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The Colorado Historian

AN UNDERGRADUATE JOURNAL

History Club/Phi Alpha Theta and Department of History

University of Colorado at Boulder

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Department of History
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Letter from the Editor

We are pleased to re-introduce *The Colorado Historian* after a three-year hiatus. The journal is a collection of essays from University of Colorado undergraduate students who are either history majors or have written for a history course at CU. Currently, our journal is in its formative stage. It is our hope that as the journal continues to grow it will encourage students to engage in undergraduate original research, as well as in the process of writing history, to more deeply develop their critical thinking skills. We believe that engaging in research and learning about the field of history beyond the facts and figures found in textbooks is crucial to developing the individual scholar. We also believe such engagement gives the student the opportunity to begin to participate in the larger community of scholars. This journal represents some of the work undergraduate history students are presently pursuing, and we are pleased to have the opportunity to display the work of these students in this re-inaugural publication of *The Colorado Historian*.

We would like to extend our appreciation to the History Department at the University of Colorado. We have an incredible faculty who are committed to helping our students become future scholars and successful community members. We offer a special thanks to our faculty advisor, Professor William Wei, for his enthusiastic support for and faithful guidance of our project. We would also like to thank Patrick Tally, our tireless undergraduate history department advisor, for his willingness to assist us in communicating with the history students and faculty. Our copy-editor Daniel Long helped to polish the final product. Finally, we would like to thank the students who took the time to submit and revise their work. Without them this project would not have been possible.

This journal is a labor of love envisioned by a dedicated group of students with a passion for not only history but also for the promotion of academic scholarship. We are excited for the current state of and future possibilities for scholarship at the University of Colorado, and we hope you enjoy this publication.

Sincerely,

Kelsea Kenzy,

Editor-in-Chief

Disclaimer

The Colorado Historian is an undergraduate academic journal written and edited by students with only minimal supervision of a faculty sponsor. The publication process begins by encouraging students both within and outside the Department of History to submit their work. Once the submissions are received, an objective and anonymous evaluation process begins. Submissions are evaluated on quality of analysis, clarity of organization, use of sources, and writing mechanics and style.

CU History Club/Phi Alpha Theta, the Department of History, and the editors of this volume assume no responsibility for the factual content of the published articles or the opinions of their contributors.

The Colorado Historian would like to thank all of the students who submitted their work for consideration.

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Slaves, Sugar, and Gold:
The Causes and Effects of Fifteenth-Century Portuguese Expansion

Allison Catalano

In 1415, Prince Henry of Portugal led a crusade against the city of Ceuta on the African side of the Strait of Gibraltar. The fifteenth-century author and explorer Gomes Eanes de Zurara wrote that the crusade was originally planned so that the sons of King Joao I of Portugal could be knighted in a crusade rather than in a tournament.[1] The conquering of the city, however, had a much more remarkable impact on the following century: in fact, historians now mark it as the beginning of both the Age of Discovery and the Portuguese Empire. While expanding their territory into Africa, the Portuguese expanded their economy by trading gold, slaves, and sugar from their newly-acquired colonies to the rest of Europe. Even as the religious, crusading aspect of the early discovery movement waned at the beginning of the sixteenth century, the desire for gold, wealth, and power remained. Discovery and economic expansion continued to be intertwined through the course of the Portuguese empire. The Portuguese started the century as a poor nation, devastated by war and plague, and ended it with one of the greatest feats in exploration by circumnavigating Africa. Portuguese mariners effectively began the worldwide colonization movements and African slave trade while transforming their state into a thriving cultural, economic, and intellectual nation.

Ceuta was an important port for Morocco; it was a center of commerce between Africa and Europe because of its strategic position in the Mediterranean. It was a regular target for pirates and crusaders partly because it was seen as a direct threat to the Christians in the Iberian Peninsula and also because it was a wealthy city with ties to the mysterious African gold coast. Ceuta was tantalizingly close to Iberia, and during the course of the Middle Ages, Christendom laid siege to the city multiple times. Genoese and Catalan merchants unsuccessfully attempted to stretch into Morocco as early as the twelfth century.[2] The Iberians looked to the city, imagining it would provide a direct route to the gold trade in West Africa. Increasingly throughout the fifteenth century, as Portuguese explorers forced their way south along the continent, it was also seen as a new gateway to the spices and wealth in India

Prince Henry "the Navigator," with his brothers Duarte and Pedro, led the Portuguese crusade against Ceuta. Like other merchants and explorers before them, the brothers' goal was not only to snuff out the Muslim threat but also to force their way into the lucrative gold market. Henry received governorship over the city for his leadership, and the three brothers were knighted. While in Ceuta, Henry received valuable information about the gold trade and gained the desire to push his crusade west along the Gold Coast, beginning in 1420.[3] They soon discovered, however, that the port had no access to the gold trade.

Gold was carried in caravans from the Gold Coast across the Sahara into Egypt or Syria, where it was exchanged to Catalan and Italian merchants. The merchants then carried the gold across the Mediterranean, where they dispensed it through several trading outlets across Europe. Soon after acquiring Ceuta, the Portuguese discovered they had no direct access to the gold merchants as they had believed. Beginning in 1420, Prince Henry sent a series of expeditions

[1] C. Raymond Beazley, *Prince Henry the Navigator* (New York: Burt Franklin, 1895), 148-150.
[2] David Arnold, *The Age of Discovery 1400-1600* (New York: Routledge, 2002), 12-13, 36
[3] Beazley, 154.

along the West African coast, searching for potential Christian converts and new ways to break into the gold market. It would take fifty years from the capture of Ceuta for the Portuguese to be competitive in trading gold, but the militaristic expeditions sent by Henry into the Atlantic found an enterprise temporarily more valuable. The Portuguese military attempted to capture the Canary Islands, conquered the archipelagos of the Azores and Madeira, and in the process made a fortune in their first cash crop: sugar.

The Portuguese had a difficult time in the fourteenth century. The crown bickered constantly with Aragon and Castile, and the arguments occasionally turned violent. Henry's father, Joao of Avis, came to power as a result of a civil war against Castile in the 1380s. The war, coupled with the plague, nearly decimated the population. Large, rural populations died off en masse, and those left alive moved quickly into cities, leaving much of the land uncultivated. Because of the mass movements into cities, the country had food shortages and began importing wheat from North Africa. Small enclaves of merchants exported fruit, salt, and wine after the Avis came to power in 1385, although this was the only viable source of income for the kingdom. By the beginning of the fifteenth century, most of the population lived along the coast, fishing in the North Atlantic.[4] Lisbon, in particular, gained prominence as a seaport because of its strategic position in the Mediterranean. The English, Catalans, and Genoese used it as a stopping point between northern and southern Europe.

The Genoese regularly pursued economic interests in the Atlantic and along the Moroccan coast during the fourteenth century, and they visited the Canary Islands searching for sugar crops. The Pope officially declared the Canaries Castilian territory in 1344, although the Portuguese claimed to have discovered them first.[5] The area remained hotly contested for several decades. Other sailors and merchants landed on the Canaries throughout the fourteenth and early fifteenth centuries, but the natives were hostile and the Castilians protective, so little came of these conquests. In 1411, after decades of periodic fighting, Castile and Portugal officially declared peace and transformed their military rivalry into a territorial one. In the 1420s, Portuguese navigators made several landings in the Canaries, all of which the Castilians thwarted. After many years of petitioning, however, Pope Eugenius IV issued a papal bull giving Portugal's King Duarte exclusive rights to the islands in 1436. Yet subsequent additions to the islands, however, did little for Portugal. The natives were violent and expeditions were driven out, just as before. The Portuguese succeeded mostly in threatening the Castilians and furthering their feud.

During the 1420s, while sending ships to explore the Canaries, Henry sent expeditions to conquer and then explore the Azores and Madeira archipelagos. Portuguese explorers began colonizing the islands around 1425, and Prince Henry was granted jurisdiction over them by 1439 and 1433, respectively.[6] Madeira Island, in particular, sent wheat, wax, and honey back to Portugal, and soon after, Henry had a crop of sugar cane from Sicily planted on the island, where it thrived. A water mill and factory were established on Madeira in 1452. By 1498, over 120,000 *arrobas* (about 3,840,000 pounds) of sugar were grown on the small island, making it the largest producer of sugar in the world.[7] The crown earned over 30,000 *cruzados* a year from the enterprise.[8] Because of the burgeoning sugar crop, the islands became an important Portuguese

[4] Malyn Newitt, *A History of Portuguese Overseas Expansion, 1400-1668* (New York: Routledge, 2005), 9.
[5] Ibid., 11
[6] Ibid., 22.
[7] David Arnold, *The Age of Discovery 1400-1600* (New York: Routledge, 2002), 12-13, 36
[8] Newitt, *A History*, 42.

colony. According to the great explorer Alvise da Cadamosto, by 1455 there were at least four settlements in Madeira and over 800 inhabitants.[9] Merchants transported slaves from West Africa to Madeira to work the plantation, and the Azores later became a major port for slaves between Africa and Logos. Periodic voyages within Africa and along the African coast brought Portuguese into contact with African natives for the first time. Missionaries were sent into Africa hoping to convert the natives, to varying degrees of success. Occasional raids occurred on coastal villages, and when the Portuguese sailors were successful, slaves were picked up and used as interpreters or sold in markets in North Africa.

Slavery was normal for most of Europe, and indeed the world, since ancient times. But until the fourteenth century, slavery was not very widespread. In 1441, following the southernmost expedition by Europeans to that point, Antao Goncalves brought two slaves from Rio d'Ouro to Prince Henry. By 1443, Henry obtained exclusive rights to navigate around Guinea from his brother, the regent Dom Pedro, and the pope. In 1444, a group of merchants in Lagos petitioned Henry for a license to collect slaves. They gathered six caravels and attacked various villages around Cape Blanco and the Rio d'Ouro, capturing around 235 slaves altogether. The victims of the first slave raid were then brought to Lagos, where they were sold. Prince Henry capitalized on the beginnings of this lucrative business by taxing the slave trade outrageously: one fifth of all slaves, or twenty percent of the slave-trade profits, went directly to Prince Henry.[10] According to the explorer Cadamosto, by the 1450s the Portuguese were capturing around 1000 slaves each year from the West African settlement Argium, which the explorer Nuno Tristao had discovered only recently, in 1444. Approximately 700 slaves were sent to Portugal by 1460, with more shipped to the various African territories and Europe. Between 1450 and 1500, the Portuguese shipped as many as 150,000 slaves between Africa and Logos, most of whom likely remained in Portugal.[11]

Slaves were also purchased for the island communities and Portugal through trade with Africa. Merchants occasionally exchanged sugar grown in Madeira for civet, pepper, and ivory. Slaves, however, were traded most often, and in the event of a drought, their sheer abundance in Madeira provided the colonies with another source of income. For this reason, the Madeira archipelago became a major outpost of the slave trade as early as the 1460s.[12]

When Prince Henry died in 1460, the monopoly on trade in Guinea reverted to the crown under King Afonso. But commercial interests yet again took a backseat to the continuation of the reconquista and military expansion in Morocco. During the 1460s, fighting with Castile erupted once more. With the interests of the crown reverted to wars in Morocco and Spain, commercial growth stagnated. Instead of losing interest in Atlantic commerce, as the Catalans had done in the 1340s, Dom Afonso leased a large portion of the monopoly to a Lisbon nobleman, Fernao Gomes. From 1469 to 1473, Gomes leased trade on gold, slaves, pepper, and ivory from the crown for 200,000 *reis* a year. Gomes opened new ports for slaves and set up a permanent slave post on Argium. Gomes used his power and wealth from his various endeavors to finance a series of explorations along the coast of Africa. He took it upon himself to discover at least 100 new leagues of coast each year. Under his guidance, the pilots Pero de Escobar and Joao de Santarem became the first Europeans to cross the equator in 1470, and they discovered large

[9] Prestage, 39.
[10] Arnold, *The Age*, 36
[11] Ibid., 37.
[12] Newitt, *A History*, 64.

quantities of gold along the Gulf of Guinea.[13] Gomes was knighted for his efforts, remaining an immensely wealthy and powerful noble in Lisbon.

Portugal was a relatively poor nation, and its desire for trade came largely from a desire for gold. Gold was necessary to create a form of currency, which was somewhat of a luxury in early Renaissance Europe. Europe had very little gold to be mined and looked exclusively to Africa to sate Europeans' taste. The desire to find gold mines led Catalans and Genoese to travel along the Gold Coast, as far as Bojador, to find a direct route to the gold mines.

Gold was mined primarily in Mali by the fourteenth century and sent on caravans to Timbuktu and Cairo, where it was traded with Christians. Prior to the life of Henry, however, white people were forbidden from entering the central African trading posts.[14] The Portuguese began trading copper, sugar, cloth, and later slaves to get their hands into the gold market, although soon they found large mines in their own territories. By 1457, Portuguese trade in Africa had produced enough gold that the Portuguese began minting their own coin, the *cruzado*, valued the same as the Venetian ducat.[15] Once Escobar and Santarem discovered gold in Ghana, Gomes sent multiple ships down the coast looking for more, creating new markets to trade his gold directly with Europe. Once the African monopoly returned to the control of the Portuguese monarchy in 1473, Afonso's son, Joao II, took over the crown's monopoly in Guinea. He desired to develop the gold market further, but an outbreak of war with Castile in 1475 derailed his attempts.

When news of the discovery of gold in Ghana broke to the Castilians, they sent a crew to trade with natives in 1475.To the delight of the Portuguese, who jealously guarded their discoveries, the natives slaughtered the invading Castilians. The Portuguese sent twenty ships south simultaneously to defend their interests, and soon a full-scale war broke out over Mina between the two commercial rivals. The Portuguese intercepted numerous Castilian caravels returning from Mina with gold. Between 1475 and 1479, the Portuguese and Castilians engaged in the "first maritime colonial war."[16] The Portuguese emerged victorious, and in 1479 the two maritime powers ended the war with the Treaty of Alcácovas The Portuguese officially surrendered their claims in the Canaries, although they maintained their claims over the Cape Verde Islands, the Azores, Madeira, and more importantly, their trading rights in Ghana.

Joao II ascended the throne upon the death of Afonso in 1481, and he incorporated the crown's business ventures with its burgeoning colonialist tendencies.[17] At the end of 1481, he sent a knight, Diogo de Azambuja, on an expedition to Mina to establish a factory and a castle. Azambuja completed the fortress in January of 1482, and it proved to be wildly successful for the Portuguese. Twelve ships made the trip from Lisbon to Mina annually. Each one carried approximately 8000 ounces of gold every year in 1485. In the mid 1490s, the amount of gold rose to as high as 22,500 ounces.[18] Azambuja was not only successful in collecting and shipping the gold to Portugal. He built a small settlement and created alliances with local tribal rulers as well. Gold traders arrived at Mina in droves, and soon the settlement established itself as a major West-African trading post. The Portuguese traded slaves, cloth, shells, and beads in local and international markets.

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[13] Newitt, *A History*, 38.
[14] Bailey W. Diffie and George D. Winius, *Foundations of the Portuguese Empire, 1415-1580* (Minneapolis: University of Minnesota Press, 1977), 99.
[15] Newitt, *A History*, 32.
[16] Ibid., 40.
[17] Diffie and Winius, *Foundations*, 314.
[18] Ibid., 46.

