors that might moderate these experiences. In this argument, the authors start by considering what it means to become a soldier regarding transitioning into military service. Along with what kind of stressors veterans might experience when they attempt to transition out of military service. One of the primary reasons for past failures in veteran treatments is that the dominant focus on PTSD has complicated highly pressing transition issues. Research has found that many returning veterans struggle regardless of whether they have PTSD or not. PTSD develops in a small minority of both combat and non-combat veterans. Survey studies have suggested that 44% to 72% of veterans experience high levels of stress during the transition to

civilian life, including difficulties securing employment, interpersonal difficulties during employment, conflicted relations with family, friends, and broader interpersonal relations, difficulties adapting to the schedule of civilian life, and legal difficulties. The transition stress has been found to predict both treatment-seeking and the later development of mental and physical health problems, including suicidal ideation. As a result of this, there are no resources available to address the cognitive, emotional, behavioral, or psychological impacts of the soldier-to-civilian transition. The VA needs to accommodate these issues (Mobbs & Bonanno, 2018).

Transitioning out of the military back to civilian life has a major impact on prior service members. They find themselves unprepared for the instability of the initial phases of transition, and how this period may threaten their sense of self and self-worth. During this time, they may struggle with any number of interrelated concerns, including unresolved or prolonged grief and bereavement over fallen comrades, loss of their previous military identity, nostalgia for the order and purpose that characterized their service experiences, a sense of moral injury, confusion about military-civilian differences, and changing masculine roles. Bonds between service members may act as a protective factor in the development of PTSD, but the actual or perceived loss or weakening of these bonds during the transitional period and beyond may be associated with increased distress over the lifespan. Findings also suggest that veterans may experience grief-like symptoms in response to the loss of their military self and the roles, values, and sense of purpose this lifestyle may have held for them. This amounts to stable changes in the social environment for the veteran. For these reasons, trauma-focused and non-trauma-focused events might aggravate the shame and guilt in veterans. They are not typically assessed or targeted for treatment, and when they are, treatment remains largely ineffective in treating the guilt and shame associated with morally injurious events. A veteran's experience of shame and guilt-related distress may be further worsened by involvement in civilian contexts in which there is minimal shared experience and understanding. 40% of veterans report 'getting socialized to civilian culture' as a key transitional challenge. The media has tended to represent veterans as either broken warriors or unhinged and armed. Many service members with PTSD may not seek out mental health services for fear of confirming these unsavory stereotypes. Another key source of transition stress is the socialized masculinity of the military. Members of the military are molded, both explicitly and implicitly, by the cultural norm that warfare and the wagers of war are masculine by nature. This is due to the physical isolation of entry-level training, training exercises, deployments, the general community insulation by way of gated military installations, and the widespread use of behavior modification and reinforcement. Aside from the various social implications, a large body of research suggests that the more men 'do their gender' and define themselves

along traditional gender roles, the less likely they are to seek care (Mobbs & Bonanno, 2018).

It is important to understand that entry-level training is meant to strip away the remnants of the civilian identity and transform men and women into Soldiers, Sailors, Airmen, and Marines. This transition from civilian to military life requires rapid adjustment to an institutionalized lifestyle in which individuals are obligated to submit to an abundance of situations such as concentrated unremitting supervision; intense physical training in the form of more routine forms such as running but also ruck marching, obstacle course training, and teambuilding drills; group meals in which eating is constrained by time; and separation from loved ones. The peer bonding that occurs during training events is grounded in the service member's ability to trust other members of their unit and the general ability to function and work as a team. Relationships formed during a period of service are consequently described by many veterans as some of the closest they form in their lives (Mobbs & Bonanno, 2018).

### **Nutrition Discipline**

Nutrition is a key discipline to draw from in answering this question. The VA offers Registered Dietitian Nutritionists (RDNs) as the food and nutrition experts. They have special training to offer medical nutrition therapy along with working as part of the health care team in treating the veteran. VA nutrition helps teach the veteran how to make healthy food choices and will show how to prepare foods. RDNs are assigned to the veteran through their primary care provider. The RDN will emphasize how important it is to keep self-compassion in mind when making any dietary changes. An RDN will put the veteran on a healthy diet. This includes avoiding refined/processed sugars, increasing micronutrient intake, increasing probiotic/prebiotic levels, and supplementing with omega-3s. A healthy diet can help alleviate PTSD symptoms. Eating well is a powerful act and a vital part of self-care. Nutrition plays an important role in preventing chronic diseases along with improving mental health (Military Wellness, 2022).

Shaline Escarfulleri published an article in 2021 associating PTSD, diet, and exercise. PTSD is connected with chronic health conditions with cardiovascular and cardiometabolic disease being at the top. Behavioral contributors to physical health rely on diet and exercise. The lack of exercise, consuming non-nutritious foods (high in sugar, saturated fats, sodium), and nicotine all contribute to negative physical health behaviors such as weight gain, low motivation, and not enough sleep. Research on PTSD and emotion regulation found that people experiencing worse PTSD symptoms eat poorer quality foods. They do this to reduce their emotional burden which would explain the association between cardiometabolic health along with accelerating aging (Escarfulleri, et al., 2021).



In Shaline Escarfulleri's article, it was suggested that PTSD severity has an impact on emotion regulation strategies and diet quality. Poor diet in those with PTSD has also been linked with dementia. Foods rich in vitamin E, B12, and fish have been associated with a decreased risk for dementia. Sugary drinks have been linked to an increased risk. Nutritionists need to understand how trauma-related psychiatric symptoms influence diet and food choices. The Veterans Administration has a weight loss program called "Move!". Research gathered from this program showed that veterans with PTSD lost less weight than those without PTSD. Intervening on diet quality alone may not be sufficient if eating habits are impacted by trauma exposure and PTSD, so treatment must also address the upstream components leading to the lack of a nutritious diet.

Results also suggested the importance of considering other types of therapy that could be useful in PTSD treatment. For instance, therapies that directly address emotion regulation, like mindfulness and Dialectical Behavior Therapy and Prolonged Exposure which requires engagement with trauma-focused emotions, could help enrich not only the PTSD symptoms but also problematic physical health behaviors as well. In a study of 2,832 military veterans, those with probable PTSD were two times more likely to fail to engage in exercise during a given week compared to those without probable PTSD. There were no significant indirect effects of PTSD on exercise engagement (Escarfulleri, et al., 2021).

### **Conclusion**

In conclusion, non-combat-related PTSD veterans need support from the VA. The three disciplines, psychology, sociology, and nutrition mentioned above all share an important piece of common ground along with complementing one another. Psychology and sociology both study human interaction. These disciplines are both vital in a better understanding of PTSD in non-combat veterans as they both understand identity, violence, crime, and intimacy. They also utilize communication, interpersonal, analytical, research, listening, observational, and problem-solving skills (Simkus, 2023). Nutrition relates to psychology by developing a comprehensive understanding of dietary quality and its relation to various components of mental health. It also aims to spread awareness about the importance of quality nutrition for overall health (Wikimedia Foundation, 2023). Sociological perspectives suggest that underlying social relations can help explain collective food and eating patterns along with understanding eating patterns (Delormier et al., 2009). These disciplines come together to help veterans with their PTSD. The overall goal of the VA is to assist veterans with difficult problems, which is why problem-centered integration is used.

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# Forged from the Familiar

Nicholas A. Painter

## Overview

This paper will discuss world-building fantasy worlds for creative writing. The first topic of discussion is the relevance of fantasy as a genre and artistic medium. Next will be the role that setting and immersion play in fantasy worlds and how world-building can improve narrative elements. This conceptual discussion will be followed up by a practical exercise in world-building in which the fantasy nation of Raethia will be constructed through exploration of the topics of cascading alterations, magic, geography, government, religion, and military history. Each of these concepts will yield a material change in Raethia using real-world examples. But first, a discussion of the relevance of fantasy.

## Why World-Building is Important

In this section, we will discuss why world-building is important in the context of fantasy. We will discuss the relevance of fantasy, and fantasy as a medium.

### *The Relevance of Fantasy*

The popularity of fiction is on the rise in book sales. According to Forbes, in 2018, fiction's US market share had doubled since 2010 (Rowe). Last year, fiction made up fifty-four percent of the US market, making fiction the most popular category of literature (Curcic). The fantasy genre is a growing fiction segment responsible for a wide variety of the most popular films to ever come out of Hollywood. This year alone, Rebecca Yarros' *Fourth Wing* and its sequel *Iron Flame* (a series of fantasy romances) remained at the top of the New York Times Bestseller list for eight weeks between the two. They remained in the top ten in perpetuity since the first appearance of *Fourth Wing* on the Bestseller's list in May (New York Times). The series has already been approved for a television series through the streaming giant Amazon. *Fourth Wing*, as with other fantasy stories, takes place within a vibrant world that is entirely separate from our own, often complete with novel cultures, wildlife, races, gods, and planets. The role that the creation of these worlds plays in the success of a narrative is not to be underestimated.

### *Fantasy as a Medium*

But why fantasy? Detractors of this genre will say that it leads to false expectations of reality, as though our world is full of Quixotic madmen jousting windmills. C.S. Lewis came to the medium's defense in his paper "Three Ways to Write Stories for Children", stating that: "I think what

profess to be realistic stories for children are far more likely to deceive them. I never expected the real world to be like the fairy tales. I think that I did expect school to be like the school stories" (4). What Lewis is saying here is that fantasy is not misleading to readers. Instead, it is more upfront and honest in painting a picture that is not real. Whereas the coming-of-age story or the teen movie, which both profess implicitly or otherwise, to be representative of the experience of youth, are instead more deceptive and misleading than any fantasy story could ever be. Fantasy *never* proclaims to be real but is only concerned with the telling of an effective story without the constraints of reality. This freedom from the constraints of reality is a feature of fantasy rather than a bug.

### *Evolutionary Psychology of Fantasy*

Scholar of Religion Justin Barret discusses the human tendency to see agency in inanimate objects as a possible result of human evolution and a "better-safe-than-sorry" sort of biological programming. Seeing agency where there may be none is an evolutionary advantage, keeping ancient humans from being surprised by a suspiciously moving bush, so to speak. That bush might be blowing in the wind, or an unseen predator may be lurking inside waiting to pounce. Barret posits that this tendency to ascribe agency to things is responsible for the creation of gods and myths (101).

However, modern humans have a much deeper fundamental understanding of the universe and its workings now as a rule, but that instinct to ascribe agency to things still exists as addressed by J.R.R. Tolkien in his essay "On Fairy Stories". Tolkien has this to say about the human instinct to create, "Probably every writer making a secondary world, a fantasy, every sub-creator, wishes in some measure to be a real maker, or hoped that he is drawing on reality; hopes that the peculiar quality of this secondary world are derived from Reality, or are flowing into it. If he indeed achieves a quality that can be described by the dictionary definition 'inner consistency of reality,' it is difficult to conceive how this can be if the work does not in some way partake of reality" (34). So, what role does this "secondary world" play in fantasy?

### **Role of the World**

The obvious role that this secondary world plays in a fantasy story is that of the setting. By giving readers bounds within which the story takes place through the description of the character's surroundings. But it goes deeper than that. Fantasy can be as simple and whimsical as the impulsive creativity of a child. Perhaps, in a child's world, some unicorns eat sunshine and defecate muffins, or people explode when they eat cinnamon. Sure, both of these are technically fantasy, but literary fantasy is something different altogether. Epic fantasy, the breed of fantasy found in *Lord of the Rings*, *The Chronicles of Narnia*, and *The Stormlight Archive*, is a genre of fantasy that

seeks to create a realistic fantasy world. If that sounds a bit confusing, that's understandable.

Writing a fantasy world to be realistic would just be writing a fictitious story set in our world, would it not? In this context, writing fantasy worlds to be "realistic" means that the reader can place themselves within the world created by the author without having their belief disrupted and disturbed. Tolkien explained this saying "[the author] makes a Secondary World which your mind can enter. Inside it, what he relates is 'true'; it accords with the laws of that world. You, therefore, believe it, while you are, as it were, inside" (18). That is to say, the onus is on the author to lay out the rules of the world they are creating in a way that allows the reader to buy into this setting and believe it to be "realistic." This setting should be engaged with constantly throughout the story, sometimes even playing directly into the plot. For this "realism" to be attained, the setting ought to have a consequential relationship with the rest of the world. These concepts can be boiled down into the following: The setting of a story must influence the events of that story as our world has influenced every event in human history. Striving to attain this causal relationship between setting and history is a reflection of reality that grounds fantasy in the principles of our world, thus achieving "realism."

### **Putting it into Practice**

So, we understand what world-building is, and some of the things that it can do. But how does one actually world-build? New York Times Bestselling author, Brandon Sanderson, advises that authors use experts for their world-building. He emphasizes that authors create what is called a "hollow iceberg." Authors who are only trying to world-build for a story with the ultimate goal of getting it published should strive to create a world that appears to be a full and vibrant world but is the literary equivalent of smoke and mirrors. In this section, we will talk about cascading alterations, geography, government, religion, and military history in the context of building your own fantasy world.

#### *Cascading Alterations*

World-building can be boiled down to a series of cascading alterations. That is to say, an author asks themselves a question about how a world would be different given a specific change to the way our world works. The most common initial change is magic, so authors will ask themselves how our world might be different if magic was real. This then spawns a series of answers that spawn their own questions. For our world-building example, we will be working with the Empire of Raethia, a fictional country set in a fantasy world. We will start here with three simple changes that alter the world greatly from our own. These are:

- 1) Magic is real and is controllable.
- 2) Humans are not the preeminent intelligent race.
- 3) The gods are demonstrably real and take an active role in the lives of mortals.

Take for granted in this example, the world that this story takes place in is different from our own. Unless stated otherwise, the laws of physics still apply, and things generally act how readers would expect. For instance, unless an author specifies that gravity is not in play, gravity will almost always be in play.

Before we dive into these cascading alterations and these examples of world-building, readers should be aware that there is a spectrum on which world-building occurs. At one extreme, there is soft world-building, and at the other, there is hard world-building. Soft world-building is like a fairy tale for a child. In these stories, there are things that do not exist in our world that we are able to accept because of the nature of the story. This lets us infer that soft world-building cultivates a sense of wonder in a story. Hard world-building on the other hand seeks to explain different things and gives a reason that is consistent with the internal logic of the story such that there is a consequential relationship between the world and the characters within. This gives these stories a more “realistic” feel, as they adhere to a logic that the reader can learn and understand. For this exercise, we will focus mostly on hard world-building, as soft world-building requires less effort and is less useful for building “realistic” fantasy worlds.

### *Magic*

Magic, like world-building, is something that occurs on a spectrum in fantasy. There is what has been termed “soft” magic and “hard” magic. Much like the world-building that these types of magic share their names with, soft magic is not meant to be understood by the reader. For instance, Harry Potter is an excellent example of a relatively soft magic system. Readers do not generally understand where the magic comes from, or how it works beyond a few rules. Generally, wizards and witches in Harry Potter need to use a wand, and they need to speak an incantation until they become sufficiently skilled. This minimal rule set makes the magic mysterious and cultivates a sense of wonder at the spectacle of magic. Contrast that with a hard magic system in which readers understand all of the rules of magic, how it works, and how it can be used. This style of system makes readers feel generally less in awe of the magic itself, but more amazed at the creative things that characters can accomplish with the magic. An excellent example of a hard magic system is the bending magic used in *Avatar: The Last Airbender*. In *Avatar*, benders can control one of the four Aristotelian elements, fire, earth, water, or air. When characters need to use magic to overcome challenges, because their power is limited in scope, they need to use bending in original and creative ways to overcome challenges. While

this does not generally create a sense of wonder as soft magic does, readers get to derive a sense of satisfaction from one of their characters creatively using the magic.

Brandon Sanderson is known for the creative magic systems that he creates. He often writes hard magic systems and makes them very logically consistent and often loosely grounded in relatable principles such as thermodynamics and physics. He created a guideline for magic systems referred to as Sanderson's Laws. These laws refer to things authors can do with magic in their stories in order for them to create the most effective narrative they can without undercutting their own writing by using magic in a bad way.

Sanderson's first law states: "Sanderson's First Law of Magics: An author's ability to solve conflict with magic is DIRECTLY PROPORTIONAL [sic] to how well the reader understands said magic" (Sanderson). This is because solving the conflict of a story with mysterious magic feels unsatisfying to readers as the plot's driving force simply evaporates into the air with no explanation. Imagine watching *Friday the 13th* and one of the characters waves their hand and Jason Vorhess disappears in a puff of smoke and the characters simply go back to their summer camp. This feels unsatisfying because readers do not understand how or why. Imagine instead that the readers were shown a character struggling with magic and fed bits of information as that character learns new tricks to controlling that magic. Then, that character ultimately uses her understanding to conquer the big bad guy at the end of the story, the audience would feel much more satisfied. This struggle and understanding allow readers to feel triumphant at the bad guy's defeat instead of crestfallen at the failure of the plot.

