The Hunt for the *Battle of Anghiari*: Can You Value One Artist Over Another?

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March 2018

This project was submitted in partial fulfillment of the requirements for the degree of Master of Arts in the Graduate Liberal Studies Program in the Graduate School of Duke University.
Abstract

In 1503, Florentine art master Leonardo da Vinci received the commission from Gonfaloniere Piero Soderini to depict the Florentine victory at Anghiari. The Battle of Anghiari gave Florence control over central Italy during the Lombardy Wars. The marquee battle became a staple point for Florentine defense and the perfect battle to depict inside the Grand Council Chamber of the Palazzo Vecchio. However, Leonardo’s Battle of Anghiari was never finished and the wall was assigned to Giorgio Vasari fifty years later. Instead of painting over Leonardo’s work, Vasari created another wall for his Battle of Marciano, thus hiding Leonardo’s work. Little progress was made in finding Leonardo’s Battle of Anghiari, but the mystery began to unravel in 2007 with Maurizio Seracini’s search. This search caused an uproar from the art community when Seracini drilled into Vasari’s mural. A resistance to Seracini began, calling his project unethical and unconstitutional because it infringes on the cultural rights of Italy and the rights of Vasari. The opposition also deemed it unethical because it destroys the originality of Vasari’s mural. Seracini’s search was officially disbanded by the Florentine government due to the opposition it created. This project argues that Seracini’s search should be allowed to continue due to the benefits Florence would receive from finding the Battle of Anghiari. The dilemma Florence faces on whether to restart the project or leave Vasari’s mural as is can be answered by comparing the value of da Vinci and Vasari. The fame and wealth associated with Leonardo da Vinci is vastly greater than Vasari’s. Therefore, Florence should allow Seracini to finally uncover the Battle of Anghiari. The financial benefits of finding a lost Leonardo outweigh the risks of harming Vasari’s mural.
Table of Contents

Abstract...........................................................................................................................................iii
Table of Contents...............................................................................................................................iv
Introduction: The Centerpiece of the Renaissance........................................................................1
Florence Reaches Dominance...........................................................................................................8
The Commission of the Battle of Anghiari....................................................................................10
Cartoon of the Battle of Anghiari.....................................................................................................13
The Quest for the Battle of Anghiari..............................................................................................14
The Hunt for the Lost Leonardo; Techniques and Technologies.................................................18
Seracini’s Hunt Officially Begins....................................................................................................25
Seracini’s Search Halted...................................................................................................................28
The Search Resumes: January 2012...............................................................................................33
Political Pressures and Backlash: Florence’s Ethical Dilemma...................................................36
Leonardo da Vinci vs. Giorgio Vasari............................................................................................39
Damage Control: What if Vasari’s Mural Gets Harmed?...............................................................51
Future Searches...............................................................................................................................54
Consequences if Seracini is Wrong.............................................................................................57
Conclusion.......................................................................................................................................58
Works Cited.......................................................................................................................................59
Introduction: The Centerpiece of the Renaissance

From the Fourteenth through the Sixteenth Centuries, the Italian city states experienced a cultural phenomenon known as the Renaissance. These interdependent polities flourished and as a result so did art and education. The Renaissance produced some of history’s greatest minds as well as brilliant pieces of art. Michelangelo, Raphael, and Leonardo da Vinci blossomed in this context and produced powerful works of art. Any piece of art from these artists is valued now at unimaginable prices. Paintings such as the *Mona Lisa*, *The Last Supper*, the Sistine ceiling, *The School of Athens*, and *Sistine Madonna* operated as benchmarks for art throughout Europe. The creators of those paintings, Leonardo, Michelangelo, and Raphael, demonstrated a new realism in art. The work by this trinity of artists sparked others to follow in their footsteps. Biblical works and ancient Greek philosophy became the standard of realism for that period, which Leonardo, Michelangelo, and Raphael did with their most renowned works.1