Joao II was not only successful in furthering the Portuguese economy in Africa; he was also one of the greatest sponsors of exploration in Portuguese history. Part of the myth embedded in Portuguese historiography paints Prince Henry as the great navigator and explorer; "the Navigator" has been his nickname for centuries now. More evidence suggests, however, that his interests were in expanding the Christian empire and his own personal wealth rather than exploring and expanding the hinterlands of his empire. During Henry's life, Portuguese explorers mapped Africa through Morocco and into the center of the continent. During Joao's rule from 1481 to 1495, he sent explorers into the Congo River for the first time and sponsored Bartholomew Dias's groundbreaking expedition around Cape of Good Hope.

The Portuguese entered the fifteenth century a poor nation, fresh out of a civil war and facing food shortages and disease. The Age of Discovery began in 1415, when the small country acquired a small amount of wealth by seizing a Muslim stronghold. They transferred their newfound power and wealth to economic expansions throughout Morocco. Henry sought to spread Christianity in his lifetime, yet he could not ignore lucrative business opportunities as Portuguese traders and fisherman pushed into the Atlantic. As they discovered the Atlantic archipelagos, specifically Madeira, Portugal discovered a perfect climate to raise the first of their cash crops, sugar. The Portuguese traded Brazil wood, wax, honey, and various other crops with the rest of Europe and ports in Africa, eventually earning enough gold to begin minting their own coin, the *cruzador*, in the last half of the fifteenth century. In the 1470s, the discoverers exploring the interior and coast of Africa discovered pockets of gold, and they began mining soon after. The sugar and gold enterprises required massive amounts of workers to supply the Europeans, and beginning in the 1440s, slaves were shipped from inside Africa to the ports of Argium, Mina, and Madeira. The slave trade aided the gold and sugar crops and expanded the economy of Portugal further. The Portuguese were the first nation to capitalize on the slave trade and the first Europeans to trade directly with Africa. As a result of their conquests and economic expansion, the nation began the push for colonization and imperialism that came to identify seventeenth- and eighteenth-century Europe. Because of their wealth, they were able to explore and map Africa by the end of the fifteenth century. Soon after the voyages of Bartholomew Dias, Vasco da Gama discovered a direct route to India and Asia, where the economy grew even further to include spices and cloth. Almost simultaneously, the Portuguese discovered a route to South America, where they expanded both their sugar and gold wealth. They were wealthy enough to become one of the first maritime empires in the sixteenth century, thanks to the growth of the three biggest factors in the Portuguese economy: slaves, sugar, and gold.

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Joan of Arc: Christian Heretic, Christian Saint

Nicole Harrison

Joan of Arc was the French hero of the Hundred Years War and the catalyst who tipped the war in favor of the French after a series of disheartening English victories. Using the strength of Christianity in France, Joan described her visions of the angel Gabriel to justify leading the French army against the English. When the English captured her, they tried her as a heretic for misinterpreting and lying about her religion, a religion they coincidentally shared. Both France and England used religious justification to create a political end for Joan. The French were inspired by Joan's powerful leadership skills, and they spread the word of her religious visions to gain popular support for the war in France. The English accused Joan of being a false prophet, but she was actually put to death because of her staunch refusal to accept English authority and the consequent political threat she created for England.

The use of religion to explain the unexplainable in Joan's situation harkens back to an ancient practice. Greek and Roman mythology provided an explanation for the origin of mankind, the seasons, and the stars, among many other things. Hinduism promoted the idea of the social caste system in India by preaching reincarnation based on previous lives. When Joan appeared, a young peasant girl with no military experience who wanted to lead the French army because of a religious vision, the religious justification of the unknown was employed again. The French saw an opportunity in this unlikely religious commander; she was lower class, female, and strongly pious. By speaking of her story as a miracle, Joan could be – and was – used to generate popular support for the war and to rally the soldiers with the evidence that God was on the side of the French. The view of Joan as both a saint and a miracle for the French cause continues to this day through the careful preservation of her memory in French art and literature. Sympathy is generated through a carefully biased telling of her life and death in both of these forms.

Joan of Arc is seen throughout history as a famous religious hero. In modern American textbooks, she is a figure spoken of in almost miraculous terms. Edward Lucie-Smith states in his book *Joan of Arc* that "[i]n some respects Joan's life has the pattern of the Christian myth, and this is one reason why she has achieved such renown. Her death was a death to save France, and in her last moments we find the same terrible desolation which Christ himself suffered upon the cross."[1] This passage reflects the respect and awe commonly expressed for the French saint. Joan's gift to France was one of both piety and political strength. Americans learning about Joan receive this French viewpoint. Consequently, England's opinions on the woman who turned the Hundred Years War into a French victory are assumed, not confirmed, to be bitter and angry. This unequal viewpoint therefore leaves a gap in Joan's story and also begs the question of whether Joan was seen as a religious or political figure in England, where she was burned. The question of how the contrasting French and English views on Joan can be reconciled is a subject for considerable thought.

An interesting firsthand French reaction to Joan's execution is provided by the

[1] Edward Lucie-Smith, *Joan of Arc* (New York: Norton, 1976), xii.

anonymous author of *The First Biography of Joan of Arc*. When faced with the question of the legitimacy of Joan's death, the author says that "[s]he was condemned and executed, but unjustly and through hatred, as is shown clearly in [the records of] her trial of condemnation as well as that of her vindication…"[2] Throughout the book, the author creates a brutal view of the English and increases sympathy for Joan. The last chapter of the biography in particular, titled "Joan Put to Death," creates strong sentiment in favor of Joan and explains some of the love the French felt for her.

After Joan's sentence is heard, the author explains, "an Englishman…without further formality, without even pronouncing any sentence of death against her, ordered Joan taken to the space for her burning."[3] By refusing to give Joan the dignity of a proper sentence before removing her, the carefully specified "Englishman" is placed into the role of a heartless villain, lending credibility to Joan's case for the reader. The English are also cast into a barbaric light in this statement because the man carries out the instructions "without further formality," insulting Joan's heroic French image.

The next sentence in the biography describes how Joan "wept and cried in bewilderment…she moved the people…to tears of compassion." The portrayal of Joan's "bewilderment" at her English-decided fate speaks for the unjustness of her sentence. Her innocence is reflected in her inability to know what she could have done wrong. The fact that Joan cried also reminds the reader that Joan is a woman, not a cold-hearted soldier like the men condemning her. As a young, pious woman, Joan gains more sympathy from the readers. Because those watching the execution are brought to tears, the reader can better imagine the horror of the moment.

The author fully presents his opinion two paragraphs later, when he says that Joan "was burned shockingly, martyred indeed, an example of monstrous cruelty."[4] The fact that her burning was shocking again lends itself to Joan's innocence and the difference in opinion that led her to be killed. By blatantly referring to Joan as a martyr, the author presents her as a pure religious figure in an unfair situation. The English are completely dismissed as wrong and unjust in the eyes of God, even though they share their Christian religion with the French. It is the "monstrous cruelty" of the English that overwhelms their Christian faith and causes them to put Joan to death mistakenly.

The section of the book that describes Joan's death ends with the statement that "[f]or this reason a number of persons, some individuals of importance, others just plain people, muttered wrathfully against the English."[5] By clarifying that all types of people turned against the English, the author proves that the opinion is not based on class. The upper classes may have more of a political understanding of the situation, but the lower classes can still understand the unfairness of the situation in which a national religious hero is put to death. This statement also unites the French people using the villainy of the English.

This conflict between French and English opinions of Joan can be seen through documents of the time, but it can also be viewed through the paintings created by artists on both

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[2]Daniel Rankin and Clare Quintal, trans., *The First Biography of Joan of Arc* (Pittsburgh: University of Pittsburgh Press, 1964),13.
[3] Ibid., 54.
[4] Ibid., 54.
[5] Ibid., 54.

sides of the English Channel. In *Execution of Joan of Arc*, a French painting by an anonymous artist in 1484, the colors, dress, and facial expressions portrayed reveal information about the feelings of the French towards Joan and the event that ended her life.[6] The painting shows a poor opinion of English judgment, but it also shows sympathy for religious observers. The French disagreed with the political decisions of the English, not with the Christianity used in England. This source supports the belief that the condemnation of Joan was a political maneuver, not a religious one.

Sympathy is evident on the faces of the religious observers, creating the interpretation that Joan was hated in England not for religious but for political reasons. The sympathy and regret by the observers also contrasts with the resigned and strong expression on Joan's face as she approaches her death. Her head is held high, demonstrating her refusal to redact her story of the angel Gabriel.

While sympathy is seen on the faces of the background observers, the cruelty of the English is shown in the harsh features and patronizing expression of the man directing Joan's execution. He has a large, protruding nose and lips, giving him an ugly expression and increasing the viewer's dislike of him and his position. He directs the man tying Joan with one hand while keeping the other one crossed over his chest in a position of uncaring disinterest. He wears robes similar to the religious men in the background, but he is less modest in showing his hair. His robes and hat also appear to be of higher quality than the men behind him, suggesting corruption.

The man tying Joan to the post is portrayed as a simple soldier, one who knows nothing of the power of the religious beliefs that Joan follows. He is the only one in the picture not wearing long, modest clothing, and he wears a sword and light armor on his torso. His motion in tying Joan is reminiscent of drawing a bow, further connecting him to the common soldier and distancing him from the religious men around him. These military connotations all serve to make the soldier an unthinking pawn working only at the request of the cruel execution director.

The use of the color red in the painting explains Joan's role in the Hundred Years War to tie together the ideas of war and religion. Joan wears red not because of sin but because of her passion to follow the path her religion has set out for her. The crosses and the sword are both red in the picture because, through Joan, the French idea of war expanded to include its Christian beliefs. The color's passionate connotations are connected to Joan's role in leading the French army. She did not make a conscious decision, the French believe, to lead, but was visited by an angel and had no choice but to carry out the will of God. Passion and righteousness replaced critical thinking in Joan's mind, which is why she wears red in the painting instead of a duller color.

Execution of Joan of Arc provides the French viewpoint on Joan's last moments and on the English who put her to death. The artist acknowledges the purity of the simple religious men in England by giving them a simple and sympathetic appearance. But the artist also demonizes the solider and man in charge of the execution for not seeing Joan as a young woman working under the will of God. The soldier and leader are working for England politically, instead of

[6] Nora M. Heimann and Laura Coyle, *Joan of Arc: Her Image in France and America* (Washington: Corcoran Gallery of Art, 2006).

following their proper religious beliefs, as the observers are.

Joan's popularity in the common areas of France was due to her piety, her unusual situation, and her dedication to freeing the country from English tyranny. The French government, recognizing the strength of having a popular leader in a long and tedious war, supported her not because of her religious visions but because of her subsequent growing political strength. The French lacked brilliant military leaders in the Hundred Years War, but the inspiration provided by the determined peasant girl provided the support they needed to turn the war around and begin winning battles against the English. Joan was widely supported in France religiously, especially by the Church, and the government used her religious support wisely. Propaganda can be seen in the art and literature of both France and England, as each country tried to promote its own view of Joan and shape her influence on future generations.

Joan of Arc Kisses the Sword of Liberation is a painting by Dante Gabriel Rossetti, a nineteenth-century English artist.[7] The differences between the paintings can be interpreted to demonstrate the historical dissimilarity between the French and English viewpoints. While Joan is feminine and victimized in the French painting, she is portrayed as masculine and strong in the English painting. The English painting was created later, so it lacks some of the strong emotion of the French painting, which was created closer to Joan's death. In addition, Rossetti, an artist of the pre-Raphaelite Romantic movement with Italian heritage, was not completely against the idea of Joan of Arc. Nevertheless, *Joan of Arc Kisses the Sword of Liberation* expresses a clear English opinion on Joan and allows for a direct contrast with French art.

The same painting is full of dull, neutral colors, which does not promote a sense of passion, as the red does in the French painting. The muted purples and browns create a lethargic feeling in the piece, which detracts from the power of Joan's mission and the strength of her faith. Her sword, instead of being shining and sharp as a pure and righteous weapon, is dark and ancient. The overall feeling is gloomy and decrepit, creating a sense of error in Joan's entire expedition. Instead of becoming a symbol of religious purity, as in the French painting, Joan is shown in this piece as a woman who cannot and should not succeed.

Another way that the painting insults Joan's cause is by depicting her as an extremely masculine figure. She has a strong jaw, thick neck, large hands, and straight profile, all male characteristics. By making her masculine, the English painter takes away the sympathy caused by a female hero and makes Joan more "normal." Without her unusual and enlightening attributes of God-touched feminine innocence, Joan is much harder to worship. She is also portrayed as a strong warrior, not a physically delicate young woman. While fighting a woman might be chivalrously questionable, fighting a strong, masculine warrior is allowed and encouraged for the soldiers. Making Joan more of a man than a woman surpasses questions of etiquette.

Beyond questioning her proper femininity, the English make a statement about the proper gender roles of women in this painting. In a time of war seeped in traditional and chivalric values, women were intended to be subservient and to support the war from afar, aiding the male warriors but refraining from becoming directly involved. Joan's bridge of the traditional male

[7] Dante Gabriel Rossetti, *Joan of Arc Kisses the Sword of Liberation,* Joan of Arc Resource, http://www.joan-of-arc resource.com/paintings.html.

and female roles threatened the English definition of war and allowed them to condemn her more easily for stepping outside her God-given place on earth.

While Rossetti, as a Romantic painter with Italian heritage, did not have the anger at Joan expressed by the English centuries earlier, he did see Joan as a strong, masculine character. Glenn Everett states in a biography of Rossetti, "Rossetti's choice of models and his idealization of them helped change the concept of feminine beauty in the Victorian period to the tall, thin, long-necked, long-haired stunners of frail health that we see in paintings like Beata Beatrix, Pandora, Proserpine…"[8] When painting Joan, Rossetti portrayed her not as one of his frail, beautiful, idealized women but rather as a harsher, more resilient character. While Rossetti may have seen Joan more sympathetically as an impressive peasant warrior, his painting also alienates her from the version of feminine beauty at the time, creating an opposition between Joan and the proper English woman and proving why the English would execute this highly unusual character.

The disapproving and condemnatory English viewpoint on Joan was aided by her defiant attitude towards the English government. England's dislike of her stemmed not only from her widespread support and defending of an enemy government but also from her claim that she was superior and would win against the entire English army. In Joan's letter to the English, dated March 22, 1429, she calls for the surrender of the English army to herself and God, implying that the English are fighting against their own God in the act of securing France to their own government. The humiliation of this letter aids in the understanding of the English defiance of a young woman rising to power.

Joan's letter to the English government is short. Its brevity, however, is not mincing words, for the letter delivers a solid statement and entreaty. Near the beginning of the letter, Joan calls on the leaders of the English government to "surrender to the Maid, who is sent here by God, the King of Heaven, the keys of all the good towns which you have taken and violated in France."[9] By asking the English army to surrender to a woman, Joan incites anger because she, as a woman, has overstepped her gender role and is interfering with the warriors, a decidedly masculine move. The fact that the woman is challenging the warriors on their own battlefields and claims to have the will of God behind her is demeaning to the English, and her increasing success makes the effect more humiliating as time progresses.

Joan also antagonizes the English with her letter when she states that "[i]f you will grant [the Maid] right, you may still join her company, where the French will do the fairest deed ever done for Christianity."[10] By challenging the English brand of Christianity and righteously asserting the superiority of French Christianity, Joan divides not only the countries but also their chosen religion, even if it is the same religion. Eventually, this division gives the English the opportunity to cite Joan's misinterpretation of her religion as the fundamental issue and to sentence her to death.