Sanderson's second law states: "Limitations > Powers." That is to say that limitations on power are better than limitless power. This is the typical Superman problem. Superman can face any threat and any problem so what do his foes inevitably

need to do? They steal his power away with Kryptonite. The addition of Kryptonite ups the tension in this situation because readers understand that if Superman could just manage to get that green rock away from his enemy, the day would be saved. This is one example of a limitation on power making the plot much more interesting than the limitless brand of power.

In the example world of Raethia, magic is real. This leads to mages being a major resource in terms of military action and serving certain public functions. For example, a mage that can project bolts of lightning would be a great tool to have in this world where the most advanced individual weapon is the crossbow. A single person being able to throw bolts of lightning would be comparable to the psychological and physical effects of a siege weapon on enemy forces. Mages who can mend broken bones and regrow missing flesh for patients would obviate the need for mundane medicines if they



were sufficiently commonplace. Or, if they were rare, perhaps healers would be commodified and only available to the excessively wealthy, or available to those commoners willing to pay a steep fee or go into debt to use the local Governor's healer. This simple truth, that magic is real, sets off a cascade of different decisions an author must make for their world that, if they are doing their due diligence, they must account for to achieve that "inner consistency of reality."

### *Geography*

Magic would no doubt change the world, but what about something more relatable like geography? How does geography impact things like the placement of cities and towns in our fantasy world? A study on how geography affected the placement of Chinese county seats and prefecture seats in ancient China. This study was unique in that China has actual paper records that go back to 221 BCE, allowing scholars to see where different seats of power were placed and how they moved based on certain criteria throughout China's history. Based on this model, the study determined that prefecture seats, which were responsible for military action and policing, were often placed with minimal input from geography.

Instead, they were located in regions of military necessity that were under threat from invasion or subject to conflict. Conversely, county seats which were more responsible for trade and more closely related to food production were strongly influenced by geography out of necessity of proximity to resources (Duben and Krause 32).

For the use of world-building, Raethia will mimic this logic and use it to determine the geographical location of Raethian Governors and Counts. In Raethia, Governors will be responsible for military action and province-level administration, while Counts oversee local administrative functions, food and goods production, as well as trade. Now that the geography of this country is set, how is this fictional place governed and what real-world examples offer inspiration?



Fig 1. The Raethian Empire as it appears post Marcessian Secession. This territory was previously occupied by the fallen Faeai Empire. The dotted line along the Southern born of Raethia denotes the location for Surata's wall, an ancient Faeai fortification that serves a similar role to the Koren DMZ in our world.

The governments that control the real world play a substantial role in day-to-day life. For this reason, exploring the origins and functions of a real world government can give authors an understanding of what kind of conflicts birth new nations, and what kind of blunders cause the deaths of old ones. Additionally, this exploration can lead to the discovery of historical figures that are deserving of mythology in their own right and can lend a vibrance to fantasy characters that draw upon the real world in believable ways.

### **Founding**

Understanding the history of Raethia is instrumental to understanding the system of government that arose out of the Raethian Uprising in which the peoples of Raethia cast out their Faeai overlords. Taking into account that the Raethian people lived in a sort of perpetual servitude under their Faeai conquerors, what comes to mind is the history of ancient China, and the establishment of the Ming Dynasty after the casting out of the Mongols. The Ming Dynasty was founded by a man named Chu Yüan-chang, who was an orphan, mendicant monk, rebel chieftain, “final scourge of the [Mongol] overlords, and a revered but unloved emperor” (Hucker 3). Much like the real world Ming Dynasty, the Raethian Dynasty was established by Abram Raeth, who was born to a poor family under the rule of the Faeai. He turned to the Baltian Church and was sent to a monastery in the hills where he was educated and studied the ancient text of the Baltian Church. This scholarship of justice would lead him to foster a hatred of the conquering Faeai and eventually contribute to his role in the Raethian Uprising. Just by taking a real, though storied, historical figure from our world and applying some of their characteristics to a fictional character with a distinct personality and a link to the real world, a new figure appears. Now that we know how the Raethian Empire came to be, what does it look like?

### **Organization**

The Mongol-led Yuan Dynasty in ancient China relied heavily on local support to make much of the Empire run. Indeed, without local Chinese support, the Yuan Dynasty would have been untenable (Hucker 6). While the Yuan dynasty did allow Chinese citizens to serve in the government, they were overburdened with strict laws and forbade outright from heading any governmental agencies (Hucker 6). That did not stop many Chinese from moving up the hierarchy to live out successful careers in the government (Hucker 6). This led to the Chinese people having a fairly accurate picture of what it took to run a government when their Mongol rulers were finally ousted. The early Ming Dynasty system of government

consisted of three branches, Secretariat, Censorate, and Chief Military Commission. The Secretariat was in charge of administrative tasks, the Military Commission was, of course, in charge of military operations, while the third and final branch, the Censorate, was in charge of surveilling both other branches and reporting their findings directly to the Emperor.

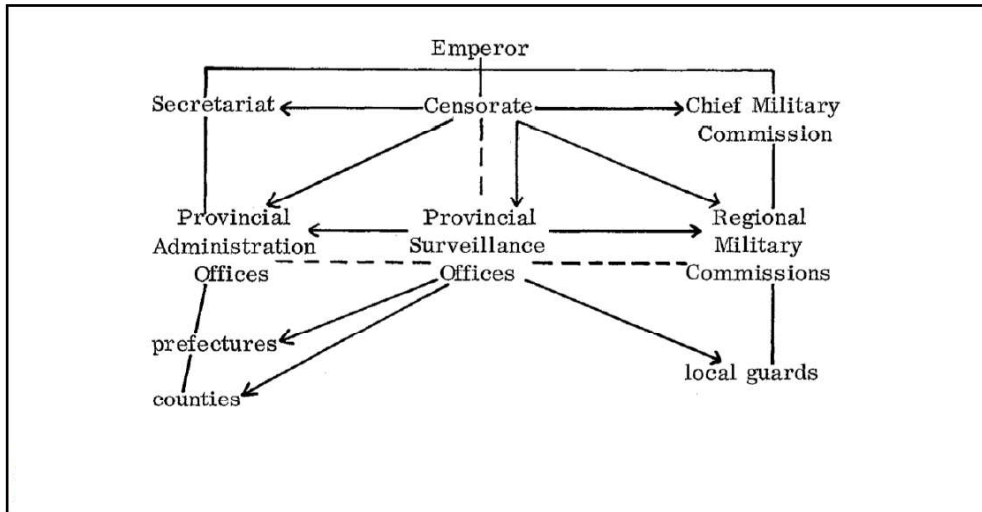


Fig. 2: An approximate outline of the early Min Dynasty system of government found in *The Ming Dynasty* by Charles O. Hucker, 1978.

Extrapolating on this model to build the Raethian system of government, those three branches can be the Secretariate, Military, and the Justiciary. The only major change of course is the Justiciary which are agents appointed directly from the Baltian Church, which is the institution from which the emperor derives all of his authority. This creates a conflict similar to that of the Yuan Dynasty Emperor Shun-ti and a Chief Councilor named Bayan. Bayan was so influential and powerful that he could administer punishment to members of the royal family at will until his overthrow in 1340 at the hands of his nephew (Hucker 7). This dynamic can be replicated in the interactions between the Raethian Government and the Prime Justicia, a Baltian Priest at the head of the Justiciary who uses his status as a means to exert influence over the rest of the government.

### Religion

There are many fantasy worlds with rich pantheons of gods that play a crucial role in the worlds themselves. Indeed, it would not be without reason to call polytheistic religions a trope in epic fantasy. Tolkien's *The Lord of The Rings*, or perhaps more accurately, *The Silmarillion*, has a pantheon of gods that play very active roles in the formation of Middle-earth, playing active roles well into the world's timeline. George R.R. Martin's *A Song of Ice and Fire* plays host to several religions, each with unique gods. *The Night Angel Saga*, *The Inheritance Cycle*, and *The Cosmere*, all of these fantasy worlds

play host to a diverse cast of gods that take on varying levels of involvement in their stories. But why is that?

### Why Gods?

Why are gods a recurring cultural element throughout human society? What is a god? According to Justin L. Barret, gods are counterintuitive intentional agents that a group of people believe exist. These agents have a type of existence or action that can, in principle, be detected by people and whose existence motivates some difference in human behavior as a consequence (Barret 108). But what is a counterintuitive intentional agent? This is a being (agent) that acts according to some motivation (intentional) and can be termed superhuman or supernatural (counterintuitive). That explains what gods are, but not why they can be found throughout human history in every corner of the world. Barret puts forth the concept of an internal *hypersensitive agency detection device* or *HADD* (Barret 100). This device describes the human disposition to see agency where perhaps there is none. In other words, the tendency to believe there are outside forces at work that have their own designs. Barret posits that this tendency exists because it is an inherently “safer” way to look at things in terms of survival instincts. Seeing risk (an unknown intentional agent) where there is none, is safer by default than seeing no risk where risk exists. Thus, “finding purpose in the natural world and eagerly attaching purpose to the intentional agency would provide the impetus for believing in beings that can account for the apparent purpose or design of the natural world” (Barret 102). In short, humans find gods in our world because we are programmed to see them as a means of survival. That they take on personalities, character flaws, and other traits, is a result of the human tendency to project human-like qualities onto things that show apparent agency (i.e. wind, luck, and weather patterns).

This understanding of why gods are found in our world informs our understanding of their appearance in fantasy worlds. These gods, no matter how foreign or strange in name and appearance, are nonetheless relatable to humans because the divine is an instrumental part of how we experience our world. The presence of gods, like the presence of gravity, anchors the fantasy world with a familiar presence that readers can understand and find familiar. It is worth noting that the gods found in the world which Raethia populates are, observably, real. The relative lack of influence this has on the nature of religion might appear to be incongruous to some, however, when one takes into account that the gods of the multitudinous religions found on Earth are, to their worshippers, real, the reason for this becomes quite clear.

### The Baltian Church

The fantasy country of Raethia began with two predominant religious organizations within its borders. These religions were born out of

the gods worshipped by the Faeai overlords during the centuries of human enslavement before the era we are exploring. Home to large cities, the North (home to “modern” Raethia) found itself less concerned with commerce and more concerned with maintaining the status quo, thus finding themselves more concerned with a religion that centered around justice. The southern half of the Faeai Empire at this time was chiefly agrarian and trade-based. What the smaller towns in these areas could produce, and what could be earned with trade was of much greater importance, thus they worshipped a god of commerce. After casting off their enslavement, the worship of these deities grew into unique churches, independent of the existing Faeai religious institutions. These institutions are the Church of Marcantalism and the Baltian Church. The Baltian church is far more influential in Raethian society, while the Church of Marcantalism exists mostly in border settlements to the south for reasons we will discuss later on in this section.

The Baltian Church worships a member of the traditional Aelish Pantheon of gods known as Baltis. Baltis is the Justiciar of the gods and is typically represented as a blind man clad in robes, holding empty dishes in either hand as if to test their weight against one another. This is, of course, a play on the Greek goddess Themis and the classical depiction of justice as a robed woman, blind, and holding scales. That is to say, Baltis is not, in fact, a copy of Themis, but rather a copy of a copy of Themis.

The Baltian Church influences the origins of the Raethian government just as Christian values influence the governments of the West. For instance, Baltians believe that the Emperor of Raethia rules by divine right because the leader of the ancient rebellion is believed to have been a champion of Baltis, thus his bloodline itself is divine. The most widespread view of the relationship between gods and law in the ancient Mediterranean world is represented by the phrase “law is the will of the gods” (Leaf 27). I will use this to describe the view that Raethians have on law. Thus, the Church of Baltis informs much of Raethian law. Also, similarly to the precursors of Western society, Raethian judges are attributed a divine status. Taking this idea as priest-judges further and requiring asceticism as a tone choice. These Justiciars will be ascetic scholars of the law who achieve merit through a lifetime of study in monasteries that study the law. They only directly engage in society when their role as an arbiter of justice and a voice of Baltis is required.

### **Friction Points**

As mentioned in the “Cascading Alterations” section, one change creates more changes down the line. How might a religion centered around the belief that their god is the writer of divine law interact with the world? Because the Raethian system of government rules by divine right, a different belief system that believes that the only people who deserve to rule are those of sufficient merit would naturally come to oppose this divine right.

The Republic of Marcens to the south, previously part of Raethia before their secession, is organized around a religion that worships a god of commerce. This Mercessian belief system believes that those who work hard, prove their merit, and are successful in their endeavors are inherently more fit to rule. So, why does it matter that Marcessians believe something that is virtually the opposite of Raethia?

If we turn to a concept enumerated in Nadia Serametakis' *An Introduction to Cultural Anthropology*, we can look at the following quote: "In a society where there are remaining rituals still intact with some level of legitimacy, we can expect that either their form or their content might change in reaction to the general process of culture loss, or at least, they may acquire a new significance and performative style for the community in which they are enacted" (176). If, before the Marcessian secession, there was relatively free movement of ethnic Marcessians and Raethians across what is not their shared border, then now that the borders are closed, these ethnic minorities are isolated in foreign kingdoms. To keep things relatively streamlined, I will only address the Marcessian ethnic minority within Raethia, as this group will be instrumental to the ignition of the conflict explored in the next section. According to the previous quote by Seremetakis, a society's rituals change in response to the changing world around them. These ethnic Marcessians would find themselves isolated in a Raethian society and be more likely to lean on each other for support finding the building blocks of a community in their shared religion. Their beliefs would become stronger, as their religion would become the primary means of support for these people in a country that did not have a majority that shared their worldview. This isolation is also fueled by being participants in a society that views them as the aggressors in the past war of secession. Many ethnic Marcessians find themselves ostracized in Raethian society. This led to a small sect of outspoken members that openly criticized the Raethian Emperor's right to rule, insisting that the ruler of Raethia should be appointed because of their sufficient merit, rather than divine right. This open criticism would lead to the persecution of the dissenting individuals. From the viewpoint of Marcessians, this is religious persecution. From the viewpoint of Raethians, this is simply exacting justice against lawbreakers. This instance is just another example of how one simple "what if" creates a cascading series of changes that influence large portions of a fantasy world.

### **Laying Ground Work**

Few things shape our world as much as war. There is little reason to think that a fantasy world in which there are individual people or governments that are capable of enacting violence onto one another. For this paper, I will project some of the prominent events and figures of World War I onto the fantasy world of Imur. This conflict will be a multi-national war that is triggered by a series of alliances pulling nations into conflict with one another.

To set the stage, we have our previously described Empire of Raethia, built over the ruins of the Faeai Empire which existed hundreds of years prior. There is a prominent ruin that spans the middle of the Raethian Empire at this time, called Surata's Wall. The primary god that is worshipped in Raethia is Baltis, the god of justice. However, in the southern half of modern-day Raethia, the primary culture surrounds the worship of the god of commerce, Marcens. This stems from the primary figures of worship that the human inhabitants of these areas worshipped while still slaves of the now-defunct Faeai Empire. These gods have fundamentally different values which has been a constant source of tension in Raethian politics since the inception of the Empire.

### *Military History*

Early in Raethian history, it was a practical relationship that allowed the Marcens-worshipping south to firm their borders against any incursion from the Aelish Kingdoms to the east and allowed the northern Baltis-worshipping Raethia to resist incursion from the remnants of the Faeai Empire to their East. However, two hundred years after the birth of the Raethian Empire, due to this fundamental difference in beliefs, political tensions erupted into armed conflict.

#### **Year 1**

Kaiser William II was the king of Germany during the First World War and was a well-known schemer (Tuchman). Germany's involvement in WWI was guaranteed by its ties to Austria-Hungary after a Serbian assassin killed Archduke Franz Ferdinand. The war which I will be discussing here will be called the Marcessian Invasion. The High King of Marcens, Arvis Velliam, was a Raethian aristocrat who conspired with other members of Raethian Nobility south of Surata's wall to develop a plan to take over the territory to the north.

The Marcessian Invasion, much like our WWI, was precipitated due to a political killing. Baltis Justiciars executed a Preist of Marcens in a Raethian border settlement following what they deemed to be unlawful and seditious actions against the Empire. This prompted the Republic of Marcens

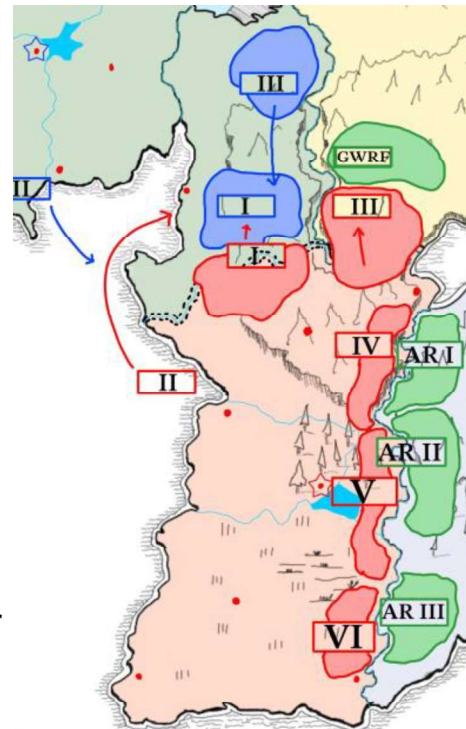


Fig. 3 shows the initial movements of the Marcessian Invasion. Of particular to note here is the Marcessian II Corps which attempted to take the large bay on the Raethian side of the border but was repelled. Marcessian forces are denoted in red, Aelish and Gildwooder forces in green, and Raethian forces are denoted in blue.

to launch an invasion of Raethia to reclaim territory along the border inhabited by ethnic Marcessians.