While all of the city states underwent change during the Renaissance, Florentine artists set the standards for naturalism and realism in High Renaissance art. Michelangelo and Leonardo da Vinci, the most sought after artists, used realism in new ways, and art works also acted politically, glorifying the resurgent Florentine Republic. Commissioned art work celebrated Florentine victories from the Wars in Lombardy and the Italian Wars. Works such as the *Battle of Anghiari*, the *Battle of San Romano*, and the *Battle of Marciano* glorified Florentine dominance on the battlefield. Among these battles, the Battle of Anghiari in 1440 secured

Florentine influence in central Italy. In 1505, the Florentine Republic commissioned Leonardo da Vinci to celebrate this victory with a mural in the Hall of Five Hundred. Leonardo never completed the mural and soon abandoned the project. The experimental oils Leonardo used began to run and caused the incompletion of the *Battle of Anghiari*. Fifty years later, Grand Duke Cosimo I commissioned Giorgio Vasari to create a fresco glorying his own victory at Marciano on the wall with Leonardo’s mural. According to historians, Vasari chose not to paint over *Battle of Anghiari*, but to conceal it behind a new wall. Ever since, rumors and mysteries surrounding the most famous lost piece of Renaissance art has captured the imagination of art historians, conservationists, and the public.

This project explores a recent and controversial effort to uncover the “lost Leonardo.” This effort has faced political and technological challenges. While hope remains that the *Battle of Anghiari* will be found, the project has raised ethical questions for the Florentine Government about the potential risk of harming Vasari’s *Battle of Marciano* in order to uncover Leonardo’s *Battle of Anghiari*. Is it ethical to potentially destroy one historic piece of art to find an incomplete one underneath? How does one value one work of Renaissance art against another? In this case, can one value Leonardo’s work over Gorgio Vasari’s work? In the end, this project concludes that the rewards outweigh the risks and that all necessary means need to be taken to uncover the hidden *Battle of Anghiari*.

This project’s hunt to answer these questions began with the viewing of a National Geographic documentary about Maurizio Seracini’s recent effort to find the hidden painting. The vivid documentary displayed the technology available to uncover the hidden masterpiece as well as the push back against Seracini’s project. Ultimately, the story ended in gridlock with
the *Battle of Anghiari* still possibly beneath the *Battle of Marciano*. Political controversy ended Seracini’s search prematurely, but the search uncovered new evidence that shows the lost Leonardo is indeed hidden in the Hall of Five Hundred. The gridlock in the quest, which halted Seracini’s search so close to solving an art mystery, ignited my interest in explaining his quest and shedding light on the dilemma the search for the lost *Battle of Anghiari* creates for art conservation.

This investigation begins with Leonardo’s incomplete project of the early sixteenth century. It briefly explains the theories about the hidden Leonardo painting and previous searchers for the lost *Battle of Anghiari*. The project then discusses the non-invasive technology used that protects Vasari’s *Battle of Marciano* as well as possible future technologies that eventually could uncover Leonardo’s work. My sources include the publications of Maurizio Seracini and several members of his team who discovered new methods. This project also examines the political pressure the Florentine government experienced during Seracini’s search. With the use of Florentine newspapers, I am able to assemble an argument in favor of resuming the search for the *Battle of Anghiari* no matter the risk.

The key points of my argument centers around my conviction that finding a lost work by Leonardo da Vinci outweights the safety of any other painting. Part of the argument rests on the comparative contemporary value of Leonardo’s work. By comparing the value of Leonardo and Giorgio Vasari, you see that the monetary and cultural value of a Leonardo is untouchable. Leonardo’s works are in a prestigious category, with one of his paintings selling for a record four hundred and fifty million dollars. By analyzing auction databases such as Christie’s and Sotheby’s, all of Vasari’s work combined would not touch the monetary value of one Leonardo
painting. Taking into consideration new technologies, political arguments, and the value of a Leonardo, it becomes obvious to me that the search needs to resume. Each source provided me with reassurance that finding the Battle of Anghiari is more important than the integrity of the Battle of Marciano, even though technological advances might protect Vasari’s work.