This defiance towards her English prosecutors can also be seen in the transcript of the trial in which Joan was condemned to death. When the English attempted to make Joan swear to tell the truth and nothing but the truth at the trial, the transcriber states, "And first he exhorted her to answer truly, as she had sworn, what he should ask her. To which she replied: 'You may

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[8] Glenn Everett, "Dante Gabriel Rossetti — Biography," The Victorian Web, http://www.victorianweb.org/authors/dgr/dgrseti13.html.
[9] Deborah A. Fraioli, *Joan of Arc and the Hundred Years War* (Westport: Greenwood Press, 2005), 148.
[10] Ibid., 148.

well ask me such things, that to some I shall answer truly, and to others I shall not.' She added, 'If you were well informed about me, you would wish me to be out of your hands. I have done nothing except by revelation.'"[11] By refusing to tell the truth to the English about her visions, Joan sets herself up to be considered an unreliable source before she even tells her story. Joan's defiance is, in her eyes, a show of support for her country and her religion, but to the English, it provides an easy way to convict her of being a simpleton who does not understand the concepts of religion or war.

In this quote, besides refusing to answer truthfully, Joan calls the English ignorant of her situation and raises herself above the mortal realm with her reference to the angel Gabriel's visit. Through this statement, she proves inadvertently that the English are putting her to death for political instead of religious reasons; if the matter of Joan was purely religious, there would be no reason for the French and English to have different opinions about the legitimacy of Joan's visions. Joan bases her argument on the English's judging her as a religious figure, not as an enemy warrior, and in this assumption she misunderstands the purpose of her trial: to crush the French army, regardless of religious zeal.

Ultimately, religion was not the issue that caused Joan to be killed by the English government. Religion was an excuse to eliminate the new, inspiring leader of the French, and the fact that Joan's situation was so unusual made it easier to execute her. The English worked off of the assumption that women, especially peasant women, have no role in leading armies, and the fact that this woman was leading an army was used as proof that she was not under the direction of God. Joan's threat to the male-dominated political world was obvious, and by killing her, the English put out a warning to all of the unusual political reformers that had an opportunity to follow Joan's lead. Eventually, this persecution of unusual people led to the famous witch hunts of Europe, during which time "witches" were unfairly suspected of evildoing and subsequently burned at the stake. Although English participation during the time was much lower than in other areas of Europe, including France, the nature Joan of Arc's trial reflects the later trend. Joan was tried as a religious heretic, but she was burned in the fashion of the later witches, providing another shred of proof to the political nature of her trial and execution.

Religion has always provided answers for unknown and seemingly supernatural events, and the story of Joan of Arc is no exception. She remains immortalized as a saint in France, honored for her pious leadership, but the government leaders at the time used her to gain political support for a long and difficult war. On the other side of the Channel, the English tried Joan as a heretic and found her guilty of falsely speaking the word of God, but the real reason she was tried and convicted was her political threat to the English government. Joan stepped out of the role of women at the time to lead an army, and this made her both an inspiration and a problem as she continued her quest for God. Ultimately, the story of Joan of Arc is a political tale masked by religious fervor.

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[11] W.P. Barrett, "The Trial of Joan of Arc," Internet Medieval Sourcebook, http://www.fordham.edu/halsall/basis/joanofarc-trial.html.

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Situating African Responses to British Projects of Colonialism and Religion

Hayley Hudson

As the British utilized colonization to expand and strengthen their empire throughout the nineteenth and twentieth centuries, missionaries had the same ideas about spreading their religious messages to new populations. Africans dealt with both influences in their daily lives while Britons at home and in Africa had various ideas about how religious or colonial projects should be carried out. Although British missionaries and colonizers may have shared goals, the two movements were separate. Religion could provide justification for colonialism in British minds and it could provide a defense against colonialism in African minds. Meanwhile, the broadening world colonialism created led to a complex understanding of religion for Africans that stretched beyond the British notion of conversion.

European explorers sent to Africa made observations and collected information that later colonial expeditions would be based upon, so an examination of their observations of Africa and its religious life will prove useful in determining how Africans and Britons conceived of the relationship between religion and colonialism. In his diaries, British explorer H.M. Stanley writes with an attitude that his team was in Africa to conquer it, constantly speaking of his days in terms of how many supplies he has amassed, seemingly preoccupied with gaining resources. Stanley also makes it seem as though he and his men are in a state of constant danger, whether it be danger of physical attack or danger of an African plot to halt his progress to the interior. His attitude splits Europeans and Africans into distinct groups that are usually at odds with one another.

Stanley sees Africans in a generalized manner, speaking of them as childlike or uncivilized the majority of the time. Whether his observations are positive or negative—and they are usually negative—they are always demeaning. Usually, he uses terms like "ignorant and superstitious" to describe the Africans he encounters.[1] For Stanley, religion provides a chance for Africans to gain respectability. In his diary, he encounters certain Africans who have been converted to Christianity and views them in a more positive manner than others. One example is a boy named Dallington, who Stanley describes as being "a faithful, good, and honest lad, a credit to the labours of the English Mission at Zanzibar."[2] Although Stanley himself certainly held some prejudices, people at home in Britain could have read his account and begun to think of Christianity as a way to bring civilization to the Africans, thus preparing a justification for later colonial projects.

Stanley was among the earliest Europeans making observations about African society, but Briton David Livingstone gained more popularity and exercised more influence. Livingstone, a Scottish Calvinist, gave extensive talks in Britain that promoted a certain ideology concerning the role religion should play in Africa. Based on the ideas of John Phillip, Livingstone believed that Christianity, along with infrastructure for legitimate trade, could bring a level of civilization to Africa. His Christianizing mission was not forceful or violent because he believed it was best to train Africans to convert their own people to Christianity. He treated the African people with respect, making detailed and accurate observations of their language and customs. Since his liberal attitude created a positive outcome and a good relationship with the Africans he

[1] Richard Stanley and Alan Neame, eds., *The Exploration Diaries of H.M. Stanley* (New York: Vanguard Press, 1961), 82.
[2] Ibid., 108.

encountered, Livingstone later could be used as justification for colonialism. Colonial advocates could point to the Christianizing efforts of Livingstone and explain that colonizing Africa would be a continuation of his great legacy, even though his ideas were not originally meant to support colonialism. In this instance, for the British, religion provided a reason to colonize.

As the British colonial project in Africa advanced, African settlements that in the past had been isolated from any outside contact began to engage with other groups, since colonialism made it a goal to find a route to the African interior and establish systems of trade. Early contact between Europeans and Africans focused on gathering slaves and moving them from the African interior to the coast. Later, goods such as ivory and gold became important. Colonialism and the desire for trade exposed Africans to a broader geographic spread and a more diverse population with which to engage, and simultaneously, religious missions in Africa increased in number. Subtle shifts in religious thinking occurred alongside these two developments. Robin Horton offers a way of situating these shifts within a context that emphasizes African perspectives and beliefs amidst colonial and religious developments.

Horton uses the intellectualist theory to suggest that "the weakening of microcosmic boundaries" led to "an increased attention to the supreme being."[3] In other words, Africans understood their broadening social world, a result of colonialism, as the work of a supreme deity. Christianity and Islam, religions brought to Africa from the outside, emphasize an all-knowing God who controls the world's events. But African understanding stemmed mostly from indigenous tradition rather than from the imported religions. The Supreme Being traditionally took a backseat to the local deities, who controlled immediate events within a specific group, but as a broader worldview developed, the Supreme Being became more important. Therefore, religious changes that resulted from colonialism were situated within existing African-determined paradigms.

While the African people themselves did not view religious life in black and white terms, some Britons and other Europeans thought of African religious changes as "conversions."[4] Missionaries arrived in Africa and assumed that in the absence of Christianity or Islam, no religion existed. A multi-faceted African religious tradition, however, was firmly in place in many regions and included summoning ancestors to settle disputes, setting up shrines to address environmental pleas, seeing healers to solve certain problems, and blaming negative events on witchcraft and cult activity. It was easy for missionaries to dismiss tradition as superstition, but despite their best hopes for the Africans, these beliefs did not disappear with the coming of organized religion. The British tended to think of Africans as civilized or uncivilized and as Christian, Islamic, or savage and heathen.

Once the British colonial government had established itself in Africa, Africans began to use organized religion as a means of protection against colonial forces.[5] F.K. Ekechi discusses this phenomenon as it related to the Igbos in Niger. In the period from 1900 to 1915, Europeans in the region were "overwhelmed with requests" for missionaries despite late nineteenth-century observations of African "indifference" toward evangelizing efforts.[6] Ekechi argues that colonialism directly affected the shift because missionaries offered immunity from several aspects of colonialism. Igbos could be exempt from military expeditions that were often

[3] Robin Horton, "On the rationality of conversion (Part I)," *Africa* 45.3 (1975): 219.
[4] Ibid.
[5] F.K. Ekechi, "Colonialism and Christianity in West Africa: The Igbo Case," *Journal of African History* 7.1 (1971): 103-115.
[6] Ibid.,105, 103.

dangerous, bypass the undesirable carrier service system of forced labor, and even experience a rise in social status. Missionaries could act as representatives in a variety of situations, stating that Christianity was so separate from the native African religious tradition that any sort of government-issued initiative did not apply to African Christians.[7] Furthermore, missionaries set up a school system to educate new religious "converts" about the details of their faith, and education became a valuable resource for Africans wishing to regain control of the colonial government.[8] The context of religion as a buffer against colonial forces reveals that while both projects were goals of white European settlers, Africans understood their separate nature and chose to become involved in whatever way might have been most advantageous.

Although separate, missionary efforts and colonial efforts could resemble each other or share goals. European missionaries, whether consciously or not, sometimes applied colonial ideas to their attempts at religious expansion in Africa. Catholic and Protestant denominations competed for converts and for spheres of influence. Their competing projects for providing education brought an infrastructure to Africa that did not exist previously, and eventually the colonial government showed an interest in providing education as well. Religious leaders had ambitions of creating empires, just like political leaders. Christian missions wanted to "spread their denominational influence," and Roman Catholic Father Shanahan dreamt of "a Roman Catholic empire which would stretch from Itu on the Cross River to Oguta in the west."[9]

The Comaroff argument further highlights the interests that colonialism and religion sometimes shared. British missionaries, not particularly interested in the colonial project, promoted the Protestant work ethic, which equated working for a wage with civilization and salvation. The British colonial government had an interest in wage labor because they needed migrant laborers to work in the mines. In this way, then, religion and colonialism aligned. The systems were separate and did not actively support one another, but mutual goals helped advance both projects simultaneously for the British.

The civilizing potential of religion provided a reason for British entry into Africa, but once they were there, the colonial government sometimes made life more difficult for Africans. To counter undesirable elements of colonial life, Africans sometimes converted to Christianity to enjoy its advantages. Colonialism shifted African social life further away from the local, creating broader boundaries. The shift emphasized paradigms in African thought that may have resembled those of organized religion, but were in actuality continuations of indigenous tradition. For the British, religion and colonialism supported each other's goals while never being synonymous, and Africans responded to both forces through thoughts and actions that they understood or that were advantageous.

[7] Ekechi, "Colonialism and Christianity...," 105-106.
[8] Ibid., 110.
[9] Ibid., 108.

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The *Niðrstigningarsaga*: Christ's Battle with the Miðgarðr Serpent

Kyle Langley

Despite the vital information the *Niðrstigningarsaga* offers researchers regarding the conversion of Scandinavia to Christianity, it has yet to be fully translated into English or thoroughly studied.[1] This is sincerely unfortunate, as the Christianization of Scandinavia remains one of the most significant and yet elusive periods in the region's entire history. Not only does the study of this period suffer from near-complete lack of primary sources, but what few sources we do have are often biased and unreliable.[2] The *Niðrstigningarsaga* is thought to have been written during the early-thirteenth century at a time when Christianity had only recently replaced paganism and when Latin-based literacy was in its infancy.[3] We know very little about the religious character of the society that existed in Scandinavia at this time – whether Scandinavians were ideologically or only nominally Christian, what role religion played in people's daily lives, to what degree pagan beliefs were able to survive into the Christian period and/or to be reinterpreted with a new Christian meaning. As an Old Norse translation of a Christian text, the *Niðrstigningarsaga* is uniquely useful in answering these questions and sheds new light on the development of Christianity in early medieval Scandinavia. This text offers clear evidence that the pre-Christian mindset persisted well into the Christian period.

The *Niðrstigningarsaga* is a translation of the medieval *Gospel of Nicodemus*, otherwise known as the *Acts of Pilate.* The source text has an attractive history of its own, originally found in the apocryphal Greek *Acts of Peter and Paul* thought to have been recorded in the fourth century.[4] The narrative was only rechristened as the *Gospel of Nicodemus* during the medieval era as a result of a belief that Nicodemus, who appears three times in the Gospel of John, authored it. The text became widely popular during the medieval era, as attested by the number of translations in different languages. Although outside the scope of this article, this popularity is

[1] The first noteworthy treatment of the *Niðrstigningarsaga* is Gary L. Aho's "A Comparison of Old English and Old Norse Treatments of Christ's Harrowing of Hell" (PhD diss., University of Oregon, 1966). This is not so much a translation as an English summary of the various versions of the texts, and it remains the English reader's only access to the Old Norse version. Alexandra Sanmark briefly references the *Niðrstigningarsaga* in "Power and Conversion: A Comparative Study of the Christianization in Scandinavia," *Occasional Papers in Archaeology* 34 (Uppsala: Uppsala University Department of Archaeology and Ancient History, 2004), 96. Finally, there is Kirstin Wolf's brief overview in "The Influence of *Evangelium Nicodemi* on Norse Literature: A Survey," in *The Medieval Gospel of Nicodemus: Texts, Intertexts, and Contexts in Western Europe,* ed. Zbigniew Izydorcyzk, (Tempe: Medieval and Renaissance Texts and Studies, 1997): 260-86.

[2] For an overview of the current source base, see Birgit Sawyer and Peter Sawyer, *Medieval Scandinavia: From Conversion to Reformation circa 800-1500* (Minneapolis: University of Minnesota Press, 1992).

[3] The formal adoption of Christianity in Scandinavian countries primarily took place between the eleventh and twelfth centuries with much regional variation. For speculation on the dating of the *Niðrstigningarsaga*, see Aho, 154-55.