Much like Germany in World War I, Marcessian battle plans were centered on the strategy of envelopment. Marcens knew that violating the neutrality of Gildwood to the northeast (the yellow region) would cause Aelenata (purple) to react and strike at Marcens (red). Marcens knew Aelenata was the biggest threat to their battle plans and built up three sections along their eastern border. These three armies were IV Corps, V Corps, and VI Corps, leaving the northern border to be defended by I Corps, and III Corps while the Naval forces were commanded by II Corps.

Marcens would push up through the ruins of an ancient fortification (marked on the map in dotted lines) and assault Raethian territory with I Corps, while II Corps sailed into Sül Bay and attempted to land a flanking element to envelope the Raethian 1st Army. Luckily, lookouts along the Raethian coast spotted the Marcessian Navy and were able to send a messenger via conjurer to call upon the Raethian Navy (blue II) to intercept the Marcessian Fleet. After a surprise attack on their flank, as they attempted to make landfall, II Corps' Naval forces would be crushed and scattered, limiting Marcessian Naval capability for the rest of the war. Marcens' remaining Naval vessels would be relegated to logistical support for the war effort up and down the coastline due to the blockade at Sül Bay by the Raethians which would remain unbroken for the remainder of the war.

The Marcessian III Corps would push into Gildwood, taking small towns and surrounding a Gildwood garrison, beginning a weeks-long siege. During this seige, the Gildwooder people formed an impromptu guerilla force now referred to as the Gildwood Response Force made up of a mix of human and Faeai Gildwooders who lived in the region's dense forests. The resistance by this guerilla force and the delay of the siege of the border garrison would delay III Corps long enough for Gildwood to mass two armies and begin their offensive to push Marcessian III Corps out of their borders.

Unfortunately for Marcens, this aggression toward neutral Gildwood would pull Aelenata into the war, leading to a war on two fronts for the Marcessians. Aelenata would go on to engage in border skirmishes throughout the remainder of the war to take the pressure off of the northern front.

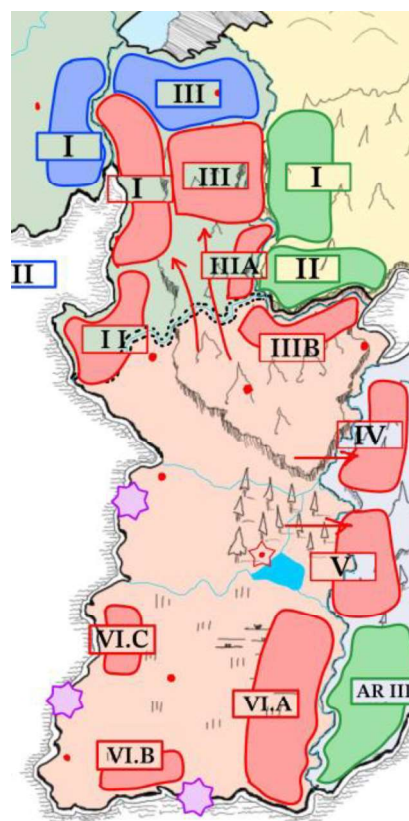
## Year 2

Unlike WWI, in which much of the fighting took place in Neutral Belgium and France on the Western Front (Brose 58), Gildwood's forces (north green) will be able to push the Marcessians out. In the next year of this conflict, you will see that the Marcessian generals have a reputation for



self-motivation much like the generals of Germany. In addition to that, I will be stealing a few notable figures from our history and creating analogs for them in this world as well.

One character I would like to copy here is Thomas Edward Lawrence, better known as Lawrence of Arabia, a British military officer who worked with Arab forces in WWI to harry and distract the Ottoman Empire from the Suez Canal, as well as to “convince the Turks to sue for peace” (Brose 296). Likewise, the Raethian character, Baelin Garriss, will work with raiding ships from Dürvhold (not pictured) to lead a successful piracy campaign up and down the Marcessian coast (noted by purple stars) to take Naval pressure off of the blockade at Sül Bay as well as to draw forces away from the eastern front. This action by the Dürv, Raethia’s northern neighbor, would guarantee their previously disputed independence from the Empire of Raethia, and broker a lasting peace between the two nations. Additionally, the Dürv were permitted to keep any gained wealth from successful raids of trading vessels. These raids would also cause VI Corps to allocate a hefty portion of soldiers to simple regional policing duties or risk leaving their shipping ports entirely undefended.



*Fig. 4 details the major locations of the troops in year 3 of the Marcessian Invasion. Of particular note the Marcessian progress into Raethia as well as the major engagements related to the Dürv piracy campaign noted with purple.*

Marcessian III Corps’ general, a prideful Marcessian aristocrat would commit his reserves as two regular armies, with his sons leading the IIIA and IIIB. These two armies would secure the border, eliminating III Corps’ reserves. With the borders secure, III Corps pushed north and pushed back the Raethian 3rd Army. This is a reference to German generals committing reserves as regular troops during the push into Belgium, spreading their forces thin in the infamous “Race to the Sea” (Brose 66). The pride of the III Corps’ general refers to the proactive attitude of German generals in WWI who were trained to act on their military instinct and seize the perceived opportunity if it would benefit the war effort. This, however, left hundreds of thousands of lives in the hands of men with no oversight and the characteristically flawed judgment of any man. In the same vein, IV

Corp and V Corps generals seize a perceived weakness in Aelish lines to push into Aelenata and take territory on the Aelish side of the Ruby River. This push into Aelish territory would result in the snapping of the already strained Marcessian supply lines and contribute to the eventual routing of IV Corps and V Corps.

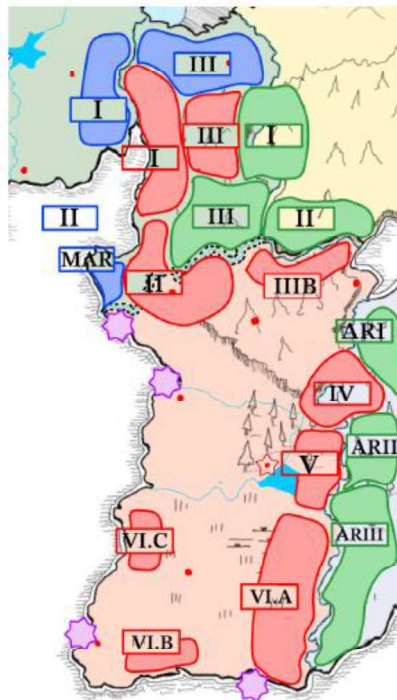
### Year 3

The third year of the Marcessian Invasion would begin with a counteroffensive from the Gildwooder forces, led by a general who would become known as The Butcher of the Barrens. General Phylia Dravus, would lead Gildwood's III Corps into the bloodiest offensive of the war, in which over five hundred thousand Gildwood and Raethian reinforcements would die. Their sacrifice, however, resulted in the collapse of the Marcessian IIIA Corps and heavy losses for the Marcessian III Corps. This resulted in Marcessian III Corps being cut off completely from its reinforcements. This would pull the Marcessian II Corps away from their position on the coastline and give the Raethian II Corps Marines a foothold to apply pressure on seized Raethian territory.

General Phylia Dravus is an on-the-nose reference to General Douglas Haig, better known as Bloody Haig. Haig was commander of the British Expeditionary Force (BEF) during some of the bloodiest days of WWI, including the Battle of the Somme (Brose 266). Haig's men would experience two million casualties under his command, leading to his macabre nickname. Regardless of his reputation, Haig's decisions were instrumental in the Allied victory in WWI which forced the German military to sue for peace.

Like Bloody Haig's Hundred Days Offensive, General Dravus' counter-offensive against Marcessian forces resulted in the Republic of Marcens suing for peace before their forces could

experience additional losses. This was also hurried by the Aelish armies in the south, routing IV and V Corps and pushing them back over the river. The Aelish sent a missive to the Marcessian Senate that stated that if



*Fig. 4 shows the major movements of the third and final year of the Marcessian Invasion. Note the encirclement of Marcessian III Corps and the complete destruction of IIIA. These represent the final lines before The Republic of Marcens would sue for peace.*

aggression along the Aelish border did not cease, Aelenata would break through the eastern front and take the Marcessian capital.

With a society haggard by war, supply lines harassed by pirates, and significant military losses on both borders, Marcens sued for peace just before the winter of the third year of the Marcessian Invasion. This timeframe is also influenced by the timeline of the end of WWI, which ended on November 11th, 1918 (Brose 359).

### *Conclusion*

From the most fundamental laws of a fantasy world to grandiose battles, and feats of military prowess, all of these things are of concern to authors who wish to create an “inner consistency of reality” in their very own fantasy world. The value gained when borrowing from the real world in the spirit of achieving this inner consistency is not to be understated. Every single choice an author makes in building their fantasy world sets off a cascade of alterations that are a boon of opportunity for innumerable stories to occur. Whether it is the piracy campaign led by Baelin Garris, or perhaps the story of the noble son of the III Corps general left behind to cover his father’s vanguard against the counterattacking Gildwooders, this paper has explored many different facets of world-building and how by drawing from the real world, authors can create vibrant fantasy worlds all their own.

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# Research Analysis on Personality and Meditation Success

Rebecca Foree

## Introduction

As the eastern practice of meditation has gained popularity in the west, increasing quantities of anecdotal evidence and empirical research alike have touted the positive effects of the practice. The effects of mindfulness are being researched extensively with 20,000 papers having been published on the topic as of 2021 (Osin & Turilina, 2021). Numbers of meditators in western societies across the globe continue to rise, and yet, for being such an impactful, accessible, and affordable practice, it's a wonder that even more people aren't participating. What barriers stand in the way of people taking part in meditation practices? Do personality factors play a role in the adherence to and effectiveness of meditative practices? Research by Osin & Turilina published in 2021 suggests that the answer is yes: in their research, "intraclass correlation coefficients for the DVs ranged from .38 to .55, indicating that a substantial proportion of variance could be attributed to individual differences" (p. 1).

Exploring the answers to these questions delves into a relative gap in the current research on meditation, which focuses more on the effects of meditation. But many of the positive effects of meditation can only be realized through consistent practice. Discovering personality factors that are predictive of success or struggles in meditation can help predict engagement in meditation programs and provide insight on how best to mitigate the barriers that prevent some from reaping the benefits of this practice. This literature review will first cover the traits that predict meditation adherence and success, and then discuss factors that pose as barriers to the same.

## Body

When it comes to the current research on the relationship between personality traits and meditation, the Big Five personality inventory is the most widely researched model. In a study by Bailey, et al. (2019), in which medical students were guided to take up a daily mindfulness meditation practice, higher scores on the Big Five trait of agreeableness were found to have a medium positive correlation with higher amounts of mindfulness meditation, at an  $r$  rate of 0.33 and a  $p$  value of 0.02. Bailey, et al. notes that previous studies have found correlations between agreeableness and trait mindfulness, another predictor of meditation success that will be discussed later. In 2017, Kambolis conducted a literature review that supported the finding of agreeableness as a predictor of meditative success, and further found that the traits of agreeableness, openness, and extraversion have been correlated with increased likelihood of taking up meditation.

It makes sense that agreeableness is conducive to both taking up meditation in the first place as well as meditating for more time. Higher scores on the agreeableness scale relate to higher levels of trust which would contribute to someone believing that meditation is worth a try and initiating the practice. Agreeableness also includes the trait of cooperation, which could incline people to adhere to an assigned meditation regimen.

Continuing to analyze Big Five traits, Matko, et al., (2022), found that those with higher levels of anxiety and neuroticism experienced higher than average increases in emotional regulation skills after an eight-week mindfulness meditation intervention. Findings from Iceland via Orlygsdottir, et al. (2015) found an additional relationship between meditation and anxiety when a general survey revealed a correlation between higher levels of anxiety and higher likelihood of practicing meditation. Results in the US further supported this finding, with research from Morone et al. (2017) showing that meditators were more likely to report feeling nervous, sad or stressed at least a little bit of the time more so than non-meditators.

These results indicate that the traits of neuroticism, anxiety, sadness, and stress increase the likelihood of a person practicing meditation. This is likely because they are motivated to experiment with meditation in an attempt to alter their mental state. And the people experiencing these mental states also benefit more from meditation, which can contribute to a feeling of satisfaction and belief in the efficacy of the practice, instilling motivation to continue the practice.

There are other ways that attitudes, especially motivation, can impact meditation. Osin & Turilina (2021) found that meditators who feel autonomously motivated to meditate - that is, they are meditating for their own personal reasons rather than external influences - more easily adhere to meditation regimens and gain more benefits from the practice. Another attitude that impacts meditation as found by Kambolis (2017) was that people who started out believing that meditation is effective were more likely to stick to their meditation routine. Finally, Orlygsdottir et al. (2021) found that having a negative attitude toward traditional medicine and psychiatric services correlated with higher rates of yoga and meditation use. So, their attitudes toward modern medicine create an internal motivation to seek alternative health management practices. As noted above, personality traits such as neuroticism and anxiety impact attitudes, which in turn impact a person's level of motivation.

Another personality factor to take into account is a person's base level of attention and mindfulness. Trait mindfulness is a person's general level of mindfulness in everyday situations, as compared to state mindfulness which is a temporary state often achieved through meditation. Greif & Kaufman (2019) found that individuals with lower trait mindfulness scores showed the highest increases in state mindfulness after meditation.

Higher trait mindfulness, however, is associated with a higher amount of time spent meditating, according to Bailey, et al., (2019). Grief & Kaufman also found that those with high levels of attention performance showed higher increases in state mindfulness after meditation, indicating that it was easier for them to enter into a mindful state. So, although those with lower trait mindfulness stand to gain the most state mindfulness through meditation, people with higher trait mindfulness and higher attention performance are more likely to meditate more and enjoy meditation more, respectively. This suggests that those with lower state mindfulness may benefit from more guidance and support in order to help them continue a meditation practice and reap the benefits.

Some results for the positive predictors discussed above were contradictory between studies. This was less true for negative predictors, which were more consistent across studies. The Big Five personality trait that was the most widely supported as a barrier to consistent and effective meditation practice was neuroticism. Higher scores on the neuroticism scale were found to be related to lower involvement in online meditation interventions (Kambolis, 2017) and to a higher perception of barriers to meditation (Whitford & Warren, 2019). The results mentioned above indicate that people exhibiting higher levels of neuroticism, anxiety, and stress are more likely to have tried meditation and to benefit more from meditation. However, these same traits are predictors of attrition from meditation practice, especially online or self-guided practices (Kambolis, 2017).

Three additional studies further discuss individual qualities that are loosely related to neuroticism and further support the findings mentioned above. Osin & Turilina (2021) found that individuals who scored lower on self-regulation scales and who were more prone to experiencing rumination were more likely to perceive meditation as difficult and boring and to eventually give up the practice. Moreover, Kambolis' 2017 results indicate that "higher depressive rumination, cognitive reactivity and brooding" predicted higher difficulty in engaging in the meditation intervention. And according to Schlosser, et al., (2019) individuals with higher rates of negative thinking were more likely to report particularly unpleasant meditation-related experiences.

Greif & Kaufman's 2019 findings indicate that people with lower levels of attention performance may find it more difficult to enter into a mindful state during meditation, which may lead to frustration and raise the likelihood of discontinuing the practice. These findings indicate that the experience of the meditator plays a significant role in continuance of the practice. When pairing these findings with the finding of Matko, et al., (2022), evidence shows that participants with higher levels of neuroticism benefited most from meditation. This makes the tragic point that those who

might benefit most from meditation may struggle the most to adhere to the practice long enough to reap the benefits.

Gender is also a significant factor in this sphere of research. In a cross-sectional study by Schlosser, et al. (2019), data showed that across studied predictors of having negative experiences with meditation, men were more likely to report “particularly unpleasant” meditation experiences than women were. Men were less likely to use meditation in conjunction with yoga (Schroter & Cramer, 2021), had lower decentering ability (Matko, et al., 2022), benefited less from meditation (Schlosser, et al., 2019), and simply used meditation less than women did (Orlygsdottir, et al., 2021). Many of the samples in these studies had more female than male participants despite recruiting from the general population; for example, Osin & Turilina’s (2021) sample was 79.87% female. Kambolis (2017) and Schlosser et al. (2019) both suggest that social expectations on how men feel and express emotion may play a role here. “Literature suggests that men experience more restrictive emotionality and emotion regulation difficulties,” (Schlosser, et al., 2019) which may leave them less equipped than women to objectively observe the emotions that do arise during meditation.

### **Conclusion**

In studying and synthesizing the results of the literature included in this review, it confirms the importance of this research. Kambolis points out that in cross-sectional studies of established meditators, it can be difficult to determine if traits they share are the result of meditation or were present before meditation and contributed to the person becoming a meditator. Putting all these findings together also creates some insight into what kind of personality factors help and hinder a person on the path of meditation. Three main impacts seem to come to the forefront when examining these personality factors and their effects.