This project’s organization is designed to emphasize the importance of finding Leonardo’s Battle of Anghiari. The beginning discusses the legend of Leonardo da Vinci, the significance of his works during the Renaissance, and the standard he set for all artists during the period. Leonardo’s mastery of art realism provided him with the skills to craft his most famous works, among which is the incomplete Battle of Anghiari. Having a master such as Leonardo da Vinci commemorate a Florentine victory shows the importance of the Battle of Anghiari.

The project next explains the historical context of the painting and the Florentine rise to dominance during the Renaissance, which started at the Battle of Anghiari. This section focuses on why it is crucial to find the battle because of its importance to Florentine history. It marked Florentine control of central Italy during a time of war. With the commission of the Battle of Anghiari, Leonardo worked inside the Palazzo Vechhio, the Florentine city hall. However, Leonardo abandoned the project, which was worked over in the mid 1500’s. Only a few saw the potential of Leonardo’s work, which leads into the next section where I will discuss the discovery of Leonardo’s Battle of Anghiari cartoon. The beauty of the cartoon is noted and analyzed. The work even received compliments from the great art historian Giorgio Vasari in his Lives.
Having explained the vision of what Leonardo intended to create, this project then explains the quest for the lost work by Maurizio Seracini. In addition to Seracini’s most recent search, I examine earlier searches by other researchers. By focusing on the technology used by Seracini, I emphasize how his search does not affect the safety of Vasari’s mural. The next few sections focus on the political pressure and opposition from artists and others that continually halted Seracini’s search. The conflict revealed confusion in the Florentine government on the best approach to the search, and the conflict between locating the lost *Battle of Anghiari* or protecting Vasari’s *Battle of Marciano*. Eventually, the search was indefinitely suspended due to the government’s indecision on what to do.

This project then turns to my central argument that the answer to Florence’s ethical dilemma lies in the comparatively greater value of Leonardo’s work over Vasari’s. Using recent auction values of the two artist’s works, I compare the popularity of Vasari’s vs. Leonardo’s art. The next comparison relates to their monetary value, which again ranks Leonardo at the highest. After displaying factual information on the value of the two artists, I focus on the technology that can protect the Vasari mural from damage. Essentially, I provide arguments supporting the continuation of Seracini’s search.

To understand the importance of finding the *Battle of Anghiari*, one must first understand Leonardo da Vinci’s rise to prominence as a master of Renaissance realism. While Florence is referred to as the birthplaces of the Renaissance, Leonardo da Vinci is considered the man of the Renaissance. Da Vinci is arguably the most prominent figure in all of the Renaissance due to his art and intellectual innovation. As evident in the skills of Leonardo, Michelangelo, and Raphael, the Renaissance was a period of experimentation and
enlightenment. Da Vinci embodied everything it meant to be a Renaissance Humanist, which emphasized society turning to the study of the human, which included the revival of the arts and texts of Greco-Roman antiquity. Leonardo’s intellectual capabilities tower over anyone of that time period, due to his intellectual brilliance and his ability to master many skills in artistic design. Da Vinci’s skills ranged from painting, sculpting, drawing, science and music. However, his realism most impacted the development of art.

Leonardo’s mastery of art realism began inside Verrocchio’s workshop. Although born out of wedlock to a village peasant in 1452, Leonardo’s wealthy father guided him to an apprenticeship under Verrocchio. The shop of Verrocchio held the reputation of being prestigious and served as the home to several famous Italian painters. Verrocchio was an important figure during the beginnings of the Renaissance due to his training in realism, which he taught to his pupils. Due to his true eye for painting, the artist received the nickname “Verrocchio” meaning “true eye”. Leonardo quickly learned to master realism and naturalism.