[4] Zbigniew S. Izydorczyk, ed., *The Medieval Gospel of Nicodemus: Texts, Intertexts, and Contexts in Western Europe* (Tempe: Medieval and Renaissance Texts and Studies, 1997).

perhaps due to its inclusion of the "harrowing of hell," in which Christ descends into the underworld to redeem honorable pagans, a popular motif in the medieval world.[5]

The Old Norse translation is unique for several reasons, the first being that the entire work is limited only to the harrowing of hell and blatantly ignores the trial scene and long debates between Hades and Satan extant in the Latin and Anglo-Saxon versions. The author's interest, likely a reflection of his audience, may be seen both in actions and in Christ's heroic descent into hell, not in conversation or doctrine.[6] This is the first hint that pre-Christian values did not disappear with the advent of Christianity in the North. For example, the Old Norse translator chose not to personify hell and instead replaced this figure with an entire army of fearsome demons. A considerable portion of the Latin source text describes an argument between an overbearing and personified hell (in this case Hades) and a weak, trifling Satan.[7] While a seemingly inconsequential detail, the removal of this personification portrays Christ in a much more heroic light as he battles a grand host of frightening and dangerous demons. Christ's warrior stature is in this way enhanced by his victory over this fearsome hoard in the latter half of the narrative. This fits what we know of pre-Christian religious belief, in which gods such as Odin and Thor prevail because of their strength rather than their moral code. Widukind of Corvey illustrates this point perfectly in his account of the conversion of Harold "Bluetooth" Gormson in the tenth century:

> It happened on one occasion that an argument arose at a certain banquet at which their king (Harold) was present concerning the worship of the gods, the Danes affirming that Christ was indeed a god, but that there were other gods more powerful than He, namely those who showed to mortals greater signs and wondrous deeds done through their power.[8]

While the above-mentioned elements of the *Niðrstigningarsaga* are simple modifications to the source text, the Old Norse translation also contains two major interpolations that again support the resilience of pagan values. The first occurs just before Satan's expulsion from Hell, where the author inserts a nearly complete passage from Revelations 19:11-17. In this addition, the translator introduces the celestial cavalry typically in company with Christ during the Second Coming, only in this case bringing down the gates of hell. The leader of this heavenly army (who is decidedly not Christ) is described, as in Revelations, as riding a white horse, having blazing eyes, a crown, and blood-drenched clothing, and bearing a banner with the words *rex regum et dominus dominorum* (King of kings and Lord of lords). The translator then adds, in departure from both the Latin source text and Revelations, that this noble warrior commands his men to

[5] The reasoning behind this is that many of the world's religions incorporate elements of celestial forces descending into a demonic realm, and thus the Christian version of this story would have been readily accepted. See Aho, "A Comparison," 2.
[6] Aho, "A Comparison...," 160.
[7] Ibid., 161.
[8] Widukind von Corvey, "The Three Books of the Deeds of the Saxons," trans. Raymond Francis Wood (PhD diss., University of California at Los Angeles, 1949), 65.

wait until Christ, having "hooked" Satan, returns to join them when they enter hell.[9] Through this description Christ and his army become fierce, conquering warriors unafraid of hell. The effect that this account in *Niðrstigningarsaga* could have had on its power-minded audience is the same as above: Christ is a powerful divinity capable of challenging even the Norse Gods. The Old Norse translator then returns to the Latin source text to describe the opening of the doors to hell, but abandons it again as soon as the tale turns toward a series of rhetorical indictments from hell. Instead, the translator introduces the second major interpolation in which Satan emerges from hell only to meet the celestial army and subsequently turns himself into a dragon.[10] More importantly, the author uses the term "Miðgarðsormr" – i.e. the "Miðgarðr Serpent" or "Jörmungandr." While the translator has already indistinctly alluded to Old Norse mythology in the first interpolation with the reference to Christ hooking Satan, the inclusion of the Miðgarðr serpent definitely and undeniably links this text to pre-Christian religious belief. Old Norse mythology is steeped in the motif of dragons.[11] Chief among these dragons is the Miðgarðr Serpent, the one who encircles and holds up the world and is the arch-nemesis of the god Thor. The story of Thor's fishing trip in Snorri's *Edda* draws many parallels to Satan's transformation in the *Niðrstigningarsaga*:

> Now as soon as Thor had laid by the oars, he made ready a very strong fishing-line, and the hook was no less large and strong. Then Thor put the ox-head on the hook and cast it overboard, and the hook went to the bottom; and it is telling thee the truth to say that then Thor beguiled the Midgard Serpent no less than Útgarda-Loki had mocked. The Midgard Serpent snapped at the ox-head, and the hook caught in its jaw; but when the Serpent was aware of this, it dashed away so fiercely that both Thor's fists crashed against the gunwale. Then Thor was angered, and took upon him his divine strength, braced his feet so strongly that he plunged through the ship with both feet, and dashed his feet against the bottom; then he drew the Serpent up to the gunwale. And it may be said that no one has seen very fearful sights who might not see that: now Thor flashed fiery glances at the Serpent, and the Serpent in turn stared up toward him from below and blew venom.[12]

Although at this point the synthesis with Old Norse mythology is unmistakable, the notion of Satan's transformation into a horrible creature is yet another link to Scandinavia's pagan past. The figures of Odin and Loki Two, both of whom take on female forms at one point, are of the most obvious instances of shape shifting in Norse mythology. Loki memorably transforms into a female horse in order to distract the stallion Svaðilfari in the *Gylfaginning*.[13] Although no tale of Odin's female transformation exists, the "Lokasenna" depicts Odin and Loki taunting each other by implicating that each one had at one point

[9] Aho, "A Comparison...,"161-63.
[10] Ibid., 163-64.
[11] See, for example, the several reference in Snorri's *The Prose Edda: Norse Mythology*, ed. Jess L. Byock (London: Penguin, 2005), 26, 27, 45-47, 53-56, 65, 69, 72, 73-74, 76, 83, 106, 116, 134-35, 142, 168.
[12] Snorri Sturlson, "Gylfaginning," in *The Prose Edda: Norse Mythology*, ed. and trans. Jesse L. Byock (London: Penguing, 2005), 45-47.
[13] Sturlson, "Gylfaginning," 36.

been women and borne children.[14] Other instances include Freya's transformation of Óttar into the boar Battleswine and Siggeir's mother's transformation into a wolf in the *Volsinga Saga.*[15] Although multiple accounts of the slaying of Fafnir exist, in every circumstance he is transformed from his original dwarf, human, or giant form.[16] A Scandinavian audience would have been completely familiar with the concept of shape shifting in the *Niðrstigningarsaga,* and its inclusion may have facilitated the transition from paganism to Christianity.

Although it is impossible to tell how popular the *Niðrstigningarsaga* was in medieval Scandinavia, the mere fact of its unique compilation is enough to support the persistence of pre-Christian belief. One might easily dismiss the *Niðrstigningarsaga* as a one of a kind account more reflective of its author than of its readership were it not for the occurrence of similar synchronisms in other twelfth-century Christian literature. The saga of Óláfr Tryggvason, for example, attributes Óláfr as having accomplished numerous heroic deeds and feats of strength of fantastic proportions, such as slaying a sea monster.[17] Óláfr, despite the moderate level of power he actually had, was by the twelfth century regarded as having been a major Christian influence in Scandinavia. Later literature and even folklore emphasized Óláfr's power and might, just as Christ's was emphasized in the *Niðrstigningarsaga.* One might also reasonably draw similarities to Sigurd's slaying of Fafnir the dragon in *Volsung Saga*.[18] The popularity of this account cannot be underestimated; in fact, many stave churches throughout Scandinavia depict the story in woodcuts on doors and walls. As those familiar with the Anglo-Saxon epic *Beowulf* should recall, a dragon is the ultimate symbol of evil and greed in Scandinavian and Anglo-Saxon societies and could thus easily represent the satanic during Christian times.

To be brief, future studies of the Christianization of Scandinavia need to incorporate the invaluable evidence contained within the *Niðrstigningarsaga.* This report has only touched on its potential value. By reviewing the modifications present in the *Niðrstigningarsaga,* it is possible to argue that pagan values such as strength persisted well into the Christian period. However, this is a rather one-dimensional approach, and were this text more readily accessible, other researchers might be able to uncover more. As such, there is a great need for a full translation of this text into English given the relative obscurity of Old Norse among modern academics. The *Niðrstigningarsaga,* simply put, is a source worthy of serious consideration.

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[14] "Lokasenna," in *The Poetic Edda*, ed. and trans. Carolyne Larrington, (New York: Oxford University Press, 1996), II. 23-24.

[15] Óttar's story is told in "The Song of Hyndla." See *The Poetic Edda*, 253-59. The transformation of Siggeir's mother is recounted in *The Saga of the Volsungs: The Norse Epic of Sigurd the Dragon-Slayer*, trans. Jesse L. Byock (New York: Penguin, 1990), 41-42.

[16] In Jesse L. Byock's translation he is human and is furthermore able to transform into an otter or pike to aid him in catching fish. See *The Saga of the Volsungs*, 57-59.

[17] Oddr Snorrason, *The Saga of Olaf Tryggvason*, trans. Theodore M. Andersson, (New York: Cornell University Press, 2003).

[18] *The Saga of the Volsungs*, 63-66.

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The Apocalypse in Early Christianity

Kimberley Smith

The earliest Christian writings of apocalyptic eschatology presented equally powerful and disconcerting images of the annihilation of the earth, the degeneration of humanity into chaos and darkness, and the slaying of the sinful at the feet of the holy and righteous. According to these teachings, God unleashes his infinite wrath upon mankind, ensuring an eternal punishment in blood and fire for those condemned unbelievers and a timeless paradise for the few worthy of God's praise. Although these doctrines predicted the End of Days and the coming Judgment, they also served as clear reflections of contemporary events and beliefs. Subsequently, singular and sometimes completely divergent views of the apocalypse emerged as the Christian church continued to develop and as a variety of Christian communities were established, as can be seen in the writings of the Gnostics in the Nag Hammadi codices and of the Essenes in the Dead Sea Scrolls, in the words of Jesus himself in the New Testament gospels, and in several other apocalyptic writings. These writings and interpretations of apocalyptic scenarios, clear reflections of the values and beliefs of the time, are centered on the total obliteration of the earth, the social order, and God's ultimate intervention in human history.

The idea of a universal apocalypse was certainly not a novelty at the time of Jesus' crucifixion and the advent of Christianity. Long before Christ's arrival, Jewish prophets had predicted the extermination of the world, which was contingent upon the arrival of the Son of Man, God's sole redeemer for humanity.[1] In one of his visions, God revealed to the prophet Isaiah, "I trampled the nations in my anger; in my wrath I made them drunk and poured their blood on the ground," and we find that the prophet Daniel was told to "understand that [his] vision concerns the time of the end."[2] The origins of Judaic apocalypse lie primarily in the well-established tradition of Jewish prophecy, but the national sense of oppression and discontent related to Jewish persecution undoubtedly contributed to the powerful awareness of the Final Judgment. The hegemonic control of foreign nations and the rise of worldly powers, particularly that of Rome, was seen as a physical representation of the destruction to come. The Jews, therefore, already perceived Rome as the reincarnation of the apocalyptic city of Babylon, the ultimate enemy, who God would overthrow upon His personal intercession in human history.

Disagreements and bitterness between divergent Jewish communities also contributed to the emergence of apocalypticism, straining the tensions between individual factions and fueling the debate centered on the End Times and the coming Redeemer.[3] Though Rome was acknowledged as an enemy second only to the Devil himself, some powerful Judaic sects, the Pharisees included, actually supported the Roman occupation because of the reciprocal relationship that existed between the Temple and the Roman government. On a daily basis, many Jewish theologians disagreed, often violently, over small matters of doctrine, tradition, and interpretation that were seen as essential to the understanding of the faith. Despite these tensions and disagreements, however, several common themes emerged in Jewish apocalyptic literature, namely that "God will establish his Kingdom; that Jerusalem, and thus the Temple, will be rebuilt or restored; that the exiles will be gathered in; the unrighteous punished; idolatry

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[1] Isaiah. 59:20. Biblical excerpts were taken from *The Holy Bible, New International Version* (Grand Rapids: Zondervan, 2005).

[2] Isa. 63:6; Dan. 8:17.

[3] David E. Aune, *Apocalypticism, Prophecy and Magic in Early Christianity* (Tübingen: Mohr Siebeck, 2006), 6.

vanquished; and suffering and travail will be replaced by an everlasting peace."[4]

But apocalyptic texts, although they prophesize eventual victory and happiness for believers in Christ, certainly do not promise an immediate state of bliss – far from it. As Paula Fredriksen reminds readers, "happy people do not write apocalypses. The apocalyptic description of the joyful future that awaits – that is in fact imminent – is the mirror image of the perception of the present times, which are seen as uniquely, indeed terminally, terrible."[5] Apocalypses, even though they dealt primarily with spiritual and cosmic events, were also largely political, implying profound condemnations against the present order, a form of protest literature utilized by an oppressed minority. In the Christian apocalypse "The Revelation of John," the language of persecution permeates the text, indicating that it was written either in the early 60s AD during the reign of Nero, or during the late 90s AD coinciding with the Domitianic persecution.[6] The intricate symbolism that enshrouded these apocalypses not only enhanced their inscrutability and provided their authors with a degree of authority but also served to protect them from becoming condemned political statements.[7] As such, apocalyptic literature and beliefs could easily be circulated under the noses of the Roman authorities – John of Patmos was able to distribute his own text while still in exile – and although most apocalyptic ideas were transmitted orally, the dangers linked to the circulation of written apocalypses were minimal.[8]

After Jesus' crucifixion, and the supposed victory of Roman oppression, converted Christian leaders began to develop their own apocalyptic teachings. Many of these new teachings were rooted in Jewish history and theology, but they taught that the Redeemer predicted by the Jewish prophets had already appeared as the Son of God, that he had delivered humanity from evil by the spilling of his blood, and that the End Times, when God would pour out His wrath upon Earth and redeem the blood of the martyrs, were near. The immediacy of this coming apocalypse encouraged the leaders of the early Christian church to convince as many souls as possible to believe in Jesus Christ as the Son of God and to accept his gift of salvation, guaranteeing themselves a place in heaven for eternity. Paul himself especially emphasized this immediacy of the End in his letters of doctrine and encouragement to Christian communities: "And do this, understanding the present time. The hour has come for you to wake up from your slumber, because our salvation is nearer now than when we first believed. The night is nearly over; the day is almost here. So let us put aside the deeds of darkness and put on the armor of light."[9]

In addition to Paul, the early Gospels of Mark and Matthew particularly stress this imminence of the End, and the Jesus depicted in Matthew teaches that "this generation will certainly not pass away until all these things have happened" and that "you also must be ready, because the Son of Man will come at an hour when you do not expect him."[10] Similarly, in Mark, Jesus declares that "the time has come […] the Kingdom of God is near. Repent and believe the

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4 Paula Fredriksen, *From Jesus to Christ: The Origins of the New Testament Images of Jesus* (New Haven and London: Yale Nota Bene, 2000), 82.