One is a person’s willingness to try meditation in the first place, which is predictably related to openness and agreeableness. The majority of studies on meditation simply measure the effects of meditation, and this has led to a misconception that meditators are naturally more agreeable, mindful, and satisfied with life than people who don’t meditate. This misconception can deter people who feel that they don’t fit the stereotype of a meditator. The reality is that some of the very states least associated with meditation - stress, anxiety, and neuroticism - are actually predictors of a person gaining more benefits from a meditation practice. Pairing this with the knowledge gained about agreeableness and motivation offers insight into how to frame meditation so that skeptical people are willing to give it a try.

The second main idea is how personality affects adhere to meditation regimens. Attitudes stand out as having an impact primarily on



adherence to meditation practices. This makes sense, as adhering to a consistent meditation practice over time takes dedication that can be difficult to sustain without motivation. Traits can influence these attitudes, with neuroticism and a tendency for rumination predicting difficulty adhering to practice programs. Knowing what kinds of traits and attitudes cause attrition from meditation programs can equip meditation teachers to address and hopefully adapt these attitudes at the outset of interventions, resulting in better adherence and more beneficial outcomes. This research also highlights the value of reducing the attrition of people with higher levels of neuroticism and rumination, given that these exact traits that make consistent practice difficult are also traits that foretell greater benefits if the person is able to maintain practice. This leads to the third main impact of personality on meditation, which is how different people respond to meditation based on their personality.

In a few different ways, the research indicates that those with certain traits - such as low mindfulness and high anxiety and neuroticism - show the highest improvements after meditation interventions. Throughout the literature, there is a recurring theme that those who could stand to benefit most from meditation may be the most likely to drop out (Whitford & Warren, 2019). It is for this reason that this research is so relevant, as discovering how to overcome the interest and attitude barriers mentioned above would help the people who could benefit the most from meditation successfully take up and continue the practice.

There remains a significant gap in the research of the personality factors that contribute to a successful, long-term meditation practice. These findings indicate a few directions that future studies should focus on. One important direction for research is continuing to replicate these studies with various populations to get more generalizable results, as many of these studies focused on homogeneous groups or small groups. Specifically, an effort to study equal quantities of males and females would help to make results more generalizable, as to date, women make up a slight majority of participants.

Perhaps most important for this research niche is to continue doing studies that take measurements of novice meditators before and after meditation. Cross-sectional studies of established meditators, as mentioned above, have the limitation of being a self-selected group from the outset, rendering those results less applicable in this particular niche. Another direction for future research is starting to study how people with particular sets of traits respond differently to particular types of meditation. For instance, Schlosser, et al., (2019) found that “odds of particularly unpleasant meditation-related experiences were 65% higher in meditators who only engaged in deconstructive practices compared to meditators who only engaged in non deconstructive practices” (p. 6). So, future research that cross references personality traits with types of meditation could offer

insight into what styles of practice are the best suited for people of particular temperaments.

This aspect of mindfulness research is as yet a nascent niche but is bound to continue growing as the utility of applying knowledge of the interaction between personality and meditation becomes more obvious. Applying the science of psychology to the art of meditation can offer insight into how to apply this ancient practice to the people of the modern world.

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# Dietary Aspects of an Urban Turtle Community in a Missouri River Tributary: A Stable Isotope and Fecal Approach

Annastasia Bair

## Abstract

Urban streams are influenced by a wide variety of anthropogenic resources. Rush Creek (Platte County, Missouri), a tributary of the Missouri River, has both agricultural and urban inputs in its watershed. Healthy streams should support a robust community of aquatic organisms. In 2021 and 2022, we started monitoring the aquatic turtle community of Rush Creek to determine species composition, morphometrics, and diets within this urban stream. In 2021, four turtle species were collected: red-eared slider (*Trachemys scripta*), western painted turtle (*Chrysemys picta*), common snapping turtle (*Chelydra serpentina*), and spiny softshell turtle (*Apalone spinifera*). Stable isotope analysis of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  of turtle nails showed trophic relationships among species. Softshell turtles fed at the highest trophic level, while painted turtles occupied the lowest trophic level. Snapping turtles and red-eared sliders had a generalist diet with isotope values falling between soft shelled and painted turtles. In 2022, fecal analysis was being incorporated with  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  stable isotope of nails. Indigestible material in feces (bones, seeds, and exoskeletons) could show why specialized diets of softshell and painted turtles are widely different, while giving insight into why generalist diets of snapping turtles and sliders span a wider trophic range.

## Introduction

Urban streams can be rapidly changing environments showing impacts of climate change and the anthropogenic influence around them (Nelson, et al., 2009). For many aquatic species, climate and anthropogenic manipulation have a negative impact (Nelson, et al., 2009). Unfortunately, it is difficult to predict how climate change and anthropogenic changes combined will affect waterways because both occur on a large scale and are difficult to replicate (Nelson, et al., 2009). Urbanization increases sediment levels and adds chemical pollutants to the water which creates low biotic diversity among macroinvertebrates, a main food component for many organisms (Gál, et al., 2019). Turtles offer insight into stream dynamics as multiple species vary in their dietary habits. Foraging in aquatic systems shows the state of streams, therefore organized diets can be used to assess the quality of waterways.

Aquatic turtle communities possess a variety of foraging strategies from generalists to herbivore and carnivore specialists (Ernst, et al., 1994). Many generalists are opportunistic, giving a high probability for a turtle community to consume a representative sample of prey available in an area.

Aquatic turtles have a limited home range (Rowe, et al., 2010) which implies diets are assessing a limited specific range.

Non-invasive sampling methods such as fecal analysis and stable isotope analysis give clues to overall diet availability. Diets determined by euthanization and dissection do not work well in smaller urban streams because of limited population sizes and potential impact on community dynamics. Fecal analysis gives a single snapshot into turtle diet based on indigestible animal and plant material, i.e. arthropod exoskeleton, seeds, etc. (Caputo and Vogt, 2008). Dietary snapshots will help interpret broader observations obtained from stable isotopes of tissues. Stable isotope analysis of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  gives an overall look on turtle diets at the time period when tissues were formed. Stable isotope values of carbon and nitrogen together can show specific diets (Hobson and Clark, 1992), while nitrogen alone gives estimates of trophic levels (Hobson and Welch, 1992).

The goal of my research is to survey aquatic turtle diets in an urban stream. The species focused on are the red eared slider, western painted turtle, common snapper, and spiny softshell. A combination of stable isotope and fecal analysis from a diverse aquatic turtle community should reflect stream prey biodiversity. Although specific prey might not be identified, an overall view of why each turtle species is found at a specific trophic level will show how stream prey diversity changes over time.

### **Field Methodology and Turtle Processing**

Turtle trapping was done from June to September 2021 and June to August 2022 in Rush Creek, a tributary from Weatherby Lake into the Missouri River in Parkville, Missouri (Platte County). Rush Creek is a shallow stream with a muddy bottom. Hoop nets and minnow traps were set approximately 0.5km upstream from the Missouri River. Traps were baited with sardines, and were checked every 24 hours, constituting one trap per night. Turtles were transported to Park University for processing, held overnight to collect fecal matter, and were released the next day at site of capture.

Morphometric data collected from turtles were sex, mass, carapace length, carapace width, carapace depth, and palpated for eggs. Sex was determined by morphological characteristics, such as tail length, whether or not the cloaca went past the carapace, and front nail length. Mass was taken using a spring scale. Carapace width was measured at the frontal plane at bridge, carapace length was measured at the sagittal plane from nuchal scute to posterior edge, and carapace depth was measured from central carapace to central plastron. Nail tips were collected for isotope analysis of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ . Turtles were marked using a modified shell notching methodology from Cagle (1939, Fig. 1). A 12m PIT tag (Biomark) was also injected with a 12-gauge needle (Buhlmann and Tuberville, 1998).

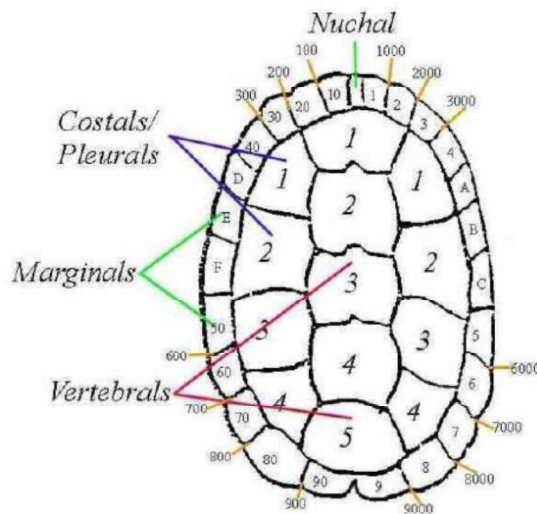


Fig 1. Cagle (1939) notching system.

### ***Fecal Collection***

Turtles were kept overnight in plastic tubs with enough water to cover their carapace to collect fecal material. Fecal material was strained from the water and subsequently frozen for later identification. Using a dissecting microscope, qualitative observations were made, and the contents of the fecal matter were sorted into the following categories: plant, animal, and unknown.

### ***Nail Isotope Preparation***

Nail clippings were washed twice in a 2:1 dichloromethane methanol solution for 1 minute to remove debris and lipids. Samples were allowed to air dry in a fume hood for 24 hours. Samples were shipped to the University of Arkansas Stable Isotope Laboratory (UASIL) for  $\delta^{13}C$  and  $\delta^{15}N$  analysis.

### **Results**

In 2021, we analyzed the nail clippings for  $\delta^{13}C$  and  $\delta^{15}N$  in red eared sliders (n=40), western painted turtles (n=6), common snappers (n=10), and spiny softshells (n=3). There was no significance in carbon ( $f=0.45$ ,  $df=3$ ,  $p=0.72$ ) or nitrogen ( $f=1.75$ ,  $df=3$ ,  $p=0.174$ ) between the turtle species. There was a trend in nitrogen of western painted<red eared slider, common snapper<spiny softshell (Fig. 2). We compared  $\delta^{13}C$  to mass and  $\delta^{15}N$  to mass and found no correlation (Fig. 3).

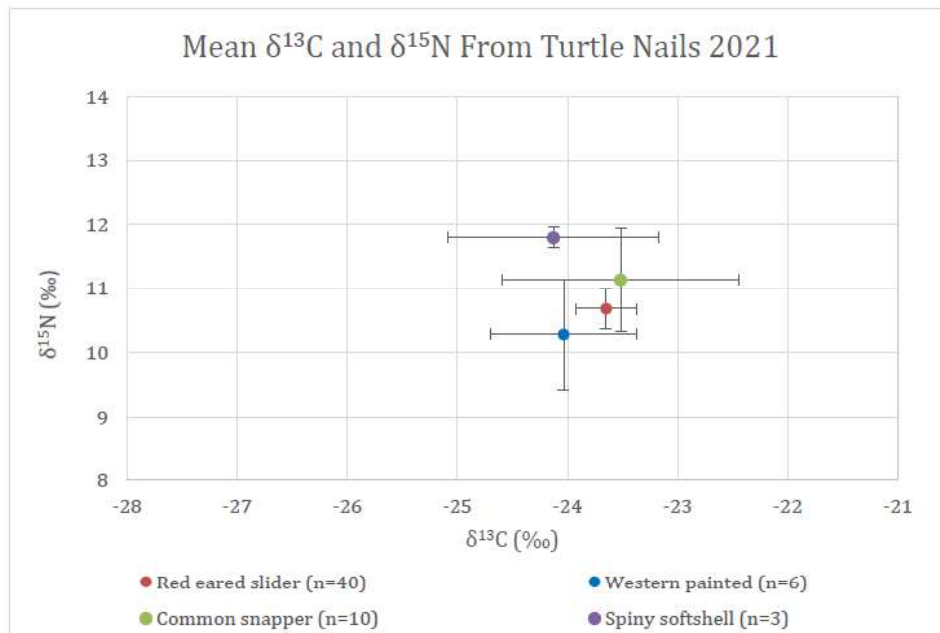
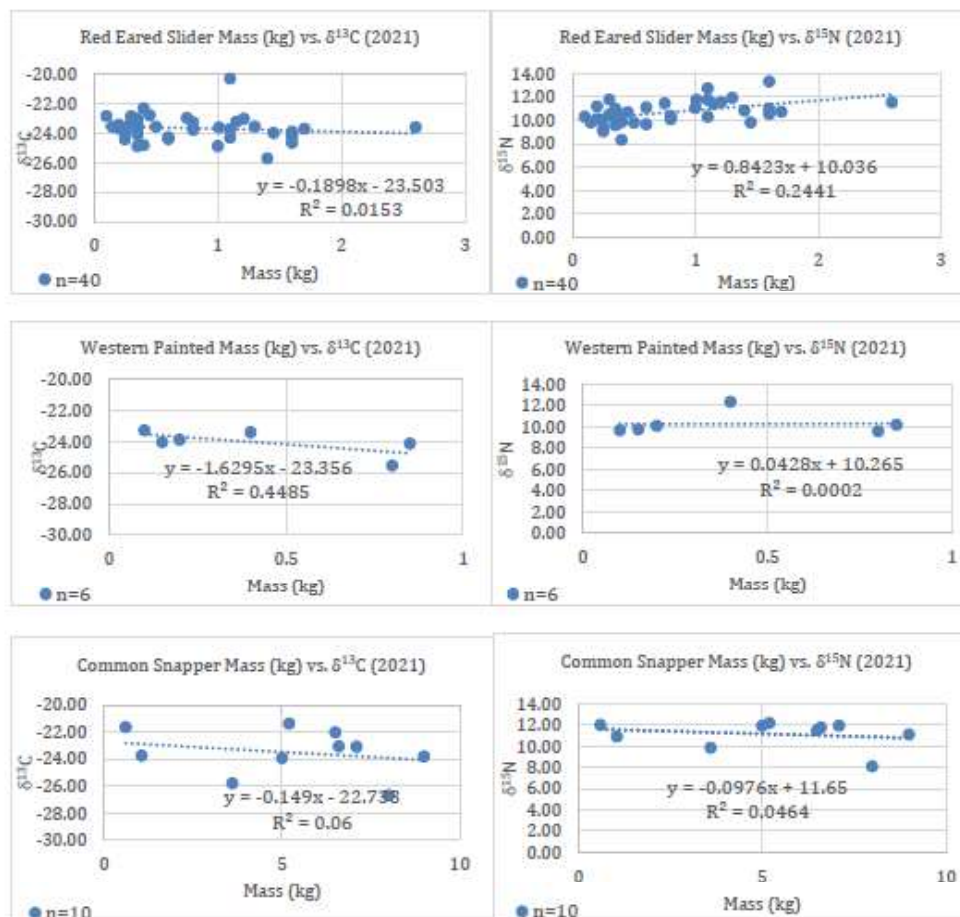


Fig. 2. Mean  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  from 2021 turtle nails. 2 standard error bars were used.





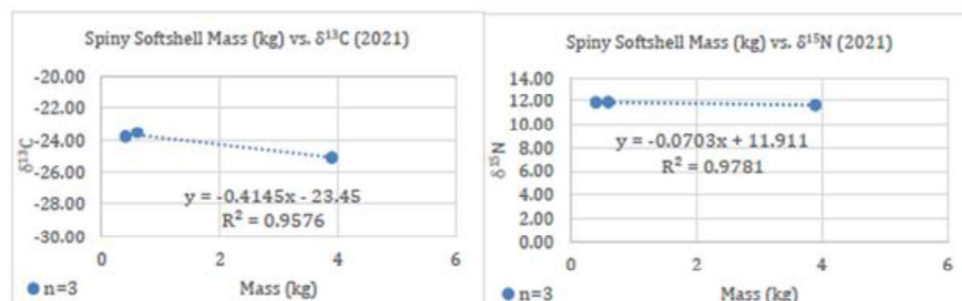


Fig. 3. Mass versus isotopic values, 2021. The left column is Mass (kg) vs.  $\delta^{13}\text{C}$  and the right column is Mass (kg) vs.  $\delta^{15}\text{N}$ . Rows (from top to bottom) are red eared slider, western painted, common snapper, and spiny softshell.

In 2022, we analyzed nail clippings for  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  in the same species: red eared slider ( $n=30$ ), western painted ( $n=5$ ), common snapper ( $n=2$ ), and spiny softshell ( $n=3$ ). There was no significance in carbon ( $f=0.23$ ,  $df=3$ ,  $p=0.875$ ) or nitrogen ( $f=2.27$ ,  $df=3$ ,  $p=0.096$ ) between the turtle species. There was a trend in nitrogen of red eared sliders < western painted < spiny softshell < common snapper (Fig. 4). We compared  $\delta^{13}\text{C}$  to mass and  $\delta^{15}\text{N}$  to mass and found no correlation (Fig 5).