Leonardo’s artistic training in realism under Verrocchio granted him the ability to produce his masterpieces. His mastery enabled him to create two significant paintings and a drawing: *The Mona Lisa, The Last Supper, and The Vitruvian Man*. Each of these pieces display the great talent of Leonardo in painting and science. *The Last Supper* is arguably the most

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popular religious painting ever created and recognized by anyone in the art community. The famous *Mona Lisa* portrait values at over 800 million dollars, making it one of the most valuable pieces of art ever created, while the *Vitruvian Man* displays Leonardo’s abilities ranging further than just art. The drawing displays the ideal proportions of man described by Vitruvius, an ancient Roman architect. Leonardo demonstrates his abilities to fuse art and math into a drawing, thus showing he can comprehend the proportions of art and geometry. Leonardo’s work gained him fame all across Europe, but most importantly in Florence. His skills in art realism and his growing popularity made Leonardo the perfect artist to paint the *Battle of Anghiari* inside the Palazzo Vecchio in Florence.

The 15th Century for Florence was a time of growth for the small republic, with the pinnacle of power stemming from the victory at Anghiari. Florence possessed money, power, and intelligence inside its walls. Florence served as home to its most powerful family, the Medici, and some of the greatest minds. Florence reached a level of dominance that the Republic wanted to display for generations through art. Each iconic piece of art in Florence displayed a distinct purpose that reminded travelers of Florence’s power. For example, the well-known statue of *David* by Michelangelo retains a deeper meaning than what meets the eye. The statue of *David* portrays the biblical David before he battles the giant Goliath, displaying his tension and focus in his eyes. The statue purposefully appears ready for battle,

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allegorically showing that the Republic of Florence readily defends the civil liberties of its citizens. Furthermore, the eyes of David’s statue directly look in the direction of Rome to warn of Florence’s power. Each piece of art work commissioned in the Renaissance contained a purpose that bolstered Florence’s reputation. With the Medici in power, Florence publicly displayed its supremacy through art work. Therefore, when Florence reached its dominance in 1440 during the Battle of Anghiari, it became the perfect scene to represent.

Florence Reaches Dominance

Why did Leonardo choose to depict the Battle of Anghiari in his famous cartoon? Why would the Florentine republic have an interest in having this battle depicted in such a public setting as the Hall of Five Hundred? In order to understand the importance behind the commission of the Battle of Anghiari, the significance behind the battle must be uncovered.

The battle itself was closely connected to the defense of wartime Florence against its enemies. Florence first gained freedom in 1115 after an uprising against Tuscany, creating the Republic of Florence. Even though the Republic used a council system to elect a titular ruler, the wealthy controlled Florence. For years different families or alliances battled over control of Florence, with the Medici gaining authority in 1434. The Medici, a family eager to dominate the republic’s politics, focused on elevating the Republic’s command across Italy, which put a target on their backs. While the Medici gained control of Florence, the rest of Italy was in turmoil as wars occupied the region. The leader of the Medici, Cosimo de’ Medici, orchestrated

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the foundation of the Medici dynasty. Cosimo the Elder rose to power in 1434 with the financial power backing his political aims. The Medici ran the most powerful bank in branches all across Italy, which granted the family an immense fortune. Cosimo’s wealth allowed him to buy votes to forward his political agenda. His financial capital became so intertwined with the success of Florence that his family survived exile from rival families. With the power of money, Cosimo aimed for Florence to benefit from the chaos of war and for the establishment of a Medici political dynasty. A series of wars lasting nearly 30 years known as the Wars of Lombardy had split the region into two powers, the Duchy of Milan and the Republic of Venice. The Wars of Lombardy focused on the control of Northern Italy, but its after-effects transformed the whole political structure of the region. Florence became one of the few city-states that benefited from the Wars of Lombardy. However, Florence did not reap the benefits until the fourth campaign during the Battle of Anghiari.

During the Lombardy Wars, Florentine forces, allied with the Italian League (the Venice Faction), met the forces of Milan near the small Tuscan town of Anghiari on June 29th, 1440. In the Florentine telling of the story, the battle turned the tide against the tyrannical forces of Milan. The Milanese forces outnumbered the Italian League by the thousands. The disparity in numbers was enough that the Milanese believed they could attack at any moment. The

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Milanese arrogantly launched an attack against the Italian League, which led to them getting halted on the only bridge leading to the army camps. After hours of stalemate, the Italian League pushed the opposing forces back to where their reinforcements could split the Milanese army. With their forces in chaos, the Milanese retreated and suffered defeat at the Battle of Anghiari. The victory at Anghiari secured Florentine dominance over central Italy. Now under the rule of Cosimo de’ Medici, Florence’s influence spread throughout central Italy without any challengers.