5 Ibid., 82.

6 Aune, *Apocalypticism, Prophecy and Magic in Early Christianity*, 3.

7 Fredriksen, *From Jesus to Christ*, 83.

8 Tim LaHaye, *Revelation Unveiled* (Grand Rapids: Zondervan, 1999), 26.

9 Romans. 13:11-12.

10 Matthew. 24:34, 44.

good news!"[11] This stark immediacy of the coming Judgment was not confined to the traditionally accepted proto-Orthodox Christianity but rather became a dominant theme within a variety of Christian sects. The Gnostics, who probably emerged in the second century, were a group of Christians who rejected Jesus' humanity and believed that the only way to salvation was through divine knowledge. Barnabas encouraged them to "take God for your teacher, and study and learn what the Lord requires of you; then do it, and you will find yourselves accepted at the Day of Judgment."[12] In addition to this salvation through *gnosis*, Barnabas believed, much like the proto-Orthodox Christian leaders, that "day and night the Day of Judgment should be kept in mind," for the coming of the End was imminent.[13]

Besides the vivid warnings of the forthcoming Judgment, authors of Christian apocalypses also provided the believer with various signs that would signal God's pending intervention and the arrival of His Kingdom. In Matthew, Jesus warns his disciples to "watch out for false prophets. They come to you in sheep's clothing, but inwardly they are ferocious as wolves."[14] He also warns them to "watch out that no one deceives you. For many will come in my name, declaring 'I am the Christ,' and will deceive many."[15] Jesus particularly advises the apostles that these "false prophets will appear and deceive many people" at the End of the Age.[16] As well as the emergence of false prophets, believers of Christ will endure increased persecutions and "will be handed over to be persecuted and put to death, and you will be hated by all nations because of me."[17] Chaos and war are also characteristic of the approaching times: "you will hear of wars and rumors of wars," Christ says; "such things must happen, but the end is still to come. Nation will rise against nation, and kingdom against kingdom. There will be famines and earthquakes in various places. All these are the beginning of birth pains."[18]

We are presented with similar signs of the End in *The Shepherd of Hermas*, a popular apocalyptic text written circa 150 AD. Although this text was never officially accepted into the New Testament canon (it was composed far too recently, and by a layman who was not an apostle of Jesus), it was nevertheless considered by many to be both authoritative and canonical. In its prophetic context, *The Shepherd of Hermas* vividly described how a false prophet may be distinguished from one who speaks the word of God:

> In the first place, that man who seems to have a spirit exalts himself and wishes to have the first place, and he is instantly impudent and shameless and talkative, and lives in great luxury and in many other deceits, and accepts rewards for his prophecy, and if he does not receive them he does not prophesy … It is not possible for a prophet of God to do this, but the spirit of such prophets is of the earth."[19]

Hermas' divine messenger also relates the sufferings that will be borne by believers in Christ:

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11 Markk. 1:15.

12 Maxwell Staniforth, trans., "The Epistle of Barnabas," in *Early Christian Writings*, ed. Andrew Louth, (New York: Penguin Classics, 1987), 182.

13 Ibid., 180.

14 Matt. 7:15.

15 Ibid., 24:4-5.

16 Ibid., 24:10.

17 Ibid., 24:9.

18 Ibid., 24:6-8.

19 Kirsopp Lake, trans., *The Shepherd of Hermas*, in *The Apostolic Fathers: Volume II*, ed. T.E. Page (Cambridge: Harvard University Press, 1965), mand. 11:12.

"scourges, prisons, great tribulations, crucifixions, wild beasts, for the sake of the Name."[20]

The purpose of these texts, however, was not singularly to warn of the atrocities that believers would endure at the End of the Age; apocalyptic warnings were also intended to be messages of encouragement. Through his prophetic teachings, Jesus was simultaneously warning his disciples of the future tribulations they would undergo and encouraging them to persevere in their faith, for he promised that "those who stand firm to the end will be saved."[21] Justin Martyr, a Christian apologist who lived in the early second century, wrote his *First Apology* to the Emperor Antoninus Pius sometime between 147 and 161 AD. He was a strong advocate of biblical prophecy, and he emphasized that the promise of eternal life with God in heaven was a powerful motivation for believers to resist conversion and to endure their earthly suffering. Gaining perpetual bliss at the Second Coming was too sweet a possibility to ignore, and by suffering humbly for the good of the faith, true Christians succeeded in saving their immortal souls.[22]

As reflections of social perceptions and convictions, the particular language of Christian apocalyptic texts and the events that comprised the End varied considerably depending on the unique beliefs of individual Christian sects. The Essenes, a Christian group that emerged in the early first century, are not mentioned anywhere in the canonical New Testament, yet we know a great deal more about them then we do about any other early Christian group because of the discovery of the Dead Sea Scrolls. Discovered in the caves of Qumran in 1947, the scrolls are a compilation of the Jewish scriptures and are an excellent example of the Essenes' interpretive tradition. They believed that they were fulfilling the Jewish prophecies, describing themselves as the "Angels of Light," sent by God to usher in the "Era of Light" and destroy the "Angels of Darkness."[23] The Essenes anticipated an imminent apocalypse ushered in by war between Jerusalem (the Holy City) and Rome (the biblical Babylon) and claimed that God had assured them of "that which is to come. It shall indeed all come to pass, unto eternity. There will be violence and great Evils. Oppression will be upon the earth. Peoples will make war, and battles shall multiply among the nations, until the King of the people of God arises."[24] While the majority of the Christian population saw themselves as mere participants in the coming apocalypse, helpless to prevent it and bound to the suffering it would bring, the Essenes saw themselves as heavenly agents, the instigators of the apocalypse, and the earthly soldiers of God.

In the Gospels, frequent references are made to the judgment that "was to be brought by someone Jesus called the Son of Man, a cosmic judge sent from heaven who would destroy all that is opposed to God and reward those who were faithful to him."[25] This Son of Man would bring with him an unimaginable destruction never before conceived in human history, and "in those days, following that distress, the sun will be darkened, and the moon will not give its light; the stars will fall from the sky, and the heavenly bodies will be shaken. At that time men will see the Son of Man coming in clouds with great power and glory. And he will send his angels and

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[20] Ibid., vis. 3:2.

[21] Matt. 24:12-13.

[22] Justin Martyr, *The First Apology of Justin Martyr: Addressed to the Emperor Antoninus Pius*, trans. John Kaye, ed. William Reeves, (London: Griffith, Farran, Okeden & Welsh, 18--) LXVI.

[23] Robert Eisenman and Michael Wise, eds, *The Dead Sea Scrolls Uncovered* (Shaftesbury: Element, 1993), 4Q462.

[24] Ibid., 4Q246.

[25] Bart Ehrman, *Jesus: Apocalyptic Prophet of the New Milennium* (New York: Oxford University Press, 1999), 144.

gather his elect from the four winds, from the ends of the earth to the ends of the heavens."[26] Even before this Son of Man ushers in the destruction prefacing the End, Jesus is quite blatant in making sure that his disciples understand the consequences of his coming: "I did not come to bring peace, but a sword. For I have come to turn a man against his father, a daughter against her mother …."[27]

In addition to the obliteration of an earthly government, the series of social reversals expected to accompany the apocalypse would have been highly threatening to the Romans and the established order. This serious threat to the well-established social order would certainly have provoked increased suspicion as well as the persecutions that Jesus predicted in Mark 24. The early Christians believed that malevolent forces controlled their present age and therefore that those who thrived and ruled were inherently evil.[28] Jesus' beatitudes, presented in Matthew 5, promised that, with God's intervention, the humble classes would displace those who resided comfortably and despotically at the top of the socio-political structure. The beatitudes also served to solidify Christ's special relationship with sinners and the lowly. Likewise, all "men will have to give account on the day of judgment for every careless word they have spoken," and this answering for earthly sins would ensure the predetermined set of reversals in God's Kingdom.[29]

Clearly the end of days would be far from peaceful, not a mere transition to a divine age but a horrifying and brutal end, at which time individuals were judged, governments and institutions demolished, and the Temple destroyed.[30] Ignatius warned that "nobody be under any delusion; there is judgment in store even for the hosts of heaven, the very angels in glory, the visible and invisible powers themselves, if they have no faith in the blood of Christ."[31] While earthly torment would culminate in an eternal bliss for those believers who stood firm in their faith, unbelievers and heretics were promised eternal damnation. Jesus assured his disciples that "whoever acknowledges me before men, I will also acknowledge him before my Father in heaven. But whoever disowns me before men, I will disown him before my Father in heaven," and even that "not everyone who says to me, 'Lord, Lord,' will enter the kingdom of heaven, but only he who does the will of my Father."[32] Jesus was unmistakably clear that a high level of commitment to the Christian faith is necessary in order to enter God's kingdom, and even those who had accepted the Risen Christ as the savior would not enter heaven unless they were unquestionably devoted to their faith.

The concept of a future punishment was no novelty in ancient society, and as Justin Martyr attested, "Plato and we are both agreed as to a future judgment, but differ about the judges … And moreover we say that the souls of the wicked, being reunited to the same bodies, shall be consigned over to eternal torments."[33] He goes on to describe hell as "that place where the wicked lives, and such as disbelieve the revelations of God by Christ shall suffer and … this

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[26] Mk. 13:24-27.

[27] Matt. 10:34-35.

[28] Ehrman, *Jesus: Apocalyptic Prophet of the New Milennium*, 148.

[29] Matt. 12:36.

[30] Ehrman, *Jesus: Apocalyptic Prophet of the new Milennium*, 154.

[31] *The Epistle of Ignatius to the Smyrnaeans*, trans. Maxwell Staniforth, *Early Christian Writings*, ed. Andrew Louth (New York: Penguin Classics, 1987), 102.

[32] Matt. 10:32-33; Matt. 7:21.

[33] Justin Martyr, *The First Apology of Justin Martyr*, VIII.

whole system of corruptibles shall be destroyed by fire."[34] This consumption and ordeal by fire was a theme continually repeated in all circles of Christian thought, and it was particularly associated with God's future judgment. The Gnostic *Gospel of Thomas,* a collection of 114 alleged sayings of Jesus, portrayed Jesus as declaring "I have thrown fire upon the world, and look, I am watching it until it blazes."[35] A fragmentary apocalypse from the Essences, entitled the "Tree of Evil," contained references to "the burning of fire" and "flames."[36] *The Revelation of Adam*, an apocalyptic text in the Nag Hammadi scriptures, testifies that "fire, sulfur, and asphalt will be cast upon those people, and fire and smoke will cover those realms."[37] In the New Testament Book of Revelation, the ultimate destination for sinners is a lake of fire, a "lake of burning sulfur" described as a second death, where "[the damned] will be tormented day and night for ever and ever."[38]

The various apocalyptic texts that arose with the advent of Christianity are reflections of the societies in which they originated, a consequence of the beliefs, ideals, and hopes promised by the Risen Christ. While concerned with the cosmic events that would mark the End of the Age, they also served as highly charged political texts, enshrouded in an intricate web of symbolism while condemning the present social order. In many of these writings, the great tribulations that would be endured by Christian martyrs and the eternal punishments reserved for the unfaithful were described in vivid detail, and it is clear that no mercy would be shown for those who sided with evil in the cosmic battle for control of the earth. But despite these terrifying predictions, apocalypses were also works of encouragement for believers, promising them timeless bliss in Heaven for their resistance to paganism and resolute defense of the Christian faith. These various Christian apocalypses therefore functioned simultaneously as a pillar of strength for believers and a bold warning to evildoers, reflecting the beliefs of individual communities and providing a blueprint of the End of the Age.

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34 Ibid., XXVII.

35 *The Gospel of Thomas*, NHC II,$_2$, in *The Nag Hammadi Scriptures*, ed. and trans. Marvin Meyer (New York: HarperOne, 2007), v. 10.

36 Eisenman and Wise, *The Dead Sea Scrolls Uncovered*, 4Q458.

37 *The Revelation of Adam*, NHC V,$_5$, in *The Nag Hammadi Scriptures*, ed. and trans. Marvin Meyer (New York: HarperOne, 2007), v. 74.

38 Revelations. 20:10.

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The Domestication of the Wild West

Theodore Strasser

Two hundred years ago, the West was a vast wilderness; today, in relatively recently domesticated areas of the nation, there are huge metropolises such as Los Angeles. How did this change to our landscape take place seemingly overnight? This desire to domesticate our territory was driven by intense American feelings of Manifest Destiny, but vision alone is not enough to turn huge areas of wild land into cultivated, domestic property. Simply stated, the answer lies in one simple idea: the ranch-style home. The residential landscape of the 1950s was dominated by the ranch-style home, and while ranch homes were not large estates on many acres of land, like their namesakes in the southwestern United States, they exemplified many of the same ideas: an awareness of nature in both construction and design shown through the selection of architectural elements, including both picture windows and outdoor patios, or even courtyards, and a more natural-looking selection of building materials. Even in the 1950s, land in the West was readily available, and everyone could spread out, with plenty of room for their livestock, or even for just a dog or two, as was generally the case. Ranch-style homes are rarely built today, nor have they been in recent decades. On the infrequent occasion that someone does build a ranch-style home today, it looks very little like the ranches of the previous eras. The 1950s ranch was the product of a renewed interest in the West, both mythological and factual, largely on the part of GIs returning from the war as well as the rise of new technologies that allowed ranches to be efficiently produced.

Newer developments have shown a preference for more traditional two-story homes. This change in trends suggests that the ranch home was a last effort at preserving the idea of the West culturally, socially, and economically, especially in the turbulent post-war period. Western values permeate both the architectural history and the features of the ranch house. As the name suggests, the ranch was supposed to conjure up fantastic ideas about a wild territory untouched by the blemishes of modernity. To be the king of his castle was the ideal life for many men, but in America, nothing could compare to being a cowboy complete with one's own ranch.

Figure 1. This is a restored ranch from the early 1800s in California. Image from LAOkay.com.

THE BEGINNING

Mexican colonists in what is now Mexico and the southwestern United States constructed the first ranches, or *rancheros,* out of common materials – mainly adobe or masonry because these materials were readily available. The houses made from these materials seemed to grow out of the landscape.[1] Ranches were also designed in a way that placed great emphasis on the outdoors. Because of the warm arid climate of the area, as well as the need of *vaqueros* (a Spanish word for cowboys) to watch over their livestock, much time was spent outside (Fig. 1).

[1] Barbara L. Allen, "The Ranch Style House in America: A Cultural Environmental Discourse," *Journal of Architectural Education* 49.3 (1996): 157.

The early ranch homes in the United States brought the outside in. From the beginning, picture windows were built facing the back yards of these homes. Not only were these elements aesthetically pleasing, but in later ranch homes from the 1950s, they also moved children from the streets to the back yards. Occasionally this would be more of a courtyard with an L-shaped floor plan. Often this space included a patio or other type of semi-secluded outdoor hideaway. This was one prominent feature that modern ranches shared with older Mexican rancheros.

Figure 2. This is a California Ranch by Cliff May. Notice the low construction and roofline as well as the large patio and windows. Image from Doug Kramer's Rancho Style.

These architectural similarities between the early ranches in the 1800s and the later ranches in the 1950s was something that Cliff May, the father of the modern ranch, tried very deliberately to emphasize. Many of his ranches were constructed in the early 1950s to the early 1960s in California (Fig. 2). These have become known as California Ranches, and they were the first time the ranch home made an appearance in more modern American architecture. They were nice homes at the time of their construction, and although they were not mansions, they were beyond the financial capabilities of many families.

TECHNOLOGY SPURS HISTORY ONWARD

The end of World War II saw a great interest in expansion of the housing market with the return of many GIs from the war, and it also saw a return to simplicity in the personal goals of citizens: "the West," Barbara L. Allen says, "like the ranch house and the suburb, function[ed] as a symbol of freedom and of the pioneer spirit."[2] In a sense, this new design began as the renewal of the myth of the Old West, and many ideas of the traditional architectural styling of the Mexican rancheros were recreated in the ranch-style house. Traditionally, the West offered a second chance to those who were economically less fortunate in the already-established Eastern towns.[3] At its height, the ranch offered the same opportunities in housing. When the early 1950s ranch reached its height, construction was down to a masterful art form. These homes could be constructed nearly overnight. With a Cliff May ranch kit that went on the market in 1953, a modest 815-square-foot home could be built for roughly $7,294.[4] These homes could be constructed as fast as people could purchase them. Many of these new neighborhoods saw several families moving in daily.[5]

This principle of exploration and conquest is the most basic example of Manifest Destiny. From the time of the creation of the United States of America people have always wanted to expand and conquer unknown lands, and often these lands were found in the West. This can be

[2] Ibid., 162.
[3] Malcom Clark Jr., *Eden Seekers the settlement of Oregon, 1818-1862* (Boston: Houghton Mifflin, 1981), 4
[4] Gary Peterson, "Home Off the Range: the Origins and Evolution of Ranch Style Architecture in the United States," *Design Methods and Theories* 23 (1989): 1052.
[5] Peter Bacon Hales, "Building Levittown: A Rudimentary Primer," University or Chicago Art History Department, http://tigger.uic.edu/~pbhales/Levittown/building.html.

seen in Americans' attitudes toward the Ohio Valley in the Civil War era.[6] Through the 1800s, massive gatherings of settlers rushed out to make claims on land as the government opened new territories to settlers. This idea of a land rush is demonstrated in the Oklahoma Land Rush of 1889. On April 22, 1889, as many as fifty thousand people showed up to make a claim on newly opened plots of land in Oklahoma, and several decent sized towns sprang up literally overnight.[7] The town of Guthrie, Oklahoma, for example, was nonexistent the morning of the twenty-second, but by sundown it had at least ten thousand residents.[8] This is a dramatic example of the West being open for the taking.