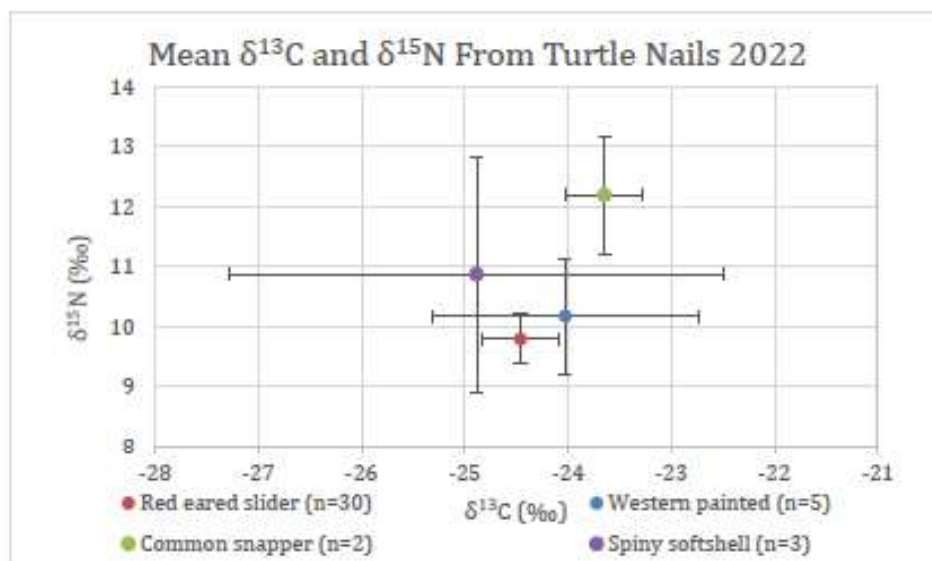


Fig. 4. Mean  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  from 2022 turtle nails. 2 standard error bars were used.

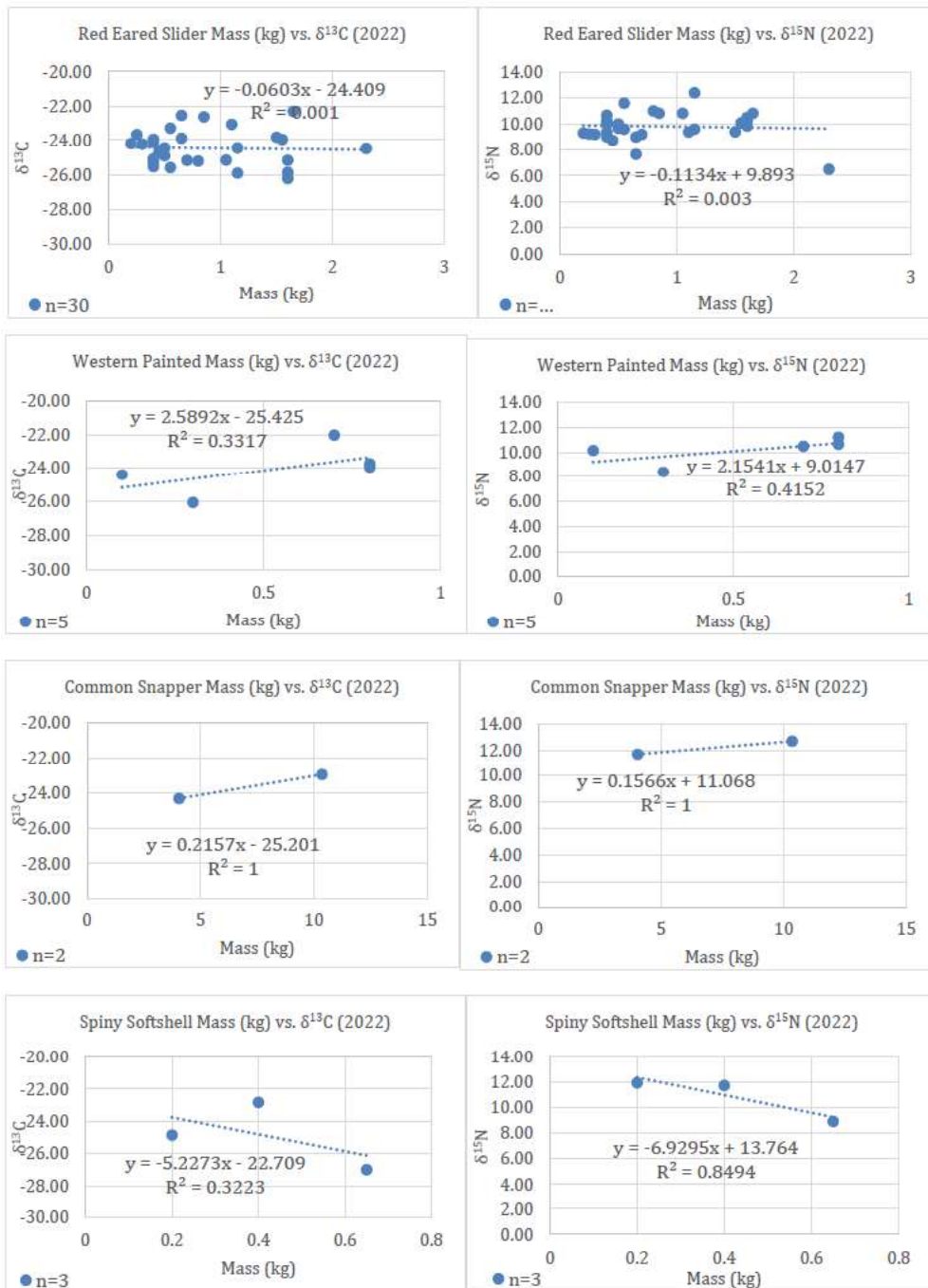


Fig. 5. Mass versus isotopic values. 2022. The left column is Mass (kg) vs.  $\delta^{13}\text{C}$  and the right column is Mass (kg) vs.  $\delta^{15}\text{N}$ . Rows (from top to bottom) are red eared slider, wester painted, common snapper, and spiny softshell.

Red eared sliders showed a significant difference between the years 2021 and 2022 for carbon ( $t=2.15$ ,  $df=71$ ,  $p=0.035$ ) and nitrogen ( $t=3.92$ ,  $df=71$ ,  $p<0.001$ ). They experienced a trophic level decrease from 2021 to 2022 (Fig. 6).

Fecal samples from 2022 revealed various invertebrates were eaten, such as insects, mollusks, worms, and crayfish. Some plastic pieces were consumed as well. There was evidence of vertebrates being consumed, and this was seen by bone shards found, as well as two different types of vertebrae. 100% of samples collected contained vegetative material, and seeds and insect parts were found in each species (Fig. 7). Mollusk and crayfish parts were found in red eared slider and western painted samples, worms were found in red eared sliders, and vertebrate parts were found in red eared sliders and common snappers (Fig. 7)

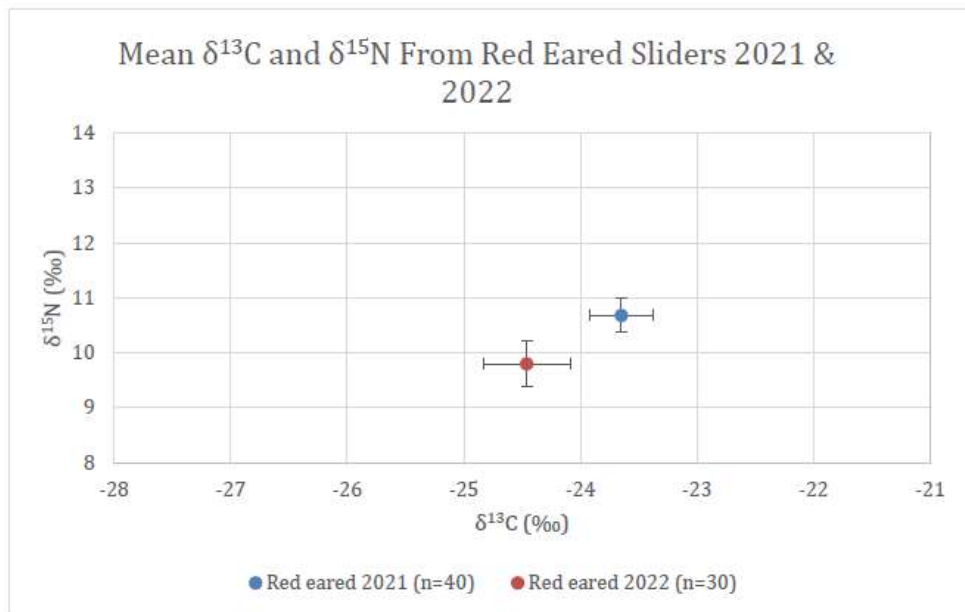


Fig. 6. Mean  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  from red eared sliders 2021 and 2022. 2 standard error bars used.

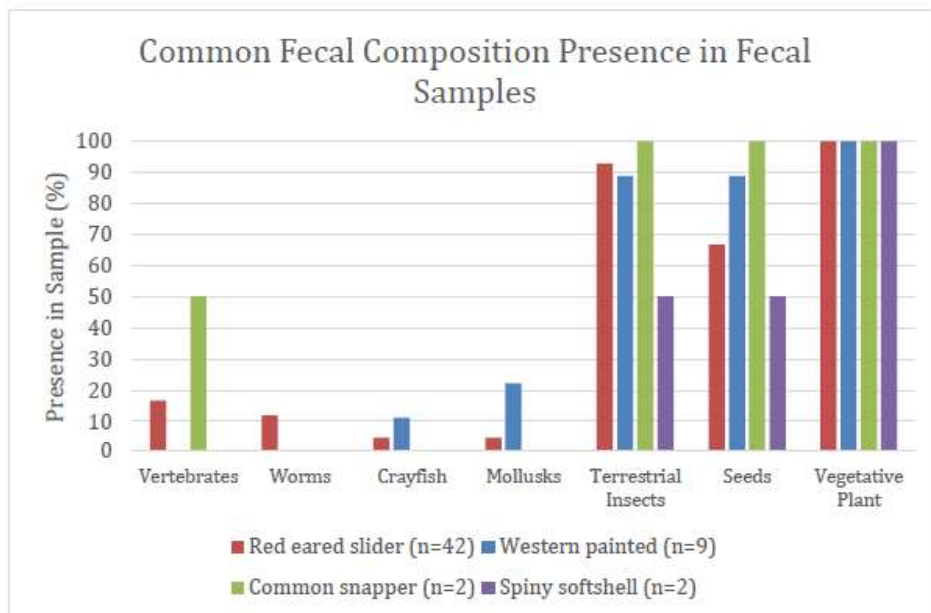


Fig. 7. Common fecal composition presence in fecal sample from 2022.

## Discussion

The nitrogen trends seen in 2021 did not remain the same in 2022, and there are a few possibilities for that. This could be a very dynamic community, meaning diets may change from year to year. It is also important to consider the smaller sample sizes some species had.

In both 2021 and 2022, there were low  $R^2$  values when comparing isotope values to mass, meaning there is no correlation between diet and size. It can be implied then that the large variance seen in our isotope analysis graphs is due to diet choice. There were a few species with very high  $R^2$  values, such as the spiny softshell in 2021 and the common snapper in 2022, but this was due to small sample sizes (2021 spiny softshell:  $n=3$ ; 2022 common snapper:  $n=2$ ), meaning nothing can be inferred from these graphs.

A statistically significant trophic shift was seen in the red eared sliders, with a decrease in trophic level from 2021 to 2022. We are unsure why this occurred, but the fact that these were adequate sample sizes is promising. More research is needed in the future.

In our fecal snapshot, spiny softshells stayed around the plant level, western painted and sliders were seen consistently eating mollusks and crayfish, while our snapper was seen consuming vertebrates. The only thing that doesn't necessarily make sense was the spiny softshell, as they are a carnivorous species (Ernst, et al., 1994). These results may be odd due to the small spiny softshell sample size, as well as the fact that fecal analysis is just a single snapshot into a meal.

The differing results between the years provide a base of knowledge for these turtle diets. Research will be continued through stable isotope analysis and fecal analysis in the summer of 2023 to continue to build on what is known. Catching more potential prey items for isotope analysis will aid in defining the food web of our environment.

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# **Reliable Transportation and its Effects on Supervision Success**

Savana M. Watkins

In the State of Missouri, those who are being supervised through probation and parole face a series of challenges that prevent them from being successful while serving their time. One of these many challenges is obtaining and maintaining reliable transportation to ensure the clients meet the supervision strategies set by a judge or the parole board. Specifically, with the Transition Center of Kansas City, a reentry program set forth by the Division of Probation and Parole, housed clients and provided resources while in the program. However, clients in this program leave with nothing in their name upon graduation. Providing these clients with the resources to obtain and maintain reliable transportation will make them more successful while supervised in our communities.

Through a diverse meta-analysis of reentry successes and failures across North America, the correlation between reliable transportation and offender success will become abundantly clear. With this dissection of recidivism rates, real-life offender stories, and reentry experimentation, the Transition Center of Kansas City and the readers will better understand the importance of client accountability, supervision success and how obtaining reliable transportation plays a significant role in both.

## **Cumulative Disadvantage and the Role of Transportation in Community Supervision**

In short, the cumulative disadvantage theory explains how an individual's life is shaped based on positive and adverse events. Ideally, the more advantages or positive events a person has, the more propelled they will be to be successful. Conversely, those with adverse events or disadvantages will face the opposite. Miriam Northcutt Bohmert and Alfred DeMaris, authors of *Cumulative Disadvantage and the Role of Transportation in Community Supervision*, explore the weaknesses of 362 women on probation or parole and how transportation plays a vital role in successful supervision.

The primary disadvantage that the authors identified for justice-involved women is that the lack of transportation forces these individuals to make difficult choices such as increased substance abuse issues, driving while suspended/revoked, or doing what they can to get around (Bohmert & DeMaris, 2017). In a 2011 study, experimentalists interviewed and re-interviewed a sample of 362 women on probation or parole convicted of a felony offense in Michigan (Bohmert & DeMaris, 2017). Using a Likert scale, participants answered questions regarding demographics and accessibility to reliable transportation.

Over 67% of women said they did not own or lease a car. Additionally, over 94% admitted that they did not have access to a licensed car or did not have a valid driver's license (Bohmert & DeMaris, 2017). Additionally, on a scale from one to nine, the average rating was 6.0 on proximity to amenities and 3.2 on safety in the neighborhood. Lastly, these women reported that almost 43% of participants have severe health issues preventing them from walking from place to place. Conclusively, the study found that "Transportation access is a significant predictor even when other common predictors of conviction are included in the model. However, transportation is not a significant predictor of the hazard of rearrests. This is the first study to examine the impact of transportation alongside other common recidivism predictors and find that transportation emerges as an important challenge among other cumulative disadvantages" (Bohmert & DeMaris, 2017).

### **Transportation Among Returning Citizens: "You Just Want to Stay Down and Get High."**

In a 2019 study, the authors of *Transportation Among Returning Citizens: "You Just Want to Stay Down and Get High"* explore the impact of transportation among returning citizens in the southern United States. Before the conduction of this experiment, writers Jaya B. Davis, Anne Nordberg, Stephen Mattingly, and Sarah R. Leat dissected incarceration and recidivism rates within North America. Within their initial research, they made supporting conclusions that solidified the importance of reliable transportation amongst those returning to civilization post-incarceration. After identifying that five out of six individuals were rearrested within nine years of their release and 40% returned within the first three years post-release, essayists determined that the "revolving door" is not only prominent in the criminal justice world but a disease (Davis et al., 2021). Additionally, they were able to conclude through the State Department of Corrections that "44% identified as non-Hispanic Black and 24% identified as Hispanic, while a third (32%) identified as non-Hispanic White" regarding the 83% of individuals that return to prison or jail (Davis et al., 2021).

In order to better understand the causation of recidivism rates within North America, an experiment was conducted in a southern metropolitan area that exceeded 8,500 square miles and is home to over 7.5 million people. To secure anonymity, the researchers hosted a job fair for those who were justice-involved and required participants to partake in a semi-structured interview.

Some interview questions included "How has transportation impacted your reentry?" "What are some barriers with transportation you are facing today?" "What does a typical day look like for you?" (Davis et al., 2021). On average, the 15 interviewees ranged from 26 to 63 years old. The majority were male (80%) and identified as African American (73%),

followed by White (23%) and bi-racial (7%). Additionally, 58% of participants had only been out in the community less than 90 days, while 60% were not employed at the time of the interview (Davis et al., 2021).

Conclusively, the authors constructed their findings into three general themes: Issues with Transportation Disadvantages, Transportation as an Extension of Freedom, and Transportation and Reentry Success (Davis et al., 2021). Within each grouping, the reader met with the different challenges that each participant faced through a collection of interview quotes and researcher input.

The first and longest theme discusses how problematic public transportation is for those returning to their communities. The misconception about local buses and trolleys is that owning a personal vehicle or relying on others is cheaper and more convenient. Nevertheless, according to the study, a single bus pass can cost \$6 a day, \$180 a month, or \$2,160 a year (Davis et al., 2021). Unfortunately, those released from custody do not have two nickels to rub together. The article then states, "In the state where these interviews took place, when released from prison, returning citizens receive \$50 and a bus ticket to their home county. They can collect an additional \$50 upon checking in with their parole officer" (Davis et al., 2021). This money does not account for any other necessity the released individual might need between then and finding a job.