**The Commission of the Battle of Anghiari**

The Battle of Anghiari became a constant reminder of Florence’s power and its intent to keep its supremacy. Around 1503, Gonfaloniere Piero Soderini decided to commemorate the battle on the walls of the Palazzo Vecchio. The idea of placing the mural inside the most important civic building of Florence reminded the citizens of the Republic’s goal of civil liberties. The *Battle of Anghiari*’s placement intended to be inside the Hall of Five Hundred, which served as the chamber of the Grand Council. The imposing chamber served as the largest room for civil council in all of Italy, with dimensions of fifty two meters long, twenty three meters wide, and eighteen meters tall. The purpose of the commission of the chamber in 1494 was aimed to house a Grand Council for a more democratic government. The commission of the gigantic civil chamber also intended that it would commemorate two great Florentine victories on its walls,

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13 Luck, “The New Battle of Anghiari,” p. 46

the Battle of Anghiari and the Battle of Cascina. The Hall of Five Hundred and the murals stood as reminders of the preeminence of Florence. When it came to picking an artist to commemorate the Battle of Anghiari, only Leonardo da Vinci deserved the opportunity.

Leonardo’s reputation and mastery made him the perfect candidate. His skills in art realism could successfully depict the glory of Florence in the Battle of Anghiari. Only Leonardo’s rival, Michelangelo, competed with his skill. Ironically, Michelangelo began working on the Battle of Cascina on the opposite wall from Leonardo.¹⁵ Both the Battle of Anghiari and the Battle of Cascina represented historic defenses of Florence against enemies. The battles’ importance to Florence could only be depicted by two Florentine masters of art, Leonardo and Michelangelo. The rivalry between the two masters fell perfectly into place. Both artists lived in the same city, during the same era, and displayed immense talent.

Leonardo began the mural on October 24th, 1503 when he received the keys to his new studio, Sala del Papa.¹⁶ For two years, Leonardo worked on creating the largest piece of work in the Palazzo Vechhio. However, in those two years Leonardo accomplished very little on his Battle of Anghiari mural. The only thing left from the historic project is a cartoon drawing of Leonardo’s plan for the mural. The drawing shows Florentine men fighting on horseback against the Milanese. The details on the figures gained praise, especially from Vasari who claimed that only Leonardo could create something this beautiful.¹⁷ Vasari wrote:


¹⁶ Farago, “Leonardo’s Battle of Anghiari”, p. 303

¹⁷ Giorgio Vasari, The lives of the most excellent painters, sculptors, and architects, Oxford University Press, 2008.
It would be impossible to express the inventiveness of Leonardo's design for the soldiers' uniforms, which he sketched in all their variety, or the crests of the helmets and other ornaments, not to mention the incredible skill he demonstrated in the shape and features of the horses, which Leonardo, better than any other master, created with their boldness, muscles and graceful beauty.

In the end, Leonardo never completed the *Battle of Anghiari*. However, many who believe Leonardo’s work is still hidden in the Palazzo Vecchio offered theories. It appears, for now, that Leonardo abandoned the mural and moved on to another project in Rome.\(^\text{18}\) For several years, the Hall of Five Hundred remained unfinished with two incomplete frescos due to Michelangelo not completing his mural either.