Figure 3. Bernard Levey family in front of their 1950s ranch house, May, 1950. Photograph taken by Bernard Hoffman for *Life*. Image from Hales, "Building **Levittown."**

This phenomenon was recreated in nearly equal size, and with lasting consequence, in the housing boom resulting from the ranch design and the advent of pre-manufactured housing in general. The construction of Levittown demonstrates the shift in methods of architecture, construction, and realty in the creation of an ideal American suburb.

Levittown's house design helped to ensure the project's economic success (Fig.3). Built as homes for the average family, Levittown homes were simple in design and simple to construct. The bathroom and kitchen shared a common wall (Fig.5). Although this makes for a somewhat clumsy floor plan, it allowed for only one area of the house to have any plumbing. Furthermore, the houses were constructed nearly entirely of pre-fabricated components (Fig. 4). Much of the woodwork in the homes, for example, came pre-constructed and pre-painted. Levittown itself was the idea of a father and his two sons. The father of the family, Alfred Levitt, worked under the great American architect Frank Lloyd Wright at one point in his career and was able to implement Wright's ideas in his own projects.[9] Levittown standards, such as slab construction with

Figure 4. Workmen and the materials to construct a house gathered in a lot before construction, June, 1948. Photograph taken by Tony Linck for *Life.* Image from Hales, "Building Levittown."

[6] Clark, *Eden Seekers*, 2.
[7] Stan Hoig, "Land Run of 1889," Encyclopedia of Oklahoma History and Culture, Oklahoma Historical Society, http://digital.library.okstate.edu/encyclopedia/entries/L/LA014.html.
[8] William Willard Howard, "The Rush to Oklahoma," *Harper's Weekly*, May 18, 1889, 391-94, http://www.library.cornell.edu/Reps/DOCS/landrush.html.
[9] Hales, "Building Levittown."

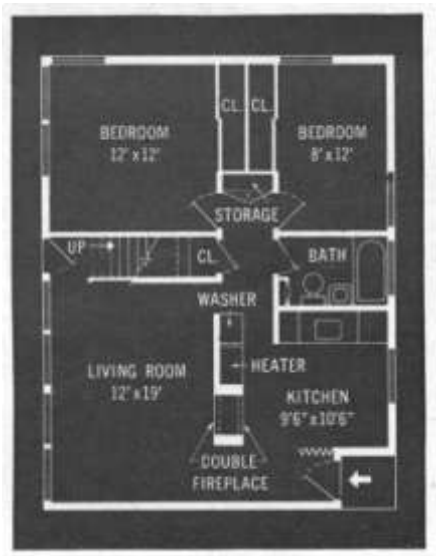

Figure 5. Floor plan for the 1950 ranch style. Notice the simplicity in design, which allows for efficient construction. Image from Hales, "Building Levittown."

heating pipes in the poured floor and open fireplaces to make the rooms look bigger, were all ideas that had initially come from Frank Lloyd Wright.[10]

Many of the building techniques used in construction were based on military techniques used in World War II. Bill Levitt served with the Navy Seabees, a specialized rapid-construction battalion for the United States Navy.[11] Bill Levitt's experiences with rapid construction made him capable of instituting an effective means for mass production within his company. At one point, magazines such as *Life* and *Time* both featured the story of a man who simply moved from site to site painting windowsills. While this may seem incidental, it shows the most basic secret to the Levitt family's success: their specialized labor force was a direct carryover from Bill Levitt's experiences in World War II, and it greatly increased the Levitts' financial and building-time efficiency.

WESTERN REVIVIAL

In the last century, communication changed drastically. At the turn of the last century people would huddle around a radio to listen to a narrative adventure or the nightly news. Shortly thereafter, television sets were invented, became common in American homes, and then became capable of color. This occurred by 1953, when wealthy families began turning on the latest technology. The shift from radio to television was dramatic and rapid. With television, and especially color television, the viewers could leave their living rooms and be transported to somewhere completely different. The radio shows of the first half of the twentieth century were often Westerns.

The 1950s was a period culturally obsessed with the West. By 1959, thirty-five Westerns were on television, and eight of the top ten shows from the year were Westerns.[12] The ideal cowboy, John Wayne, had succeeded in conquering the silver screen, ultimately winning an Academy Award for best actor in 1969 for *True Grit*. Americans watched eagerly to see where his next adventure would take him. In all, John Wayne starred in over one hundred seventy-five films, the majority of which were westerns.[13] In these movies, there was a very clear distinction between the good guy and the bad guys. Generally these villains were the Indians in the West. When the villains were other cowboys, the film would work to make it very clear who was the hero and who was the villain.[14] This distinction was made with hats, the hero wearing a white hat, and the villain wearing a black hat – thus the term "black hat" to refer to someone of

[10] Hales, "Building Levittown."
[11] Ibid.
[12] Jane Tompkins, "West of Everything: The Inner Life of Westerns," in *Realizing Westward: American Character and Cowboy Mythology*, ed. Stephen P. Cook (New York: Pearson, 2003), 98.
[13] Wayne Enterprises, "Biography," John Wayne, http://www.johnwayne.com.
[14] The end of Western themes in television and movies should not indicate a move away from traditional values and the distinction between good and evil as seen through popular culture. As people began to look at the West as civilized, outer space became the new frontier. *Star Trek* began airing in 1966, relying heavily on principles such as honor, freedom, and a marked distinction between good and evil. In more modern times, *Firefly*, a short-running television series from 2002, worked to synthesize the West and space exploration into one cohesive unit.

questionable character. Shows such as *The Lone Ranger* and *Howdie Doody* dominated children's television entertainment throughout the decade. These, too, focused on an overly romanticized view of the Wild West. In these films and television shows, the hero was the victor, and justice was always ultimately served to the villain.

Similarly, it was also not uncommon to see children of this period playing cowboys and Indians. The cowboys in these games were portrayed as civilized and good while the Indians were shown to be uncivilized and villainous. Like the movies, this game portrayed a clear distinction between good and evil. Granted, these means of entertainment were solidly grounded in numerous historical inaccuracies, but the general public of the day devoured them. John Wayne spoke to the American and the American Spirit. There were no Indians living freely in the open, unconquered plains in the 1950s, and there was no cavalry on horseback for them to fight. Yet the public loved the idea of chivalry and the concept of freedom that permeated the West.

Undoubtedly, one such freedom for every citizen was the idea of homeownership, even if this goal devoured land. Land in the western United States was endless, or so it seemed. In larger cities, like Chicago or New York, people built up in high-rise skyscrapers. The ranch, however, was the antithesis of this. Its sprawling floor plans gave no thought to land consumption, and many of these homes carried-on the historical precedent of incorporating the outdoors into living space. Large patios and built-in fixtures such as brick barbeques were often seen in homes of this period. Wood was also a very common building material, not just for framing, but rather as an artistic element similar to the exposed ceilings of the early Mexican ranches. Only now it was used for flooring, occasional ceiling detail, and especially split-rail fencing. These fences can still be seen in many neighborhoods of this era. In contrast to the modern privacy fence, the split-rail fence creates the feeling that one's backyard, or land, goes on much further than it actually does.

THE RANCH AS A FAD

Today land is not as available as it was in years past. Quite often, modern construction is focused on two-story houses with a smaller land footprint than the ranch-style homes of the past. Even more unfortunate about these new homes is the lack of a yard. Many homes have yards that are too small to accommodate livestock any bigger than a small dog, and epic battles between nine-year-old cowboys and Indians are much less commonly seen in neighborhoods today—that is, if ever seen at all.[15] A lingering tie to the Wild West, and more recently to the ranch-style house, has been maintained through the still-common use of wooden split-rail fences; now, however, these fences are used to fabricate a feeling of now-nonexistent open space.

The 1950s demonstrate a large revival in the West. One might call this revival something of a last gasp. In a short period of time, much of the endless land has disappeared, and this can be blamed largely on land-eating construction principles such as the ranch house. This criticism may come off as harsh. After all, the ranch did succeed in fulfilling the fantasies of many Americans and in making homeownership part of the American Dream for thousands. The goals

[15] In a personal interview, Richard Deanda, a child care worker, commented that "kids today play *Halo*, not just the [video] game. They also play *Star Wars*. It's different, but it's the same basic idea." While popular childhood games of the past have gone away, this similarity demonstrates that the values behind these games, such as the struggle of good versus evil, as well as the perception of a moral obligation in society, are still very present in the youth.

of home ownership and independence have been spurring Americans on for decades, and, arguably, the advent of the ranch in the fifties made it possible in a new way. It also introduced new methods of construction and design that continue to keep homeownership affordable for large parts of the American population even today.

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A Solution for Almost Everything – The Permanence of the Laser in America[1]

Weston Welge

> *I didn't know there was going to be a supermarket scanner. I didn't know there would be a home compact disc. But it was clear that if you could make such a clear and coherent light, it would be a technological breakthrough.*[2]
>
> – Theodore Maiman

The laser's potential as an invaluable tool with myriad uses was discovered in the 1970s and 1980s. During those twenty years, entrepreneurial engineers, scientists, and inventors expanded the reaches of the laser industry from the laboratories of universities and big corporations to other industries like medicine and entertainment. In fact, most laser companies began as independent start-ups.[3] The American public was bombarded with the laser. They saw it in science fiction shows and movies such as *Star Trek*, *Star Wars*, and *Battlestar Galactica*. They heard about, and sometimes experienced firsthand, the revolutionary new medical techniques made possible by the laser. They listened to recorded music with never-before-heard quality thanks to laser disc players. They watched their government tout the benefits of the Star Wars program, which promised to use lasers and ballistics to guarantee safety to all Americans from Soviet nuclear attacks.

The laser industry, which economists predicted to reach $20 billion by 2000, was certainly on an upward trend by 1990, when sales of laser equipment reached $750 million in the West and sales of "systems containing lasers was much higher, probably several billion dollars."[4] The growing revenue of the industry reflected the continuous discovery of new uses for lasers and breakthroughs in laser technology, which outweighed challenges that faced the industry. The lingering perception of the laser as a dangerous device hurt non-medical laser sales for industry giants Spectra-Physics and Coherent as late as 1982. Coherent executives noted that demand for lasers in the medical industry continued to grow, but all other industries experienced a noticeable demand stagnation, which the executives attributed to lingering worries of the dangers of lasers.[5] By the late 1980s, however, Americans became increasingly aware of the safe uses of lasers. Rebecca Slayton argues that the many non-weapon uses of lasers caused Americans to view the laser as a clean, surgically precise technology, which was a far cry from the explosive and violent death rays in science fiction. And even though this perception of the laser was paradoxically linked to weaponry through the Strategic Defense Initiative (SDI), the focus of the defensive, not offensive, nature of SDI lasers perpetuated the image of lasers as a technology that need not be

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[1] This is the third chapter of a history honors thesis titled "The Evolving Technoculture of America: Understanding the Impact of the Laser on the Relationship Between Technology and Culture, 1960-2000."

[2] Don Colburn, "Laser Evolution: From 'Death Ray' to a Life-Saving Tool," *The Washington Post*, July 16, 1986.

[3] Jeff Hecht, *The Laser Guidebook* (New York: McGraw-Hill, 1992) 6-7. The two largest laser companies in the 1990s, Spectra-Physics Inc. and Coherent Inc., started this way as well. Some large companies, like IBM, added laser divisions.

[4] Ibid. Laser equipment is defined as lasers, laser power supplies, and optical equipment necessary for the desired operation of the laser, such as mirrors and lenses. "Systems containing lasers" describes electronic devices which utilize one or more lasers as necessary components of the device.

[5] Barnaby J. Feder, "Market Challenges for Lasers," *New York Times*, April 28, 1982.

feared.[6] As the Cold War came to a close, laser research started to move away from the military sector as large research laboratories sought commercial uses for laser technology developed initially for the military.[7] Additionally, thousands of scientists and engineers in the defense industry moved to the commercial sector as a consequence of the shrinking of the defense industry. This resulted in a decline of laser weapon research and a surge of commercial laser developments.[8]

The rapid growth of the laser industry characterized the history of the laser in the 1990s. This growth was a result of an influx of talented scientists and engineers who left the defense industry as well as the continued growth of several integral technologies, such as the Compact Disc and medical lasers. During this decade, the diode laser – the most common type of laser in systems used by consumers – sold more units than all other non-diode lasers combined.[9]

This essay investigates the consequences of the popularity of diode lasers and new and improved medical procedures that incorporated lasers. In particular, this chapter analyzes the language used to describe laser technology during the 1990s in the media. Newspaper and magazine articles on laser technology in this decade describe lasers differently from decades prior. Instead of describing the operation of lasers and what makes them different from older technology – as was the case in articles from the previous three decades – articles in the 1990s presuppose a level of basic knowledge of lasers among the American public.[10] The second half of this chapter investigates why the Digital Versatile Disc (DVD) replaced the LaserDisc (LD) and VHS as the standard format for home video. The DVD was a success because of a combination of factors including user convenience, the low cost of laser diodes, and unusual cooperation among the largest computer hardware companies.

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[6] Rebecca Slayton, "From Death Rays to Light Sabers: Making Laser Weapons Surgically Precise," *Technology and Culture* 52 (2011): 71.

[7] Malcolm W. Browne, "Laser Weapon Obliterates Graffiti, Not Missiles," *New York Times*, April 21, 1996. Lawrence Livermore National Laboratory was in the process of "convert[ing] many technologies developed for military purposes, including high-power lasers, to commercial uses." This lab was one of the partners in the SDI project and worked on both ballistics and directed-energy weapons for the initiative.

[8] Several examples of new companies in a variety of industries founded by scientists and engineers who formerly worked in defense can be seen in William J. Broad, "Defining the New Plowshares Those Old Swords Will Make," *The New York Times*, February 5, 1992.

[9] For sales data and comparisons, see Robert V. Steele, "Review and Forecast of Laser Markets – Part II: Diode Lasers," *Laser Focus World* 36 (2000). In the late 1990s, diode lasers were most commonly used in telecommunication and optical data storage. In telecom, diode lasers were used as the light source for fiber optic data transmission as well as the pump for fiber amplifiers, which amplify a currently existing data signal that has lost a significant amount of power by transmitting over a long distance in an optical fiber. "In 1999, diode lasers used in telecom accounted for 68.7% of the overall market, or $2.8 billion. . . . The increase over 1998 was an astounding 58.1%." In the optical data storage market, sales of lasers for use in CD technology grew $79 million, or 181%. The use of lasers in CD-ROM drives declined for the first time in 1999 as sales of DVD-ROM drives grew in popularity. Additionally, CD-RW drives dropped to below $300, which caused sales to accelerate in the late 1990s.