The second theme of the text argues that unreliable transportation can lead to additional losses of freedom. These freedoms include the loss of a job, the inability to obtain a job, and the inability to obtain and maintain meaningful relationships. One of the interviews states, "I don't have, you know, a really reliable system, and some employers don't wanna hire you if you're on the bus and the train... That uh... Makes a difference. Between making \$9 and making maybe \$16 an hour" (Davis et al., 2021). That chapter also argues that unreliable transportation can affect mental health in a sense of self-confidence and motivation.

The third and final theme of this article contends that transportation disadvantages make navigating the barriers of this new community even more challenging (Davis et al., 2021). Granted, the authors acknowledge that transportation is not a fix-all for recidivism, but it could be the straw that breaks the camel's back regarding regaining independence. One out of the 15 participants were lucky enough to be paroled to a halfway house, where they were provided with transportation through the facility before transitioning back into the community.

### **Transportation Matters: Closing the Chasm Between Housing and Transportation to Foster Communities of Opportunity for All**

Anita M. Cozart, author of the *Journal of Affordable Housing & Community Development Law* of 2017, distinguishes a strong relationship between affordable housing and reliable transportation and its effects on



communal success. For a community to be successful with its residents, Cozart addressed the following topics that are still prominent today. First, we must treat people as equals rather than succumbing to our discriminatory past. Second, we must stop building houses quicker than we can fill them. Lastly, we must build transportation routes in appropriate areas, remaining cognizant that the housing market skyrockets with convenient and reliable transportation.

Correcting the barrier between housing and transportation includes three basic steps: affirmatively furthering the fair housing rule, data disaggregation, and connectivity measures. Ideally, the Affirmatively Furthering Fair Housing rule will “examine patterns of disinvestment, risk of displacement, and barriers to opportunity” (Cozart, 2017). On the other hand, data disaggregation can help identify infrastructure discrepancies, specifically ones that can help target investments to promote mobility and economic equality (Cozart, 2017). For example, exploring data can help a community apply the appropriate funds to the right areas (like housing and transportation) rather than assuming that a specific area needs improvement. Lastly, history has shown that the success of transportation is measured by how fast it can go or how quickly products can make it from point A to point B, rather than measuring its success on affordability or whether a person can make it from home to work and vice versa. By measuring the connectivity between these four components, a community could easily distinguish how reliable and successful transportation is.

### **The Reentry Labyrinth: The Anatomy of a Reentry Services Network**

In the sizeable military town of Fort Worth, researchers explore the effects of the Texas Reentry Service, otherwise known as TXRS, on the Texan ex-offender population. The experimenters of this study asked a series of questions to those who used Texas Reentry Services regarding how successful they have been in their transition back to the community. These questions included, “Can you tell us about your experience with the reentry process?” “Why did you decide to seek out TXRS services?” and “What has been the biggest challenge in the reentry process?” (Nhan et al., 2016). Unfortunately, the responses to these questions solidified the hindrance that is reliable transportation for those released from Texas institutions.

On average, 48% of those interviewed identified transportation as the most significant reentry barrier (Nhan et al., 2016). Additionally, 62% of clients recognized that public transportation was their means of movement, while 39% of clients had to rely on those working at the Reentry Services Program or from coworkers. Many participants disclosed that they were living in group homes or faith-based programs that only provide transportation to those who are indigent. These programs allow two free rides per quarter for non-indigents, yet have since realized that these clients need proper documentation to gain employment, or re-establish ties with their communities in that short amount of time.

## **Job Access and Employment Among Low-Skilled Autoless Workers in US Metropolitan Areas**

In the later months of 1968, the spatial mismatch theory, constructed and reinvented by John Meyer and John F. Kain, made headway in the seminal article “Housing Segregation, Negro Employment, and Metropolitan Decentralization.” The idea behind the spatial mismatch theory was to better explain the phenomenon of spatial relations between low-income housing and suitable job opportunities. In the reading *Job Access and Employment among Low-Skilled Autoless Workers in US Metropolitan Areas* by Mizuki Kawabata, the author further explains the spatial mismatch theory and its relation to those who have unreliable transportation and a lack of applicable skills. In the world of probation and parole, we often see people leave correctional facilities without applicable skills, let alone their vehicles.

The primary argument that Kawabata presents to the reader is that those who are low-skilled and without an automobile will face more tremendous hardships than those who have their means of reliable transportation and tremendous success regarding employment hours and pay. The text states, “Given the auto-oriented, spatially dispersed nature of urban development in the USA, autoless people may face a considerable obstacle in accessing job opportunities, and job accessibility may be much more important in obtaining a successful employment outcome for workers who do not own autos than for those who do,” (Kawabata, 2003). To further examine this discrepancy, Kawabata explores the spatial mismatch theory within Boston, San Francisco, and Los Angeles through empirical research on demographics, automobile availability, employment status, and number of hours worked if employed.

The summarization of data collected in Kawabata’s research concluded that it supports his hypothesis of a spatial mismatch relationship. For example, his study showed that out of the 7,810 participants in Boston, approximately 14% stated that they did not own a car or had access to reliable transportation. Additionally, 12% of Boston participants admitted being unemployed during this study. Conversely, San Francisco had 16,212 participants, while Los Angeles had 56,044. From San Francisco, 10% stated that they did not have a means of transportation, while 12% of Los Angeles residents stated the same. Between the two cities, 25% were listed as unemployed (Kawabata, 2003). This research did not specifically include those on supervision, but readers can deduce that the offender population could make up a lump sum of those unemployed and without transportation.

## **Missouri Communities: Enhancing Reentry Interventions in Tough Economic Times**

Well over two decades ago, in 2002, the State of Missouri was chosen as the first federation to apply the *Transition from Prison to Community Initiative* with hopes of building the bridge between recidivism and the community it affects. In the 2011 article, *Enhancing Reentry Interventions in Tough Economic Times* by Dan Hanneken and Carey Kaltenbach, readers explore the collaborative efforts of the Missouri Department of Corrections with the implementation of the Missouri Reentry Process and its effects on those criminally involved.

One of the first proactive movements that the State of Missouri made was partnering with state agencies, such as the Department of Revenue and the Department of Social Services. The article states, “The benefits are countless, from the Department of Revenue providing state identification cards and the Department of Health and Senior Services providing offender birth certificates prior to release to the Department of Mental Health providing offenders with a 30-day supply of medication upon release,” (Hanneken & Kaltenbach, 2010). In addition to state departmental cooperation, local regions oversaw reentry efforts through smaller MRP teams or Missouri Reentry Process teams. These teams comprise service providers, government officials, the faith-based community, and concerned citizens, including victims and offenders” (Hanneken & Kaltenbach, 2010).

Shortly after implementing the *Transition from Prison to Community Initiative*, Missouri launched an additional program to assist in funding the *Missouri Reentry Process*. In 2005, a passed law allowed collecting intervention fees from offenders on supervision through probation and parole. The idea of the *Community Reentry Funding Project* was to increase public safety by providing “basic needs (such as food, clothing, and hygiene), employment, housing, and transportation” (Hanneken & Kaltenbach, 2010). Of course, these funds were distributed proportionately throughout the entire state based on the needs of the demographic area. For example, the more populated areas would require additional funding for transportation rather than employment. On the other hand, more rural areas would require more assistance with housing and employment than transportation.

Unfortunately, despite the application of the *Missouri Reentry Process* and the *Community Reentry Funding Project*, there has been no documented follow-through on how these funds have assisted ex-offenders in obtaining and maintaining reliable transportation. The article summarizes the success of these programs through a three-round process, none of which includes transportation. Round one of distributed funds, a total of \$664,654 in April of 2009, increased employment rates, job readiness skills, fulfillment of basic needs, and improved access to vital documents (Hanneken & Kaltenbach, 2010). Round two, totaling \$3 million, funds were provided to

help in these areas. In July 2020, round three concluded with another \$3 million.

### **The Prison Doors Open and You're Released. You Have No Money or Transportation. Now What?**

Like many Departments of Corrections, Virginia is no different concerning releasing inmates from their state penitentiaries. Ideally, these individuals can reconnect with friends and family before departure, but what happens when no one can claim these ex-offenders? In the case of David Hudgens, this is a perfect example of how Virginia state felons fail due to the negligence of their residing state.

Hudgens, a career criminal, had finally decided to turn his life around after a two-decade history with law enforcement. Knowing that he had burned all prior bridges, the reformed inmate had nobody to call and not a single penny to his name. By the grace of God, Hudgens was able to secure a ride to the local shelter from a Good Samaritan, yet it was only a matter of time before his luck ran out.

In the article *The Prison Doors Open and You're Released. You Have No Money or Transportation. Now What*, the author, Nichole Flatlow, exposes the truth about offender reentry in northern Virginia through interviews and statistical dissection. One of the first points made by the author is the release conditions from when the offender exits the prison yard for the first time. From the moment they walk out of the gates, these individuals are "slapped in the face with the immediate urgency of navigating transportation, shelter, food, and other basic needs" (Flatlow, 2015). The OAR, or *Offender Aid and Restoration of Arlington*, dedicates its time and resources to helping those released from Virginia institutions. "OAR has found that transportation is one of a number of unmet needs for many recently released inmates, and they give MetroCards to individuals who participate in their counseling, training, and other programming" (Flatlow, 2015). However, the assistance of the *Offender Aid and Restoration of Arlington* becomes obsolete if we are unable to follow through with these individuals and show them how to maintain reliable transportation (i.e., how the bus routes work, where to go for a diverse license, how to ensure that the vehicle is compliant with state and federal laws). Additionally, no assistance can help those forced back into survival mode immediately after release.

### **Substance Abuse Treatment Gap Among Adult Parolees: Prevalence, Correlates, and Barriers**

Depending on the circumstances, there is a possibility that those released from prison on parole or those sentenced to serve on probation will be required to attend some substance abuse program. This requirement, set by a judge or a parole board, allows those with a history of substance abuse to obtain additional help within their community to abstain from the narcotics that could have led them into trouble in the first place. Nationally,

37% of the parole population served a sentence for a drug-related offense and are more likely to be returned to prison for a new drug-related charge or violation (Sung et al., 2011). To refrain from abusing these revolving doors, also known as recidivism, the allocation of substance abuse treatment programs to those on supervision is paramount.

In the article, *Substance Abuse Treatment Gap Among Adult Parolees: Prevalence, Correlates, and Barriers* by Hung-En Sung, Annette M. Mahoney, and Jeff Mellow, the authors describe the importance of this post-release necessity and the barriers ex-offenders have in completing their supervision stipulations. In a 2006 study, prisoners across federal and state institutions, parolees, and the general public answered questions related to their substance use habits, the accessibility to treatment, and an assortment of demographics. The experimentalists dissected the habits of parolees, where 32% of the test group admitted to using illicit drugs within the last 30 days. Additionally, 20% admitted being drug dependent, while only 30% attended substance abuse treatment. In comparison, 56% of the state prison inmates admitted to using illicit drugs within the last 30 days, 53% admitted to a drug problem, and 15% stated that they had attended counseling (Sung et al., 2011).

With transportation, these same participants answered why they could not attend substance abuse treatment within the last year - and the results will be surprising. The test group consisted of approximately 394,200 parolees identified as individuals with substance abuse treatment needs. Out of the group, 68.9%, or 271,600 parolees, stated that they did not attend drug counseling because they could not afford it or did not have health insurance. Additionally, less than 0.5% of ex-offenders stated that their health insurance did not cover substance abuse treatment. The most shocking statistic from this study was that 17.5% of individuals, or 69,000 parolees, did not attend substance abuse treatment because they had no means of reliable transportation (Sung et al., 2011).

In response to the above data, the authors conclude that many of those within the analysis opted to forgo treatment due to the accessibility or affordability of transportation (Sung et al., 2011). One of the many solutions that the authors suggest is for the supervising officers to assist in transporting the offender where they need to go. Additionally, they suggest that shuttle service or subsidized transportation tokens be provided to those who are socially disabled to promote the attendance of treatment programs (Sung et al., 2011). Lastly, and more reasonably, Sung, Mahoney, and Mellow make a subtle plea to create more virtual programs or satellite facilities to ensure the participation of those under supervision.

### **A Description of the Self-Identified Needs, Service Expenditures, and Social Outcomes of Participants of a Prisoner-Reentry Program**

Between March 7, 2007, and February 1, 2008, 122 Missouri offenders qualified for Project Reconnect upon serving their maximum sentence in the Missouri Department of Corrections. Through the Department of Human Services, these individuals volunteer to indulge in an 11-month study that provided them with \$3,000 and six months of “free” case management. Over these six months, experimenters hoped to answer the following questions. What were the self-identified needs of inmates returning to the community participating in the program? How did the Project Reconnect participants choose to spend their \$3,000? Lastly, what were clients' social outcomes (i.e., employment, housing, substance abuse) after program participation? (Morani, Wikoff, Linhorst, & Bratton, 2011).

Before being released from their Missouri institution, a pre-release perceived needs program survey was conducted amongst the 122 participants. Conclusively, 99.2% of participants, or 121 out of 122 inmates, expressed a dire need for reliable transportation post-release. The following categories included clothing and household items at 95.1%, food at 92.6%, and housing at 90.2% (Morani et al., 2011). On average, post-released clients spent \$1,575 of the initial \$3,000 on food. Additionally, \$569 was used on obtaining transportation (whether through public or private services) and \$1,300 on clothing and household items. Other clients utilized these funds on rent, utilities, identification, psychiatric services, and even mentorships. Obtaining employment ranked 8 out of 10 on necessity.

Overall, “when given the opportunity, many ex-offenders take advantage of services to help them transition more successfully into society, even when they are not required to participate in reentry programs as a condition of parole” (Morani et al., 2011). Consistently, these individuals identified items most commonly needed post-release with similar items in which they spent their program funds (Morani et al., 2011). It shows that those with a justice-involved background are more likely to use rehabilitative services if readily available. Employment and educational programs are also preferred by ex-offenders if offered.

### **Transportation after Incarceration: Where the Rubber Meets the Road for Sustainable Reentry**

As listed in the article *Transportation after Incarceration: Where the Rubber Meets the Road for Sustainable Reentry*, transportation challenges can be categorized into the “five A’s”: affordability, accessibility, applicability, availability, and awareness (Paley, 2021). Most of those released from prison are in jail and do not have any financial support. Additionally, there is a possibility that because of this person's charges, they cannot acquire a driver's license, let alone a whole vehicle under their name. In some instances, these ex-offenders do not have the means to obtain their birth certificate or social security card, limiting them on resources. Even if the person has the appropriate documentation, without the hindrance of their previous offenses, they may or may not be aware of the resources available.

Founded in 2013, the Anti-Recidivism Coalition banded together to help those involved in the criminal justice system, whether adults or juveniles, and provide them with the resources needed to have a successful, law-abiding life. The Californian-based program's mission was "to change lives and create safe, healthy communities by providing a support and advocacy network for and by formerly incarcerated men and women" (Paley, 2021). With this, the group created the Ride Home program, providing immediate and intensive reentry support for those released from California prisons or jails. Their collaboration with the Three Strikes Project at Stanford Law School allowed its members to pick up these ex-offenders straight out of the facility's gate and take them to an ARC-funded shelter, where they will stay until they can afford to live independently. Until then, facilitators of the Anti-Recidivism Coalition assist their new roommates with transportation and resources - all of which are individuals with backgrounds who have made a successful life for themselves.

With this inspiration, the state of Maryland, specifically Howard County, implemented a 10-person reentry team to assist their inmates with returning home after being released. These individuals are provided a 60-day bus pass that they are free to use wherever they need to go, called a Reentry ID (Paley, 2021). Additionally, after being released from the Howard County Detention Center, the reentry team follows through with their clients' success for up to five years. The article states, "So, anybody who needs help getting to probation and parole must call their reentry worker and say, 'Look, I am stuck. I cannot get to my probation appointment.' That's fine. We'll make it happen. We'll come get you" (Paley, 2021). With over 600,000 people returning to their communities after incarceration, the goal of the reentry team is to assist those from day one to ensure a smooth transition.

The Transition Center of Kansas City was established in early 2021. What was once a community release center and then a minimum-security prison, the newly entrenched facility provides adult men on probation and parole the opportunity to reestablish ties with their community. Its relationship with The Center of Conflict Resolution makes the TCKC program unique in the probation and parole world. This non-profit organization empowers individuals and organizations to resolve conflict with restorative practices through mediation and facilitation training. In addition to the implementation of restorative justice practices, participants of the Transition Center of Kansas City's program attend substance abuse treatment, anger management, financial literacy classes, decision-making assistance, and an array of vocational training.

For the solutions below to be even remotely plausible, we must begin with the client's accountability. As the program states, the Transition Center of Kansas City residents will reside within the facility for six to nine months. This assessment excludes terminations or those who relocated to

another facility. During this time, the residents endure four phases, two focused on obtaining and maintaining local employment. Even so, the clients are not responsible for paying rent, utilities, groceries, and means of transportation. Ideally, the money made from their jobs sits in their bank accounts until released to their home plans.