Sixty years later, the Hall of Five Hundred, now an audience chamber for Duke Cosimo I, underwent a thorough renovation and redesign. In 1563, the Duke tasked his court painter Vasari to complete the hall.\(^\text{19}\) Vasari and his employees redesigned the Hall of Five Hundred, while Vasari alone worked on the east and west walls previously assigned to Leonardo and Michelangelo. While completing several frescos in the Hall of Five Hundred, Vasari completed the *Battle of Marciano* in 1565. Vasari’s *Battle of Marciano* depicts the victory that gave Florence control over Siena. Vasari’s fresco shows warfare in action as thousands of soldiers meet on the battlefield. Florentine troops on horseback and foot conquer the rival Siena in the Tuscan countryside. Vasari’s fresco has similar meaning to Leonardo’s *Battle of Anghiari*. Each aimed to display the triumphant Florence on the battlefield defeating its rivals. Both works

\(^{18}\) Luck, “The New Battle of Anghiari,” p. 43

depicted scenes that connected to the defense of the Florentine people, which is why the *Battle of Marciano* took the place of Leonardo’s *Battle of Anghiari*. In addition, Vasari also remodeled the whole room by changing the dimensions.

Tourists from all over flock to the Palazzo Vecchio to see Vasari’s work, but Vasari’s frescos raised questions and created theories about the lost Leonardo mural. Did Vasari actually paint over Leonardo’s work even though he complimented its beauty? Did Vasari spare Leonardo’s work to be potentially discovered later?

*Cartoon of The Battle of Anghiari*

Leonardo never completed the *Battle of Anghiari*. Some saw the entire cartoon of Leonardo’s work, which was plastered on the east wall. It disappeared during a thunderstorm in 1505, however only a few studied the full cartoon.\(^{20}\) After the storm scattered the pieces, only one complete section of the giant cartoon remained, *The Fight for the Standard*. Leonardo’s cartoon remained the only image due to Vasari covering up the incomplete work. The scene depicts a violent moment between the Milanese and the Florentine on horseback. The faces of the soldiers display rage and anger as they fight off their opponent for the glory of their city. Each man displays a face of war, showing that war is violent yet a subject for art. The horses in the cartoon are detailed with such beauty that it makes sense that Vasari would comment on the skills of Leonardo da Vinci.\(^{21}\) As the horses charge each other against their wills, the

\(^{20}\) Farago, “Leonardo’s Battle of Anghiari”, p. 304

horse’s faces display anguished beauty. Leonardo goes into elaborate detail with the eyes of the horses; you can see the fear inside their eyes. You as a viewer can empathize with the horses’ terror as they witness death all around them. Seeing only a segment of the *Battle of Anghiari* shows researchers how magnificent the overall mural might have been. The cartoon became extremely important when Leonardo abandoned the project and Vasari took over.

Leonardo attempted new experimental techniques while constructing the *Battle of Anghiari*. He wanted to avoid the standard techniques of using plaster for the fresco and have it look more like an oil painting. He used linseed oil and a new colorless resin, but the colors ran. With the colors of *Battle of Anghiari* running, Leonardo ended his work.\(^\text{22}\) The current state of the painting is unknown, but the *Battle of Anghiari* did progress beyond the cartoon. For fifty years the painting remained until Vasari was commissioned to redesign the hall. Once Vasari completed his work, the *Battle of Anghiari* disappeared. The importance of the *Fight for The Standard* cartoon grew because it is the only visual connection to Leonardo’s lost work. However, Vasari’s architectural skills created questions on the status of the *Battle of Anghiari*. Did Vasari actually paint over Leonardo’s work or did Vasari create a separate wall to protect Leonardo’s work? Is there something hidden behind Vasari’s *Battle of Marciano*?

### The Quest for The *Battle of Anghiari*

What exactly happened to the lost *Battle of Anghiari*? Maurizio Seracini’s research is the closest anyone has come to uncovering the mystery of the lost Leonardo. Seracini is a Florentine native who graduated from the University of California at San Diego in

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\(^\text{22}\) Luck, “The New Battle of Anghiari,” p. 45
Bioengineering. Seracini, the world leader in the hunt for Leonardo’s *Battle of Anghiari*, has searched for the lost work for nearly 40 years. Seracini became mesmerized by the mystery of the lost Leonardo in 1975, when his professor, Carlo Pedretti, enlightened him on the idea that Leonardo’s mural is still hidden.23

Did Vasari leave a clue to the lost *Battle of Anghiari*? Seracini discovered what he believed to be such a clue in 1976. In Vasari’s *Battle of Marciano*, a solider holds a green flag with the words “Cerca Trova,” meaning “he who seeks, finds.” Seracini believed Vasari intentionally left the clue to let others know Leonardo’s work still exists.24 Did Vasari intentionally leave this mysterious note for anyone searching for the *Battle of Anghiari*? Vasari might be telling people, so Seracini thought, that they will find Leonardo’s behind the wall at precisely this point. This evidence inspired Seracini to begin a hunt for the *Battle of Anghiari*. Could it be underneath Vasari’s mural? If so, can it be detected?