[10] A search for "light amplification by stimulated emission of radiation" in *The New York Times* from January 1, 1960, to December 31, 1999, on LexisNexis resulted in the following number of matches: fifty-three articles in the 1960s, fourteen articles in the 1970s, thirteen articles in the 1980s, and just three articles in the 1990s.

From Magnificent to Mundane

When the laser first appeared, it was the tool of physicists at universities and in the military. While Americans were exposed to lasers in supermarket scanners, some medical procedures, and news reports of military research, the popular perception of the laser was as a futuristic, destructive technology.[11] In these early years, journalists often made use of analogies to science fiction characters Buck Rogers and Flash Gordon when describing lasers. These descriptions resonated with the public, as both Buck Rogers and Flash Gordon were popular and wielded laser-like ray guns.[12] Despite the medical industry's early adoption of the laser – a mere one year after its invention – some Americans still associated the laser with death rays. Theodore Maiman, who invented the first working laser in 1960, recounted a conversation with actress Bette Davis in the 1960s in which she asked him, "How does it feel to have made something that brings such destruction to...mankind?"[13] But in the 1970s, Maiman noticed people associating the laser with its many medical applications.[14] The media once again associated the laser with weaponry in the 1980s thanks to the Strategic Defense Initiative, hence the colloquial name "Star Wars." But in the 1990s, the Cold War ended and the government drastically cut the defense budget.[15] As a result of these cuts and the growing success of diode lasers thanks to telecommunication and compact disc applications, the laser "became a metaphor for precision" among the populace.[16] This idea of precision came about because of the many common uses of lasers in the daily lives of Americans.

Dermatology was one of the newest medical industries to take advantage of the laser. Unlike most laser medical treatments in the past decades, dermatological use of lasers was meant to offer cosmetic convenience. Dermatologists first used lasers to remove port-wine stains in 1978, which are purplish birthmarks that tend to cover a large portion of the neck and face. The purpose of that treatment was to remove the psychologically damaging effects of the birthmarks. But in the 1990s, dermatologists and anyone else who could afford the equipment used them to remove body hair and tattoos.[17] Lasers for use in cosmetic dermatology were popular even among physicians because of the high profitability of most of the procedures. Hair removal on the upper lip cost $1000 to $3000, and it was a quick and low-risk procedure. The convenience of laser hair removal, in particular, was a selling point of the procedure to Americans. Laser companies offered their devices to doctors at reduced prices in exchange for holding demonstrations of the technology. Due to the quick profit of the procedures and fierce competition among cosmetic laser manufacturers, doctors and manufacturers bombarded beauty

[11] Slayton, "Death Rays," 46. Slayton provides several examples from *U.S. News & World Report* in the 1960s about the popular perception of the laser as a "death ray."
[12] Ibid.
[13] Colburn, "Laser Evolution."
[14] Ibid. "Instead of accusing him of inventing the death ray, people started coming up to him and saying things like, 'Oh, I want to thank you. My grandmother's eyes were saved.'"
[15] Budget cuts for a variety of research programs involved in defense are detailed in Broad, "Plowshares."
[16] Slayton, "Death Rays," 71. Slayton argues that during the 1980s Americans saw the laser both as a symbol for precision and as a weapon. In the 1990s, Americans still viewed the laser as precise, but the idea of the laser as a weapon changed. As will be explained later in this chapter, the lethal nature of lasers in the 1990s was generally limited to laser mounts on weapons for accuracy and the danger that laser pointers posed to the human eye.
[17] Ellen Tien, "Beauty's Bomb, but How Smart?" *The New York Times*, August 30, 1998. Tien adds, "[L]aser hair removal, tattoo removal, facials and peels don't require a medical license; the equipment can be deployed by anyone who has the $40,000 to $250,000 to buy it."

magazines with advertisements, and dermatologists filled their offices with brochures. The competition among advertisers created an environment full of "hype and gimmickry" to serve Americans "looking for a quick [cosmetic] fix."[18]

A common trend in articles that discuss dermatological lasers is the lack of detailed explanation as to how the technology works. When the port-wine stain removal procedure was discovered, articles explained how the coherence of light is the requisite characteristic of the laser, which allows it to remove the marks.[19] But articles from the 1990s rarely use more than a sentence or two to explain the procedure. And even these explanations describe the overall experience more than how the laser works or why the laser is necessary.[20] The vague descriptions indicate that Americans possessed a significant level of comfort with lasers. They may not have fully understood how lasers worked, but journalists and doctors did not believe that Americans needed detailed explanations of the sort that were provided in the previous decades. Considering the importance of medical procedures, vague explanations of lasers in these treatment descriptions indicate the level of trust in lasers more than a vague description regarding how a laser reads a CD. Interestingly, Americans must have placed enough trust in laser technology, their doctors, or both, because the Food and Drug Administration issued warnings to doctors in 1996 to stop using unapproved lasers for photorefractive keratectomy, a procedure to improve nearsightedness. Patients either did not make sure their doctors were using approved lasers or they did not seem to worry about these lasers if they did know. Some doctors imported cheaper lasers from Europe and did not go through the proper procedure to use them on their patients for research. One doctor even admitted to building his own laser, which he believed was "in the best interest of [his] patients."[21]

Further evidence that America had grown accustomed to lasers was the event surrounding the dangers of laser pointers and the subsequent legislation around the country to ban sales of laser pointers to minors. Prices of laser pointers dropped in the 1990s as sales of diode lasers continued to grow exponentially. Laser pointers vary in brightness and color, but all are low power devices that, in the 1990s, were a little smaller than a pen. Long-range laser pointers tended to be more expensive, costing between $50 and $100 in 1998.[22] Short-range pointers

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[18] Ibid.

[19] Matt Clark, Dan Shapiro, and Richard Manning, "Port-Wine Stains," *Newsweek*, January 23, 1978.

[20] In the lengthy Tien, "Beauty's Bomb," a doctor describes a particular hair removal machine: "It has the longest wavelength, the deepest penetration, and once you've done it three times, you've hit all the follicles." The mention of wavelength in that quote is the extent to which the article describes the science of the laser. While surely most Americans did not, and still do not, know that wavelength is directly related to penetration depth, the doctor's language implies some comfort with laser terminology among the populace. Simply mentioning "wavelength" acts as a sort of check-off that the device is scientifically sound. Another article, "What's Wrong With Laser Surgery for Snoring," *The New York Times*, September 21, 1993, mentions that lasers have been used to treat snoring but makes no attempt to explain how the procedure works. Still another article, Joe Donnelly, "One Doctor's Undyeing Dedication; Steven Snyder: A Leading Light in Tattoo Removal," *The Washington Post*, July 12, 1994, describes the laser tattoo removal procedure as follows: "Snyder's lasers smart-bomb the cells housing the pigment. This breaks up the inky epidermal cells and allows the body's own 'scavenger cells' to carry the pigment away to lymph nodes." This short description in an otherwise lengthy article implies that the public was aware that ink of a certain color will absorb the energy from lasers of a similar color, while the surrounding skin reflects most of the energy.

[21] "Eye Doctors Told Not to Use Unapproved Lasers to Treat Myopia," *The New York Times*, July 27, 1996.

[22] Donna Greene, "Move to Ban Laser Pointers For Minors," *The New York Times*, June 14, 1998. The two laser pointers described in this article are from Staples. The $51.99 device is red and has a range of 100 meters. The $79.99 pointer is also red but with a range of 125 meters.

were significantly cheaper, costing as little as $15.[23] The range of laser pointers is the maximum distance at which the spot can still be seen in normal light conditions. The low cost of some pointers helped them become popular among children and teenagers.[24] Even though most people knew what lasers looked like by the 1990s, the laser pointer was the only way most people ever wielded one. For this reason, it is easy to understand why such a device would have been an attractive toy for both adolescents and adults. The problem, however, was that people were not knowledgeable of the dangers of laser pointers. While no laser pointers have ever been strong enough to burn skin, they can pose a threat to the human eye. The concentrated energy of a laser pointer can permanently damage the retina if shined upon the retina long enough. As laser pointers became popular in schools, incidents of eye damage due to laser pointers increased.[25] Even when laser pointers were not shined into the eyes of other students, many schools added them to their list of banned items, citing that their use was often inappropriate and distracting.[26]

People who shined lasers at police officers faced more serious consequences. The gun laser-sight, invented in 1977, became so popular that many police officers were trained to recognize a laser dot as a sign that someone was aiming a gun at them. For this reason, shining a laser at a police officer can result in arrest.[27]

In light of the potential dangers due to inappropriate use of laser pointers, several jurisdictions passed or attempted to pass legislation to ban the sale of laser pointers to minors. In 1998, New York City banned the sale of laser pointers to minors, prohibited anyone under twenty from carrying them on school grounds unless necessary for an assignment, and banned anyone from aiming a laser at police officers, emergency workers, or their vehicles.[28] *The New York Times* reported, however, that there were no citations or arrests one month after the regulations became law.[29] The newspaper had no articles reporting on the efficacy of the laser-pointer laws thereafter.[30] This lack of articles shows that the public, at least in New York City, felt safe enough with laser pointers that they did not demand stricter enforcement of the regulations. Currently, the most common restrictions on laser pointers in America prohibit the sale of lasers to minors, shining lasers at police and emergency workers, and shining lasers at aircraft.[31] As for federal regulation, lasers fall under FDA jurisdiction. The FDA adopted standards in 1976 to classify lasers by wavelength and output power. The FDA requires that warning labels be fixed

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[23] "Student's Eye Is Burned In Laser Pointer Incident," *The New York Times*, December 22, 1998.

[24] Ibid. This article describes an incident in Maple Park Middle School in Kansas City in which a seventh grader permanently damaged his retina after another student shined a laser pointer into his eye. After that incident, the school decided to confiscate laser pointers from all students. In that school year alone, they confiscated "at least 100" pointers.

[25] For some examples, see "Student's Eye Is Burned" and Greene, "Move to Ban Laser Pointers."

[26] Sandra Evans, "Kids With Laser Pointers," *The Washington Post*, December 1, 1998. This article describes the immature uses of laser pointers by students, from shining them at moving vehicles to shining them at other students' foreheads. More antics are presented in Ann O'Hanlon, "High-Tech Troublemakers; Students Playing With Laser Pointers Worry School Officials," *The Washington Post*, May 7, 1998.

[27] For two examples of men arrested for shining lasers at police officers in 1997, see "Man Using Laser Pen Is Arrested in Harlem," *The New York Times*, April 28, 1997 and Kit R. Roane, "Man Is Arrested After Laser Sight Is Aimed at Officers in Brooklyn," *The New York Times*, October 12, 1997. Both of these articles describe the danger felt by the officers when they discovered the laser spot on their bodies.

[28] Neil MacFarquhar, "City Council Votes to Limit Laser Sale," *The New York Times*, December 18, 1998.

[29] Donna Greene, "Laxity in Laser Law Enforcement," *The New York Times*, January 17, 1999.

[30] This is based on a search on LexisNexis using the terms "laser" and "law."

[31] For a compilation of laser laws at the state, county, or city levels, see "Laser Pointer Safety – U.S. laws for lasers and pointers," LaserPointerSafety.com, http://www.laserpointersafety.com/rules-general/uslaws/uslaws.html.

upon all lasers or laser containers denoting their classifications.[32]

In the 1990s, the laser printer became commonplace in the office. Laser printers in the 1990s were capable of printing crisper images faster than ink-jet and dot matrix printers. By employing basic principles of electrostatics, a voltage source uniformly covers the surface of a rotating cylinder with electrostatic charge. A laser shines across the surface of the charged cylinder and removes the charge where the beam lands. Toner is then exposed to the cylinder and attracted to the remaining charged portions of the cylinder. Finally, the cylinder rolls across paper, transferring the toner to the page in the process. The crisp image is a result of the precision of the laser. As is the case with most technologies, the cost of monochrome laser printers dropped since its invention in 1969.[33] In the mid 1990s, black-and-white laser printers cost less than $700, which made them comparable to ink-jet printers. For this reason, laser printers were very popular both in the office and at home, so long as color was not required.[34] At over $10,000 for a color laser printer, most people turned to ink-jet printers to meet their color needs. But for monochrome printing, Americans grew accustomed to seeing laser printers in the workplace. Advertisements and articles that described laser printers avoided technical descriptions of their operation. Instead, they focused on cost and speed in pages per minute.[35] Therefore, the laser printer was another example of the laser aspect of the technology no longer fascinating Americans. The technology was as commonplace as a computer.

The Compact Disc format remained the standard for audio and data during the 1990s. The CD's popularity grew exponentially in the 1990s. By the end of the decade, "modest estimates placed the number of audio CD's and other types of optical disks . . . in the tens of billions" with "[m]ore than two billion audio CDs . . . sold each year in the United States alone."[36] At first glance, it may seem as though the CD format has not evolved since its creation, especially considering that it is still the most common method of data storage for physical software distribution. But several variations on the CD format were invented in the 1990s, including CD + Graphics, Super Audio CD, and Super Video CD. These formats are largely unknown to most Americans, however, because they either were not commercially successful in America or because they made such minor changes to the CD standard that the official format name appeared only in technical documentation.[37] CD-ROM technology improved by increasing

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[32] U. S. Department of Health and Human Services, "CFR – Code of Federal Regulations Title 21," U.S. Food and Drug Administration, http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?FR=1040.10.

[33] Edwin D. Reilly, *Milestones in Computer Science and Information Technology* (Westport, CT: Greenwood Press, 2003), 152. The laser printer was invented by Gary Starkweather of Xerox in 1969. Xerox produced the first working version of Starkweather's printer in 1971. According to Peter H. Lewis, "2 New Laser Printers From Apple," *The New York Times*, July 17, 1990, monochrome laser printers for Windows cost less than $1500 in 1990.

[34] Joshua Mills, "How Much Printer Do You Need?" *The New York Times*, February 8, 1994. Mills continues, "Most shoppers prefer to shop in the $300-to-$700 range, and those who want true laser-quality printing forget the color." Color laser printers were very expensive, with the cheapest at $12,499. For the popularity of black-and-white laser printers in the office, see Laurie Flynn, "Is the Black-and-White Printer a Goner?" *The New York Times*, May 20, 1996. "Black-and-white laser printers remain the norm in office printing."

[35] Evidence of this is shown in the two articles cited in n. . Additionally, the sixteen *Newsweek* articles found on LexisNexis by searching "laser printer*" from 1990 to 2000 mention the printer in passing as a commonplace technology.

[36] Michel Marriott, "With Plenty of Shine and Spin, CD's Weave Tapestries of Data," *The New York Times*, September 23, 1999.