Step one of ensuring that the TCKC client base graduates with reliable transportation will happen 90 days pre-release or around the same time the client obtains their first job. At this point in their program, these individuals will have full-time employment with a minimum amount of bills to pay. Additionally, the residents will have taken financial literacy and acquired any legal documentation (birth certificate, social security card, and possibly driver's license). Their required bills could include \$30 monthly intervention fees, child support, and a phone statement. These residents average \$18 to \$25 an hour, working 40-60 hours weekly. Their weekly paychecks can total anywhere from \$700 to \$1,500 weekly. With that in mind, these residents must deposit a certain amount per paycheck to ensure they leave with at least \$5,000 before graduation. Ideally, these funds will be deposited with the internal probation and parole officer and held by the administrative business office. If not permitted, these clients could create a savings account that the IPOs will monitor.

Step two of this solution only applies to those with valid driver's licenses and legally permitted to drive. This solution will not include individuals who have had their license revoked, are currently suspended, or are not allowed to get behind the wheel of a vehicle. Studies have identified at least three local dealerships within the Kansas City metropolitan area that work with individuals with little to no credit history, those who have served a significant amount of time, or even those who are criminally involved, more than likely did not prioritize building their credit. With that, the dealership below offers those individuals an opportunity to obtain a reliable vehicle without questions.

The first and most favorable dealership found was King Cars at 405 Broadway Blvd, Kansas City, MO 64105. This organization provides financing and cash-only options, where vehicles range from \$3,000 to \$30,000. According to Carlton, the owner of King Cars, those who choose to finance their vehicle must make at least \$1,000 a month to qualify. Additionally, they must provide proof of insurance, proof of residency, and proof of employment. That said, TCKC residents can use their acceptance letter as proof of residency and would only have to work at their job for one paycheck to qualify for financing options. Carlton stated that he uses Westlake and United Auto Credit for those who choose to finance, and both institutions have a 95% approval rate. Around 60 days pre-release, TCKC staff should work with clients to view cars, obtain insurance, and get them financially ready to purchase.



For those who are not permitted to drive, for whatever reason may be, they will have the option to utilize public and private transportation. Of course, public transportation would include the bus system, but private transportation could include Lyft, Uber, zTrip, Iris, and a taxi service - which can cost an arm and a leg. To further explain, apps such as Uber, Lyft, and zTrip are ride-hailing apps that allow users to order transportation from their smartphones. If an individual uses the apps regularly, they qualify for specific discounts that make the ride cheaper. For example, Uber provides its users a \$6.99 membership that gives discounts on their services including trips, food delivery, and priority customer service (Uber, 2023). Additionally, Lyft created Lyft Pink, which allows riders to get exclusive discounts for just \$99 a year. These discounts include faster pickups, priority pickups, and even hassle-free cancellations (Lyft Blog, 2022).

Out of the many ridesharing services in the Kansas City area, one sticks out amongst the rest. Launched on March 15, 2023, Iris partnered with the Kansas City Area Transportation Authority and RideCo to provide its users with an affordable alternative to public transportation. By only costing \$3.00 a ride, users are picked up and dropped off within a quarter-mile radius of their destination (RideKC, 2023). Although Iris only covers Kansas City, North Kansas City, Gladstone, Riverside, and Liberty, they offer transportation to other Northland areas for just an additional dollar. Rather than most ridesharing apps, Iris allows its users to call for services or use their website rather than just using a mobile app. Additionally, Iris takes cash, card, or check for their rides. Conversely, Iris has hours of operation, 4:00 AM to 11:00 PM, seven days a week, while Lyft and Uber are a 24/7 service.

The final and third step of these solutions occurs 30 days pre-graduation from the Transition Center of Kansas City. Assuming things go according to plan, the client has saved enough money to purchase a vehicle or a membership through one of the many private transportation programs. Additionally, at this point in the program, the client would have obtained the necessary documentation and education to purchase a vehicle. They would have maintained the same job for the last 60 days and would be confident to schedule and prepare their rides wherever needed. If applicable, at this point, TCKC staff would take this individual to a dealership to purchase a car. They can house the car on state property and use it when needed if the car is legal. If the purchase of a vehicle is not necessary or not applicable, then the client would be responsible for their transportation through one of the many services listed above. Conclusively, the TCKC staff will no longer be responsible for the individual's transportation 30 days pre-release.

Fortunately for the Department of Corrections, implementing these proposed solutions will be financially supported by the clients invested in the program. The clients will be required to invest \$5,000 of their own

money into their means of transportation. Potentially leftover funds can help establish a home plan or other necessities. At a minimum, the client will only need three out of the five thousand dollars saved while residing at the Transition Center of Kansas City through King Cars. If push comes to shove, these individuals can finance a used vehicle through the same establishment while repurposing these funds for a down payment. Prior to purchasing their vehicle, the residents will already have proof of residency, proof of income, and proof of insurance.

For those using public and private services for transportation, these individuals will allocate their saved funds to obtaining and maintaining a membership through one of the ride-sharing programs. Ideally, the clients at TCKC will use the latter of the bunch, Iris, to save the most money. If the residents cannot walk the additional quarter-mile Iris provides, they must invest in Uber or Lyft. Uber, being the cheaper of the two, requires the rider to not only pay a base rate but they are also responsible for paying for the mileage and a percentage increase based on the business time during a given day (i.e., prices skyrocket when picked up during rush hour traffic) (Uber, 2023). On the other hand, Lyft includes the initial fare and local tolls or fees (Lyft Blog, 2022). Unfortunately, none of these prices include tipping the driver. Public and private transportation is a temporary band-aid for those who can eventually obtain employment in a more urban area where free transportation is accessible.

In a perfect world, those who reside on supervision are timely with officer appointments, show up to court, and adhere to the rules and regulations established by the courts or parole board. Realistically, they forget appointments and court dates, break rules and regulations, and the revolving door of recidivism spins endlessly. Even so, as servants of the Missouri Department of Corrections, we must provide these individuals with the necessary tools to succeed, whether they take them or not. Reliable transportation, for instance, is a perfect example of a success opportunity. However, like many other tools, it has its pros and cons. For the Transition Center of Kansas City, these components can break down into the controllable and uncontrollable, in and outside the facility.

This Kansas City transitional facility requires male probationers and parolees to attend developmental programming for six to nine months. During this time, these men on supervision obtain in-house jobs, take classes, work programs, make community careers, and eventually establish a home within Clay, Platte, or Jackson County. One of the cons with implementing the above transportation proposal is the possible extension of this prearrangement. Although these clients are required to pay the bare minimum while housed at TCKC, the average pay from their community employers can vary. With this, raising the \$5,000 pre-graduation can be unachievable, especially for those on disability or who have physical or mental limitations.

If the clients of the Transition Center of Kansas City can save the required amount of money within the 6 to 9-month timeframe, finding someone responsible for managing that money for the client is nearly impossible. As of August 2023, the West Bottom facility had two out of four internal probation and parole officers. These numbers do not include the two unit supervisors that do not have a caseload. Additionally, TCKC housed 65 clients out of 150 at the same time. Ideally, each IPO would have 37 clients on average and at max capacity. For them to be responsible for \$5,000 each, or \$185,000 at any given time, is unrealistic and unsafe. On the other hand, if these clients are held responsible for creating a savings account with whatever banking institution, TCKC runs the risk of these individuals spending their savings and ultimately withholding their success within the program.

Once the client graduates from the Transition Center of Kansas City and is released back into the community, the staff has little to no control over that individual's success. Past program participants can face additional challenges even with implementing the transportation proposal. For example, even if the client purchases a car from one of the community patterns that assist those with little to no credit, there is no guarantee that the car will last a week off the lot. Additionally, there is no guarantee that the client will maintain the vehicle as expected, tarnishing the longevity of its use. Those who can finance a vehicle rather than pay outright with cash face the possibility of missing monthly payments. Consequently, the vehicle might get impounded, further damaging the individual's credit.

One might even argue that the more mobile these individuals are, the more likely they are to commit additional crimes in other locations. Unfortunately, this thought process is tied to every type of transportation available, whether it be the person's car, private or public transportation. Realistically, if an individual wants to commit a crime, they will, regardless of if they have transportation. In addition to this poisonous perspective, there is always the possibility that these clients could make a decent wage, have reliable transportation, and even a good head on their shoulders, and still decide not to comply with the laws set by the courts or the parole board. In that case, their success is entirely in their own hands.

Accessible and reliable transportation is not the catchall solution for recidivism. As seen above, having the means to get from point A to point B could open up endless opportunities for criminally involved individuals to re-offend. Even if the client has no intentions of committing additional crimes within the community they are released to, the possibility of failure still lingers over those who choose not to take control of their own lives. Even so, while these men and women are under the direct care of the Department of Corrections, they should ensure that the necessary tools for success are provided and demonstrated in their use.

Regarding accessible transportation and its effects on supervision success, it is conclusively clear that there is a distinct correlation between the two. Granted, as pointed out above, even though the funds are available and reliable transportation is attainable, the client on probation or parole will still need to be successful. By holding the Transition Center of Kansas City's client accountable for this income, staff can ensure maximum potential outcomes post-release. These outcomes can include the purchase of a vehicle or the maintenance of a private transportation company such as Uber or Lyft. Ideally, with their hard-earned money in hand, they are less likely to spin the revolving doors of recidivism.

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## No More Homework?

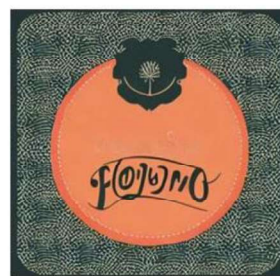
Luther R. Morales

We as a society have encountered a new predicament within the classroom and workplace. It's a situation that many people five years ago would have never imagined being such a controversy: the advancements of Artificial Intelligence. Some experts, such as Steven Marche, believe that the introduction of this technology has the potential to be a detriment to the future of learning. As Marches states in his article *The College Essay is Dead*, "[n]either the engineers building the linguistic tech nor the educators who will encounter the resulting language are prepared for the fallout." But others, including myself, are optimistic about the positive potential of AI technology for students and educators. Some people think that the introduction of AI will result in homework becoming obsolete or employers replacing workers with artificial intelligence. But, instead of turning down the idea of implementing AI out of fear, we should start considering different ways artificial intelligence could assist us for the innovation of all industries. However, let's look at how AI is rapidly transforming one field: the field of fine arts.

I recently heard some news that someone received an award for an AI-generated art piece. As reporter Kevin Roose explained, an artist's piece, "*Théâtre D'opéra Spatial*, took home the blue ribbon in the fair's contest for emerging digital artists." Artist Jason Allen received an award for displaying an art piece created with an AI image generator. As an art student I'll have to admit I was a bit concerned but after viewing Allen's piece, my concern evolved into curiosity. Allen's work inspired me to play around with a couple different AI image generators such as DeepAI and Craiyon. After doing so, I really don't believe I will be replacing artists anytime soon. Practically all of the images that both programs created were very strangely blended images, somewhat looking as if a Salvador Dalí painting began to melt and all the paint mixed together. Some of the results I received were outright disturbing such as this image that was generated after I input the following prompt into DeepAI's image generator: "family enjoying dinner." On the contrary, I found a few of the generated images a bit comedic, like when I asked it to generate a picture of a "deer hunter holding rifle[.]"



Although the pictures were rather messy in appearance, I could see so much potential in terms of inspiration. And, as a graphic design major, I've had first-hand experience with the use of AI to inspire human artistry. One of the recent projects I have been assigned in my graphic design class is to design a thirty-two-page magazine and one of the first things in this process is to come up with eighty different sketches for the magazine logo. Coming up with eighty different sketches isn't always the easiest task; conveniently, one of the recently added features to the DeepAI image generator is a logo generator. Knowing that students having AI do their homework is a hot topic right now, I decided to experiment with how concerned design teachers should be. My magazine's genre is plants/gardening, so I started by opening the logo generator and typing various prompts such as, "text based plant logo" and "text base tree logo" and the results were definitely interesting. The following three images (in order from left to right) are what DeepAI's logo generator created when I had asked it to make a "flower text based logo[,] a "tree text based logo[,] and a "floral text based logo[.]"



Every single image that was generated was a misspelled amalgamation of things but some of them actually contained these beautiful ornate shapes. I was then inspired to incorporate similar intricate shapes into a few of my own, human generated, logo sketches. I could even see the potential of the "floral based logo" being used as a logo for an orange juice company, after a bit of touching up, of course.

Another way I personally have used an AI image generator to my advantage is when I was tasked with image creation of products. During my graphic design internship, one of my assignments was to create images of various pallets of 5-gallon buckets. It was hard to find an existing photo of a pallet of 5-gallon buckets, so I asked Adobe Firefly to generate one for me.



Reference photo I generated using Adobe Firefly.



Image I created for my internship using the AI generated reference photo.



Art students aren't the only major that could benefit from AI assistance. Numerous other fields may see a benefit from using these programs as tools. The writing field would be one of these examples, as there have been benefits documented from using artificial intelligence as a tool. When regarding AI being used to help writers, a student from the *University of Mississippi's Department of Writing and Rhetoric* said "broader perspective about what details [they] should write about[.]" as reported in the online article *Guest Post: AI Will Augment, Not Replace* by Marc Watkins, and it's not only students that realize the potential of using such tools.

The director of the *AI Summer Institute for Teachers of Writing at the University of Mississippi*, Marc Watkins is one of the experts that has helped create and develop one of these writing tools they call the counter Counterargument Generator. Watkins briefly suggests this in the previously mentioned article that he wrote, *Guest Post: AI Will Augment, Not Replace* when he writes "[o]ur group worked with Fermat to develop tools using GPT-3. One example is a counterargument generator." Many people are seeing the good that AI has to offer but there are still many critics of this developing technology.

Teachers all around the country have latched onto the idea that giving out homework and assigning essays has now become utterly pointless due to the development of language generators. A prime example of this would be Daniel Herman, a high school teacher and author of the article *ChatGPT Will End High-School English*, wherein he wrote "[t]he arrival of OpenAI's ChatGPT... may signal the end of writing assignments altogether—and maybe even the end of writing as a gatekeeper, a metric for intelligence, a teachable skill." Perhaps if assigning this work is now becoming pointless, it is clearly time to update the curriculum that is being taught. If the assignment can be done with just the click of a button, was the assignment challenging the student's thinking process and learning ability? For some time, there has been a disconnect between the students and the material they are being taught, as reported by college writing professor and author John Warner, in his article, *ChatGPT Can't Kill Anything Worth Preserving*. Warner explains "I experienced in trying to teach writing to first-year college students over the years, and finding them increasingly disoriented by what I was asking them to do, as though there was no continuity between what they'd experienced prior to college, and what was expected of them in college." Educators that have a more pessimistic mindset about the introduction of large language models may benefit from being more open to suggestions.

One way John Warner, college writing teacher for seventeen years, has been dealing with the disconnect between students and their learning is, moving away from the traditional style of grading work. Rather than grading students in the traditional black and white fashion, Warner's grading system is based on the learning experiences displayed by the

student. In his previously mentioned article, *ChatGPT Can't Kill Anything Worth Preserving*, Warner briefly describes his alternative grading process, "I ask students to describe how and why they did certain things. I collect the work product that precedes the final document." Students benefit more from positive engagement with their educators rather than being assigned trivial homework that provides zero challenge. Art and writing are only a couple of subjects that have seen potential benefits from the advancements in artificial intelligence.

Artificial intelligence isn't only impacting the world of academia as it's also making advancements within the business world. By analyzing certain data, AI is able to recommend various products to consumers. This process is explained by Kirk W. McLaren, CEO of Foresight CFO, a financial management company. In his online article, *The Rise of AI (Artificial Intelligence) in the Workplace*, he states "an AI-powered algorithm can analyze customer behavior and provide personalized recommendations for products or services that they may be interested in." Indicating that experts in many different fields are identifying positive outcomes provided by the implementation of artificial intelligence. Another benefit of AI that has been positively impacting businesses is the fact that AI image generators can be used to replace the need to purchase basic stock photos. Earlier this year on November 15, 2023, I was lucky enough to get a tour of Willoughby Design, which is a graphic design firm owned by renowned graphic designer, Ann Willoughby. During this tour one of the senior designers, Jenna Schwartze, informed me that they have recently been using AI generated images within their presentations instead of purchased stock images. This has resulted in a lot of money saved as purchasing many stock images adds up quickly. I know that this may seem like they're replacing the jobs of photographers, however, the design firm still outsources to photographers for personalized and specialized images.

With the advancement of technologies and the development of large language models such as ChatGPT3 and image/art generators like DeepAI, the future of learning and business is unclear. ChatGPT was developed less than a year ago, yet there are already experts believing that education as we know it today is over. Why condemn artificial intelligence, when there is plenty of evidence that shows there are many benefits to implementing AI as a tool? Before you choose to have a pessimistic point of view on artificial intelligence, I would like you to ask the following few questions: Have you personally used any AI software? If so, how was the experience? Finally, is there a positive way that these softwares may be implemented into the work you do? There are many different problems that affect many different people and solving these problems has become just slightly easier with the introduction of artificial intelligence. What is the justification for denouncing this technology when it is only in its early stages of displaying its true potential?