Vasari’s possible clue pointed Seracini in the direction of the east wall of the Hall of Five Hundred. Seracini’s main theory rested in the words of Vasari himself. According to *Lives of the Most Excellent Painters, Sculptors, and Architects*, Vasari praised Leonardo’s work on the *Battle of Anghiari*, calling it “incredible mastery.”25 Vasari claims that Leonardo abandoned his work because he used oils to paint which ran and ruined the masterpiece. Since Vasari praised


Leonardo’s work and even documented it in his book, could it be possible Vasari left Leonardo’s *Battle of Anghiari* unharmed? Seracini thought that Vasari would never destroy art by someone as prominent as Leonardo. When Seracini discovered a small cavity on Vasari’s fresco, he thought he had found tantalizing evidence of the hidden *Battle of Anghiari*. This discovery suggested the theory that instead of destroying Leonardo’s work, Vasari built a separate wall to preserve the *Battle of Anghiari*. Given this lead, Seracini officially began his search in 2007 in the Palazzo Vecchio.

Maurizio Seracini’s quest immediately raised an international art controversy. Other art historians denounced Seracini’s search. Art historian Franca Falletti called Seracini’s search a marketing ploy and a petition signed by 300 art historians disputed Seracini’s theories. The art politics behind the search created issues for the Florentine government on what to do because the chance of finding a lost Leonardo would potentially bring immense public attention and additional tourist revenues. Discovering the hidden *Battle of Anghiari* would bring Florence financial benefits that could not be ignored. If a lost mural by Leonardo was uncovered, millions of tourists would flock to Florence to see the mysterious piece. Essentially, the increase in tourism in Florence would benefit the Florentine economy and its people. The financial capital Florence would receive from uncovering the art mystery would benefit all of Florence. On the flip side, Florence received and continues to receive political pressures from those against Seracini’s search. Protestors claim harming the Vasari mural is unconstitutional and unethical.

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due to the search infringing on the rights of the ancient work. However, despite the pushback, the Florentine government granted Seracini access to search for Leonardo’s *Battle of Anghiari* in 2007.

Maurizio Seracini is not the only one who attempted to uncover the *Battle of Anghiari*. In 1982 art historian John Spencer and art conservator Travers Newton conducted research in the Hall of Five Hundred searching for the *Battle of Anghiari*. Newton and Spencer believed the Lost Leonardo remained hidden on the west wall of the chamber. The team used ultrasonic equipment to examine both the east and west walls. For years, researchers believed that Leonardo’s *Battle of Anghiari* remained hidden on the east wall based off an essay by Johannes Wilde. Newton and Spencer believed Wilde misread translated documents and created the theory that the *Battle of Anghiari* lay behind the east wall. Newton and Spencer wanted to prove Wilde’s statement incorrect and direct all the searching to the west wall. While examining both walls, ultrasound discovered nothing on the east wall, but discovered more complex elements on the west. Newton and Spencer also had more reason to believe the *Battle of Anghiari* lay on the west wall due to the idea of Leonardo’s lighting while painting. According to Newton and Spencer, Leonardo wanted his major light source to come in from the east onto the west wall while he painted. Evidence of this comes from an agreement between Leonardo, the Signori, and the Gonfaloniere referred to as Document 175 of May 4th, 1504.