[37] The CD-Text format allocates additional space on a disc for information about the album, song, artist, etc., which is displayed on compatible CD players. This format is the standard for audio CDs today but is rarely referred to as CD-Text, rather than CD, because the format still plays the audio on any CD player and the added text is a minor

read speed, the speed at which a CD-ROM drive copies information from the disc to the computer. This speed increase was unnecessary for audio CDs because the data capacity of these CDs remained roughly the same and there was no need to read audio data significantly faster.[38]

The most notable breakthrough in CD technology was the ability to write discs with the CD Recordable and ReWritable (CD-R and CD-RW) formats.[39] With about 700 megabytes of data per disc, CDs offered over 480 times as much data as a floppy disk. The convenience of this extra memory came at a cost, though. Even by the end of the 1990s, CD-RW drives cost around $300 each. They still became standard in newly built computers, but they were an expensive upgrade for currently existing computer systems. As such, there was some resistance to switching to the new format, especially considering how the floppy disks had been the standard since the early 1980s and required no extra software to use.[40] Ultimately, files and programs grew increasingly larger and phased out the floppy disk drive in the 2000s. But even the laser technology involved in CD-RW drives became a mundane detail to the public. Descriptions of recordable disc technology in the 1990s focused almost exclusively on the novel material design of the disc, rather than the higher power requirements of the laser.[41] Thanks in large part to the

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adjustment to a standard CD format. The video CD formats (Video CD and Super Video CD), as well as the Super Audio CD format, were largely popular in Southeast Asia. A search for each of these formats in *The New York Times* using LexisNexis from 1980 to 2011 resulted in twenty-five or fewer articles each. In the case of Super Video CD, only a single article was found. See Scot Meyer, "Versatile Video CD's Get a Foothold in U.S.," *The New York Times*, April 26, 2001, for an example of language used to describe Video CDs in a manner that implies the lack of common knowledge of the format in America.

[38] The technical specifications for virtually all variations of the CD are currently the intellectual property of Sony and Philips. Therefore, access to the specifications are not free (currently the specifications for CD with a CD-Text addendum cost $5000). Some variation in data capacity for CDs exists, but the variation is small. If the capacity is increased too much, standard CD readers cannot properly read the discs.

[39] For the up-and-coming popularity of the CD-RW drive and format, see Michel Marriott, "CD-ROM Drive Maker Strives for a Quick Burn," *The New York Times*, November 11, 1999, and Leonard Wiener, "To CD-R or CD-RW? Best to know before you buy," *U.S. News & World Report*, September 4, 2000. For evidence of the increased popularity of CD-RW technology from laser industry journal *Laser Focus World*, see n. above. For a prediction of the eventual replacement of the floppy disk by CD-RW and flash memory, see Michel Marriott, "Memory Takes New Shape," *The New York Times*, April 1, 1999. It is difficult to quantify popularity of computer hardware because of the nature of the personal computer industry. As common components of computers – such as processors, memory, and disc drives – improve, these improved components very quickly become standard in prebuilt personal computers by nearly all PC manufacturers. For this reason, newspapers and industry journals contained little mention of a strong public desire for recordable CD drives; the new drives simply started to replace older CD-ROM drives. Articles, instead, focused on improvements to CD-RW drives and educated consumers about the new recordable disc technology. Thus the popularity of the recordable disc is evident in the fact that recordable disc drives became standard on prebuilt PCs since their price dropped exponentially in the late 1990s and early 2000s.

[40] In "Memory," Marriott describes the capacity of CDs and cutting-edge flash memory in numbers of floppy disks. In "In Praise of Floppies," *The New York Times*, December 9, 1999, a reader writes to the editor in defense of the floppy disk as a convenient method to transfer small files back and forth across computers. The imagery of the floppy disk still remains ubiquitous with saving files on computers, as evident by the ever-persistent floppy disk icon seen on the vast majority of computer software. Greenberg, "'Burning'," (n. below) compares CD-R and CD-RW to floppy disks.

[41] Peter H. Lewis, "The ABC's of CD's: Read-Only, Recordable and Rewritable," *The New York Times*, December 9, 1999. Lewis states, "[CD-RW discs] use slightly more powerful lasers that heat a silvery recording layer of silver, antimony, indium and tellurium, altering its reflectivity. The tracks are erased, or more accurately, annealed, by reheating the laser with the laser, in effect transforming the silvery alloy back to its original crystalline state." This description assumes that the public knows that lasers can be used to heat up a material. For an example of an article that describes the cost and new functionality of CD-R and CD-RW but leaves out any mention of the laser, see

commercial success of the CD during the 1980s and 1990s, Americans no longer considered the CD and CD-ROM to be a fascinating and cutting-edge technology that was dependent upon the unique characteristics of lasers, even when burning CDs at home became a reality. Sensational descriptions of lasers as a whole were on the decline, and they were virtually absent in the case of CDs.

The End of Analog Video

Prior to the invention of the Digital Versatile Disc (DVD) format in 1995, the most common home video medium was the VHS tape. Even though the LaserDisc (LD) format, invented in 1978, offered superior video and sound quality than VHS, the format remained popular among only a small group of collectors who totaled only around "2 percent of the size of the VHS market. . . . [E]ven at its height in the 1990s, it never reached more than two million players in the United States."[42] The LD format never took off in America for a few reasons. First, the technology was very expensive compared to VHS: "the first laser disk players cost more than $200 more than VCRs."[43] Second, the discs were cumbersome at a diameter of twelve inches. Disc size alone prevented the LD from being integrated as a form of data storage akin to the CD-ROM, as the large discs would not fit inside a typical computer case. LaserDisc differed from VHS in that they could store both analog and digital data, as opposed to only analog on VHS. Video was recorded in analog, audio in digital or audio. The benefit of digital audio was that it provided the same quality as the CD. Analog storage of video technically allows for higher resolution of data as each location on the disc can be read as a value spanning a wider range than just one or zero, as is the case with digital representation. But because the LD standard was never improved since the 1970s, the size of each track of data was never reduced to match improvements in laser technology. For this reason, LDs could store a maximum of 60 minutes of video on each side of the disc. Rotating and replacing discs during a video was an inconvenience that also prevented the format from replacing VHS. In the end, the DVD format became the first optical medium to replace the VHS.

Several factors were responsible for the success of the DVD over the VHS. Unlike the VHS, the DVD format was universally supported by the largest computer hardware companies in the world. When the VHS was first developed in 1976 by Victor Company of Japan (JVC), Sony had already released a magnetic recording a year prior called Beta.[44] Even though Beta was considered the standard home video recording format in Japan, VHS improved upon it. A VHS tape had an initial capacity of two hours, as opposed to Beta's limit of one hour. Additionally, JVC developed a method to reduce crosstalk on the VHS, something Sony did not accomplish.[45]

Daniel Greenberg, "CDs without the music store; 'Burning' your own discs on your PC or stereo," *The Washington Post*, January 30, 1998.

[42] Julie Flaherty, "Bittersweet Times for Collectors of Laser Disk Movies," *The New York Times*, April 29, 1999.

[43] Ibid.

[44] "Milestones: Development of VHS, a World Standard for Home Video Recording, 1976," IEEE Global History Network, http://www.ieeeghn.org/wiki/index.php/Milestones:Development_of_VHS,_a_World_Standard_for_Home_Video_Recording,_1976.

[45] Ibid. Crosstalk occurs when two recording heads read or write the same magnetic media very close together. This can result in interference in the magnetic fields used to read/write the medium. Crosstalk in video playback causes some overlap of images, resulting in a distorted image.

The success of the VHS meant that Sony lost nearly all of the video market, and consumers who owned Beta players had to purchase a VCR if they wished to purchase new videos. In these so-called format wars, both consumers and companies risk losing money if the technology they invested in loses. In the case of the DVD, the computer and entertainment industries wished to avoid another format war.

In September 1994, entertainment providers Columbia Pictures (owned by Sony), Disney, Music Corporation of America/Universal, Metro-Goldwyn-Mayer/United Artists, Paramount, Viacom, and Warner Bros. (owned by Time Warner) formed the Hollywood Digital Video Disc Advisory Group. The purpose of this group was to create a standard for the next-generation optical video disc. Their demands included the capacity for a full-length feature film on a single side of one disc, superior picture quality to LaserDisc, copy protection, and the ability to accommodate three to five languages per disc. This call was met with two competing formats: Multimedia Compact Disc (MMCD), developed by the partnership of Sony and Philips, and Super Disc (SD), developed by an alliance of Hitachi, Panasonic, Mitsubishi, JVC, Pioneer, Thomson, and Toshiba. All in all, Sony and Philips attracted the support of fourteen electronics companies, and the SD Alliance attracted ten. When these competing camps increasingly turned their attention to data storage, five computer companies formed a technical working group in April 1995 to deal with the MMCD and SD groups. These computer companies were Apple, Compaq, Hewlett Packard, IBM, and Microsoft. This working group defined specifications for a single disc standard that included one format for both video and data, a drive with backwards compatibility with CDs and CD-ROMs, and a drive with a cost similar cost to that of CD-ROM drives. Most importantly, however, the computer companies refused to decide which format to support, SD or MMCD, requiring instead that the competing disc companies create a single format. After months of deliberation, the two competing disc factions came to a consensus on December 12, 1995. The new standard met the minimum requirements of both the entertainment and computer industries and included interactivity, which allowed users to interact with the disc content via a remote control. All the disc companies came together and formed a single alliance, the DVD Consortium. Despite the length of competition among the disc companies, neither side lost a sizable investment as the final DVD standard took advantage of the MMCD's data storage method and the SD's material manufacturing technique and error-correction.[46] Thanks to the eventual universal consensus, the DVD had support from the biggest companies in entertainment, computer technology, and disc drive technology. The LD format did not enjoy this much investment, and the film companies were ready to move beyond the VHS. Indeed, "Hollywood, especially Time Warner, wanted to sell its zillions of old movies in a new form – just as music companies did when CDs came along."[47]

The DVD had a bumpy start, but by 1999, it was in position to overtake VHS. During 1997, many disc drive manufacturers claimed they would have a DVD-ROM drive available by the end of the year, a claim they did not fulfill. By the end of 1998, one million DVD players had been sold in America, six million DVD-ROM drives had been sold, and Warner Home Video

[46] Jim Taylor, *DVD Demystified*, 2nd ed. (New York: McGraw-Hill, 2001), 45-51.

[47] Johnnie L. Roberts, "The Disc Wars," *Newsweek*, August 26, 1996. This article describes the creation of the DVD as something desired more by manufacturers than by consumers. Additionally, Roberts reports that even though the DVD format was supported by some of the biggest entertainment companies, many smaller companies refuse to produce their films on DVD until the standard includes protection against piracy and has region codes to prevent videos sold in one part of the world from playing in another.

had made $170 million in DVD sales.[48] The next year turned out to meet predictions as the "year of the DVD." Every film publisher was on board with DVD, and recordable DVD drives were on schedule. By the end of 1999, over four million DVD players and 40 million PCs with DVD-ROM drives were sold in America. Over 50 million DVD videos were shipped during the holiday season alone.[49] The upward trend of the DVD market continued until it eventually overtook VHS in weekly rentals (28.2 million to 27.3 million, respectively) in June, 2003.[50]

Even though it took six years for the DVD to outperform the VHS in terms of sales, the success was all but certain. The strong support from Hollywood, the major computer companies, and the biggest electronics companies gave the DVD format a massive amount of funding. The discs provided superior audio and video quality to VHS and LD. The capacity was higher than LDs, even though DVDs are digital, because DVD standards took advantage of improved laser technology, which allowed for the data to be printed much smaller.[51] Interactivity on DVDs meant that users could view extra content, change languages and subtitles, and skip around to different chapters. These were all improvements from VHS. Just like VHS, but unlike LD, DVDs were recordable, and the cost of DVD-R technology quickly decreased.[52]

Lasers in the 1990s had become as "mundane" as some other high-tech devices, like the microchip. The dazzle of the laser had waned after decades of sensationalist reporting on the extraordinary potential for lasers as weapons, a potential that has yet to be realized on the scale of those articles.[53] Scientists and engineers still improved lasers and developed new ones altogether in the 1990s, but the lasers Americans saw in their daily lives did not drastically change. The lasers used in cosmetic surgery, for example, were novel, but they did not evoke the same response – laser as miracle technology – as the first lasers used in medicine in 1961. The CD continued to grow in popularity, but Americans were accustomed to them by the 1990s. The DVD was new to those who owned VCRs, but the language used in reports of DVDs lacks the excitement first used to describe CDs.[54] Laser printers were a common piece of the office landscape. Laser pointers became popular among young students and even resulted in a few incidents of damaged eyes due to exposure to the beams. But other than the outcry among schools and legislators to ban their sale to minors, these incidents received little coverage. The

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[48] Taylor, *DVD*, 73.

[49] Ibid., 80.

[50] "It's unreel: DVD rentals overtake videocassettes," *The Washington Times*, June 20, 2003. The DVD has maintained its lead in rentals over VHS ever since.

[51] Analog data storage allows for greater capacity of data per unit area, but the laser used in DVD players decreased the area used to store data by so much that DVDs actually stored more data per disc than LDs.

[52] Wilson Rothman, "Burn-Your-Own-DVD's: First, Mind the Format," *The New York Times*, September 5, 2002. "Most desktop-system offers," Rothman says, "now include an optional DVD recorder." The cost of the three computers tested by Rothman were $1999, $2999, and $1349. That PC manufacturers commonly offered DVD-R drives indicates that the cost had decreased enough that the manufacturers expected a significant percentage of consumers to purchase the drives.

[53] Jeff Hecht, "Ray Guns Get Real," *IEEE Spectrum* 46 (2009): 28-33. "Laser weapons, like flying cars," Hecht asserts, "have been demonstrated many times, but in the real world their problems have always outweighed their benefits – literally."

[54] In addition to all sources presented thus far regarding the laser, see Peter M. Nichols, "Home Video," *New York Times*, May 16, 1997, and Peter M. Nichols, "Fast Forward: Laser or DVD?" *New York Times*, January 9, 1998. In "Home Video": "DVD players and disks . . . are said to offer superior picture and sound." There are no exciting descriptions of a brand new technology. In "Fast Forward": "Now there is DVD, which its proponents say presents a better image than the laser [disc]."

New York City ban on laser sales to minors was never even imposed a month after becoming law. Incidents of people being arrested for shining lasers at police officers were relegated to the small side columns of major newspapers. Whereas laser weapon development was a characteristic of the past two decades, military use of lasers in the 1990s mainly included laser-guidance systems for missiles, technology that has existed since the 1980s. What was noticeably absent, however, was any mention of death rays.[55]

[55] A LexisNexis search for "laser" and "weapon" in *The New York Times* during the 1990s returned over 500 matches. A survey of twenty-five random articles over the entire decade returned articles that only mentioned lasers for use in laser-targeting systems. A search of "death ray" and "laser" returned three articles. William J. Broad, "Defense Industry Goes Hustling To Make a Buck Without the Bang," *New York Times*, April 8, 1990, and Anthony Ramirez, "Laser Benefits Now Closer to Home," *New York Times*, July 22, 1992, both mention that the laser has been used as just about everything but a death ray. The third article, William J. Broad, "From Fantasy to Fact: Space-Based Laser Nearly Ready to Fly," *New York Times*, December 6, 1994, reports on the United States Airborne Laser. This laser has an output of over 2 million volts and uses the chemicals hydrogen and fluorine, rather than a crystal or semiconductor, as gain media. At the time of that report, the laser had been tested eleven times. The laser is still operable as of 2011, but it has never proven to be a viable missile defense system. Despite the fact that "experts agree [it] doesn't work," the Pentagon's 2011 budget of $9.9 billion includes $50 million for the Airborne Laser. "Mr. Gates and the Pentagon Budget," *New York Times*, May 17, 2010.

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