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# The Growing Concern of Artificial Intelligence in Writing and Academia

Lee Windsor Jelinek

The rapid advancement of artificial intelligence [AI], particularly large language models [LLMs] such as ChatGPT, is fundamentally altering the way in which we approach and review professional research and academic writing. Educational advances have always gone in parallel with technological advances (García-Martínez et al.). Unfortunately, as noted by Májovský et al. “With every new technology, there are benefits that come hand in hand for the potential for misuse” (Májovský et al.). During the creation of this essay, the US President Biden enacted an executive order to address concerns that the rapid advancement of AI technology has presented to the US Government (Lima and Zakrzewski). The advancement and use of AI is inevitable. Society would be better served by embracing its use along with establishing standardized guidelines for its use.

In order to understand the issues related to AI, it is necessary to have an understanding of how they function. AI is defined as “the use of computer systems to simulate human thought.” (Esplugas 819). Many modern AI are Large Language Models which process vast amounts of data, generating innovative ideas and even scholarly manuscripts (Bell). One of the most prolific LLMs is ChatGPT wherein GPT stands for “generative pre-trained transformer” (Esplugas 819). The latest version at the time of this essay, GPT-3, is the largest ever deep learning neural network (Esplugas 819).

There are tangible benefits in using AI in professional and academic writing. AI can help promote inclusivity by addressing and assisting authors with language barriers and providing accurate translations for a wider audience (Bell). AI can also accelerate writing time by improving time consuming processes such as error detection and correction, grammar and style improvements, citation accuracy, proofreading and flow, formatting, and plagiarism detection (Esplugas 820). This in turn improves writing efficiency and allows for more focus on data analysis. In his essay, Perkins opined that “LLMs should be considered as another potential tool for reducing the cognitive demands required by a task,” (Perkins). This is particularly true in the case of research. AI can aid researchers by performing data management and analysis as well as creating simulations and testing (Esplugas 820).

AI can also be used as a tool to improve the process of teaching and learning. AIs have a great advantage in their “flexibility to adapt educational programs to the rhythms and circumstances of each student” (García-Martínez et al. 188). Automated paraphrasing tools use machine translation

to transform one text to another. This technology has been in use since the 1980's and more primitive versions checked basic writing components such as spelling, grammar, and style of writing (Perkins). This can be of particular benefit when used to improve the writing of students who speak and write English as their foreign language (Perkins). Educators can also use this technology to enhance oral communication by creating visually appealing presentations which help improve audience engagement (Esplugas 820). This in turn has the potential to enhance precision of material presented and create an emotional connection between students and educators.

For their many advantages, AI technology has several limitations. Because of the way they learn, LLMs require pre-training before they can be used. This means that they may not be able to answer questions about very recent events (Perkins). The databases on which LLMs are trained often include text based upon falsehoods and other untruths and their reliance on data compressions often result in estimations and compilations (Bell). This may cause the AI to inadvertently perpetuate biases or mirror skewed representations of topics or populations.

ChatGPT in particular has many risks if used improperly. The AI has vast amounts of personal information yet is only accessible by the privileged and relatively wealthy. Because of its lack of human emotion, there is no self-policing done by the AI to ensure it is being used responsibly (Esplugas 820). As Perkins notes, "LLMs always provide an answer, even if it is factually inaccurate or misrepresented" (Perkins).

In his study of ChatGPT and plagiarism, Khalifa notes that of the 200 most recent abstracts on Alzheimer's disease pulled from the Scopus database, 79.2% of the abstracts showed as being created by AI by ZeroGPT, an AI detector. An additional 100 abstracts, published between 2003 and 2013 before the proliferation of AI, all showed AI usage of some degree. But in a final test of the accuracy of AI detection software, Khalifa tested a series of his own abstracts through various AI detection programs including ZeroGPT. With complete certainty that there was no AI use whatsoever in any of the abstracts, all the AI detectors returned positive results for AI use. Khalifa points out that AI models cannot be acknowledged or cited as authors in the scientific community as they cannot be held accountable for their writing (Khalifa 292).

In his paper, Májovský said "[a]ny AI-based tool to detect AI generated text will inevitably fail because one can always train the next language model on the outputs of such a tool" (Májovský et al.). AI detection software will always be reactive or playing catch up to the AIs themselves. The inconsistency of results from AI detection showcases the inadequacy of current methods for accurately detecting AI generated scientific abstracts. Neither humans nor AI detection tools can reliably identify text generated by AI (Khalifa 292).

It can be argued that LLMs do not allow scientists and students to cheat. Fraud has existed far longer than any AI system. But LLMs do allow scientists and students to create fraudulent work more easily (Májovský). As Esplugas points out, “we do not compete with any AI; we compete with any human who is already using AI and knows how to use it properly” (Esplugas 821).

Institutions would be better served by adapting policies of acceptance with guidelines when it comes to AI use and cheating. AI can be used positively both in research and the classroom. According to a 2019 UNESCO report, there are three areas educators should focus on when integrating AI use into the classroom: (1) learning with AI in the classroom, (2) learning about AI with techniques and technologies, and (3) preparing for AI by enabling all parties to understand its impact on humans (García-Martínez et al. 172).

AI has the potential to address some challenges in education. Its innovative methods can improve the teaching and learning process (García-Martínez 172). However, AI usage should be encouraged with guidelines in place. This understanding and implementation will begin to alleviate stigma and misunderstanding of AI capabilities. Honest discussions about ChatGPT and AI in general may be more effective than integrity models and outdated student and professional honor codes (Newell). García-Martínez and coauthors identified in their research, “that the different EAI modalities not only affect the quantity of what students learn, but also lead to higher levels of motivation” (García-Martínez et al. 188).

The implementation of AI into learning models and the prevention of AI being used to cheat can go hand in hand. According to Oravec, “[d]etection of cheating in student evaluation contexts has often been identified as one of the ongoing issues in academia.” She goes on to point out how the current digital divide puts the impetus on the student to prove they did not cheat as opposed to the accuser proving they did. This is essentially a system of “guilty until proven innocent” (Oravec).

This Catch-22 can be avoided by ensuring educators are properly conveying information and checking for understanding. Active learning and feedback alleviate confusion immediately and does not promote use of AI. This works well coupled with interactive oral assessments wherein students demonstrate knowledge of a subject in a conversational setting. This completely negates any AI usage by demonstrating knowledge in real time (Newell). Methods to detect and prevent cheating advance almost as quickly as AI technology and can be useful in certain instances. Keystroke cadence counters determine if the same person is typing; this is a form of what is known as AI proctoring where a student is observed both physically by a human proctor and also by a computer program. This new form of cheating prevention can also include stress level indicator monitoring, like those used in polygraph testing (Oravec).

The scientific community as a whole is under pressure to overhaul its peer review and publishing process. Some of the methods suggested to do this and help alleviate any doubt or concern regarding possible AI generated research were presented by Májovský. He suggests that all subject data be captured by researchers and presented as an anonymous supplemental addendum to published works. Májovský also advocates a meticulous review process. This can be supplemented by educating reviewers on the process of review itself and establishing a reviewer ranking or grading system. This system should be transparent and applied unilaterally (Májovský).

Ethical regulation should also be applied at the level of publishers of scientific and academic works. Strict ethical guidelines at the level of academic institutions should be strictly enforced. Institutions should implement harsh penalties such as loss of accreditations and funding for misconduct to help ensure that institutions are self-censoring (Perkins).

Understanding is necessary to shift the perception of artificial intelligence. AI is not the impending downfall of higher education and the scientific peer review process, nor is it a harbinger of the coming of our machine overlords. AI is a tool, and like all tools it can be useful when used correctly and dangerous when used incorrectly. Education of the functions of AI, to include its advantages, limitations, and proper methods of implementation will go a long way toward easing the stigma regarding its use.

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## Author Biographies

**Annastasia Bair** is set to graduate in May 2024 with a BS in biology and a minor in chemistry. She is interested in ecology and is planning on continuing her education through a biology master's program. She conducted research and wrote her Honors Academy project paper under the mentorship of Dr. Jeff Kimmons. Annastasia would like to thank Dr. Kimmons for his assistance and support throughout her project, and for giving her the opportunity to learn new skills in both the field and in the lab. She would also like to extend her gratitude to the other professors in the Natural Science department for their encouragement throughout her research experience.

**Isabella Clark** is pursuing a BA in English and a BA in psychology along with a minor in Spanish. She hopes to explore the world and someday fulfill her dream of teaching English abroad. She wrote her essay for the EN204: *Writing for Online Environments* taught by Dr. Stephen David Grover. She would like to thank Dr. Grover for his encouragement and support in both writing for online environments and in her journey to an English degree!

**Cody Evans** is currently an undergrad studying history until he can finish his masters. After experiencing a Study Abroad in France last semester, it only strengthened his longstanding decision to be a professor of Medieval and Renaissance history, hopefully teaching abroad by the late 2020's. His favorite course so far while studying at Park University has been HIS200: *The History of Military Thought* due to learning about 20 different military theorists spanning both time and diverse cultures. While he is not busy studying or working at his local school district, Cody spends his free time reading a variety of genres, writing fantasy or alternate history, playing historical and strategy games, and going on walks. A doctorate awaits him sometime in the future, but Cody wants to get a decade or two of professoring under his belt before possibly moving towards research. He wants to thank Dr. Westcott for pushing him to write the paper within this journal and for being an excellent teacher.

**Lillian Floyd** is graduating in May 2024 with a BA in English and a minor in human resources. She aspires to enter the field of human resources or office administration. She wrote her essay as her senior English capstone project. Lillian would like to thank Dr. Stacey Kikendall and Dr. Amy Mecklenburg-Faenger for their educational and supportive mentorship throughout the writing process.

**Rebecca Foree** is due to graduate with her BS in social psychology from Park University in August 2024. In addition to her academic studies, she has studied yoga and meditation abroad in New Zealand and India, spending nearly two years living, working and learning in spiritual communities. Her work as an English as a second language teacher has given her the

opportunity to engage with people of many different cultures and inspired her interest in social psychology. She believes that an understanding of social psychology can improve individuals' quality of life and hopes to utilize her knowledge of social psychological principles to help others both in their personal lives as a yoga and meditation teacher and in their professional lives as a human resources professional.

**Max Hall** is a prior English and professional writing major at Park University. He hopes to finish his BA and then study English at the graduate level. He wrote this paper for EN318: *Dreams and Identities: American Literature from 1865 to Today* taught by Professor Glen Lester. He would like to thank Professor Lester for introducing him to many great works of American Literature, encouraging him throughout the essay writing process, and for motivating him to submit this paper to The Navigator.

**Lee Windsor Jelinek** is pursuing a BS in nursing. Afterwards, he plans on applying for APRN degree programs. He wrote this paper for EN106: First Year Writing II: Academic Research and Writing, taught by Professor Steven Epley. Lee is the current Treasurer for the Park University Pre-Health club. He also volunteers for the Kansas City Medical Reserve Corps. Lee Windsor Jelinek, a 16-year Army Veteran who served in Iraq, can most often be found at a baseball game, panting while pedaling a bike up a hill, or on a golf course chasing a white ball around.

**Abigail “Abbey” Kerr** is a first-generation student in her fourth year at Park University, earning her dual BS in mathematics and chemistry. She will be attending graduate school in Fall 2024 and aspires to obtain a PhD in computational chemistry. In Summer 2022, Abbey participated in the National Science Foundation Research Experience for Undergraduates at Arizona State University for Sustainable Chemistry and Catalysis. She currently researches with Mr. Jim Weigand for the preparation and understanding of separatory analytical instruments for academic use. Additionally, she is researching with Dr. Alexander Silvius, using computational physics for radiation therapy by simulating the absorption of ionizing radiation within a voxel phantom. Abbey wrote her term paper for History of Chemistry, instructed by Dr. Gregory Claycomb. She would like to extend her gratitude for his assistance in revising her work as well as his immense support and mentorship toward achieving her undergraduate degree.

**Kelly A. Lillard** is pursuing a BS in interdisciplinary studies with minors in logistics and healthcare. As a disabled Air Force Veteran, she hopes that this degree will help open doors with life after the military. She wrote her paper for IDS410: *Advanced Interdisciplinary Studies*, taught by Dr. Joshua Mugg. Kelly would like to thank Dr. Mugg for his guidance, encouragement, and constructive criticism throughout the course.

**Luther R. Morales** is a senior and is pursuing a BFA in graphic design. He started at Missouri Western and transferred to Park University in the fall of 2021. He has a passion for hunting, fishing, and illustration. He is currently employed as a graphic design intern at a manufacturing company based out of Kansas City. After graduation, he would like to be a designer in the outdoors industry and inspire others with his work. Luther wrote his essay “No More Homework?” on the possible effects of using artificial intelligence in the classroom and workplace. He would also like to thank former professor Jeff Smith and current professor Merrick Henry for pushing him to become a better designer.

**Nicholas A. Painter** is pursuing a BS in interdisciplinary studies. He is pursuing creative writing in his own time and hopes to publish a fantasy novel one day. His paper “Forged from the Familiar” was written as a capstone project for an Advanced Interdisciplinary Studies class taught by Dr. Joshua Mugg. He would like to thank Dr. Mugg for his insight and encouragement. Nicholas hopes that this paper can be useful to anyone seeking to build their fantasy worlds and can inspire others to create the way others have inspired him as well as provide insight on how to integrate real world influences into the creation of life-like fantasy worlds.

**Cheri Regis** is a senior currently in her second year pursuing a BFA in fine art and a BSBA in digital marketing. Her dual degrees not only represent her newfound goals and visions, but they also represent her lifetime commitments and passions of art and business. Since taking business courses in spring 2023, Cheri found that these courses and the Plaster Center as a whole ignited and heightened her adopted passion for business and professionalism and played a primary influence in her artistic practice and ambitious entrepreneurial spirit. In November 2023, Cheri was inducted as a new member of Park University's chapter of the National Society of Leadership and Success, which has contributed greatly to her newfound pursuit of leadership, success, and professional development. After graduation, Cheri intends to continue her education by pursuing an M.B.A to further equip and establish herself as an emerging entrepreneur and founder. Cheri wrote the essay "Henry Moore: Modern Surrealist Abstraction" for Modern Art taught by Professor Angelia Wilson and would like to extend her heartfelt gratitude to Professor Wilson for introducing her to modern art, its innovations, and how traditional rules and views about modern art are always meant to be challenged.

**Savana M. Watkins** is a probation & parole officer for the state of Missouri. She graduated Magna Cum Laude in December 2023 with a BA in criminal justice and a minor in psychology. As of January 2024, she began her MPA at Park University, focusing on her role as a criminal justice public administrator. In her endeavor to become a forensic psychologist, Savana plans on obtaining an additional BA in psychology with Park. Savana wrote “Reliable Transportation and its Effects on Supervision Success” to expose

the several challenges those with criminal backgrounds face - including transportation accessibility. She would like to thank Professor Eugene Matthews & Professor Greg Plumb for their encouragement and ability to show her a world of new opportunities in the criminal justice system. She would also like to thank her husband, Charles Watkins, and her mother, Staci Herring, for their continuous love and support throughout her college career.

**Joshua J. Wood** holds a BS in military history from Park University, as well as an AAS in intelligence operations from Cochise College. As a veteran, he finds meaning in serving his community by working with volunteer organizations such as Big Brothers Big Sisters of KC since 2019, as well as PPGP and its partner organizations starting in 2022. During his final year of school at Park University, he wrote the paper 'From Traitors to Heroes: Examining the Motivations and Consequences of the American Revolution,' which has served as the basis for studying changing attitudes towards treason and its punishments. It is hoped that this paper will also contribute to future writing projects currently under research.

## The Navigator

*The Navigator* is a scholarly journal intended to highlight the best and brightest work from Park University undergraduate students. Work is accepted across the disciplines from any undergraduate course.

Students are encouraged to submit research projects, essays, and other scholarly work. Faculty may also nominate student work. An email will be sent to the student notifying them of the nomination and requesting their consent.

### Submission Requirements:

- We accept submissions from currently enrolled Park University undergraduate students.
- Submissions must have been completed during the student's undergraduate career at Park University.
- Submissions must be publishable in both print and online formats.
- Images, tables, and graphs are accepted and encouraged as long as they can be reproduced in print and online.
- Submissions should be in compliance with Park's academic honor code.
- While creative spins on academic writing are accepted, pure creative writing (poems, short stories, etc.) is more suitable for Park's literary journal the *Scribe*.

### How to Submit:

- You may submit your work as a Word document on the website [thenav.org](http://thenav.org).
- Be prepared to include the following:
  - Your full name
  - Park Student ID number
  - Title of your piece
  - The semester/term, course, and instructor the piece was written for
  - A short description of the assignment the piece was written for

### Submission Deadline:

All submissions must be received by December 31, 2024 to be considered for *The Navigator's* fifth volume. However, we do accept submissions on a rolling basis. All submissions received after December 31, 2024, will be considered for the following volume.

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All questions and submissions should be sent to [navigator@park.edu](mailto:navigator@park.edu).