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Based on this evidence, Newton and Spencer requested the Florentine government as well as the Ministry of Culture in Rome to remove portions of Vasari’s mural in order to expose the mural behind it. Hoping that the *Battle of Anghiari* lay behind the west wall, technicians removed portions of the west wall using the strappo technique. This technique cuts the face mural out like a piece of cake to examine what is underneath and then put it back onto the wall. When the pieces were removed the *Battle of Anghiari* did not appear.\(^{31}\) Therefore, Newton and Spencer’s theory of a west wall location proved to be false. Seracini worked with Newton and Spencer on the project and learned from the mistake of thinking the *Battle of Anghiari* lay on the west wall. Seracini later discovered a gap located behind Vasari’s east wall mural. Seracini found a fifteen-centimeter gap underneath the wall, which means Vasari created the wall himself and the *Battle of Marciano* is not painted on the original walls. Could Vasari have created a spare wall for his mural so he did not have to paint over Leonardo’s work?

**The Hunt for The Lost Leonardo: Techniques and Technologies**

Seracini’s quest raised an urgent question: How could he search behind the wall and not destroy portions of the priceless Vasari mural? To carry out this quest he discovered and deployed an entirely new set of techniques and technologies.

With such a strong lead, Seracini and his crew looked into possible techniques to examine the east wall. Through research, Seracini determined that the techniques must be non-

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evasive and non-destructive. These are the only types of techniques possible to use, because if the Vasari mural is ruined in the search, Seracini faces grave consequences. Also, Seracini did not want to live with the guilt of destroying a historic Florentine fresco and possibly never find the hidden *Battle of Anghiari*. In 2007, Maurizio Seracini searched for the lost Leonardo with funding and appropriate technology to uncover the art mystery. By using laser scanning and thermography, Seracini discovered a gap around 15 centimeters behind Vasari’s fresco on the east wall. The two technologies used infrared thermal imaging to discover the gap behind Vasari’s fresco. The thermal imaging gave Seracini the technology to see through the first mural without physically harming Vasari’s work.

The two main techniques Seracini’s crew discovered were neutron nanosecond analysis and neutron back scattering, both non-evasive and non-destructive. Nanosecond analysis focuses on reactions that detect elemental composition of materials inside the east wall, while neutron back scattering detects hydrogen by slowing down fast neutrons in a hydrogen nuclei. Neutron back scattering works by irradiating the surface with high energy neutrons, which cause the neutrons to scatter and lose energy. Thus, the neutrons begin to thermalize and concentrate towards areas containing hydrogen. It is essential for Seracini and his crew to look for hydrogen due to Vasari’s report that Leonardo used oils for the *Battle of Anghiari*. The

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element hydrogen is present in all the materials Leonardo ordered in 1503, which would give Seracini clues as to whether the Battle of Anghiari is hidden underneath.

However, a problem occurred with neutron back scattering (NBS). How can NBS read through Vasari’s wall onto Leonardo’s mural if Vasari’s materials also contain hydrogen? Seracini believed that Vasari’s wall is made of a mortar containing sand and lime, thus containing no hydrogen. In addition, Seracini also believed NBS would work because Leonardo used a substance known as gesso as a primer coat. Containing animal glue and calcium carbonate, gesso would not soak through the support layer and also appear on the NBS. Since Leonardo experimented with new oils, he needed to cover the surface of the wall with gesso first so the wall would retain the oil. Therefore, by Vasari making a non-traditional mortar wall and Leonardo applying gesso, NBS possibly could detect the Battle of Anghiari. In order to back this theory, Seracini and his crew created replica walls of the Hall of Five Hundred. The mock walls would test the effectiveness of neutron back scattering.

Seracini’s replica walls served as an appropriate testing ground for his crew due to the low risk environment compared to the walls of the Palazzo Vecchio. If Seracini made a mistake on the replica walls, he would be able to study and correct it before working on the Hall of Five Hundred walls. The replica walls, therefore, helped Seracini eliminate the possible errors before using NBS on Vasari’s mural. However, building the mock walls to scale was nearly impossible due to the unknown status of the Leonardo segment of the wall. The replica walls were broken down into three segments mimicking the Hall of Five Hundred; the front wall of Vasari’s mural,

36 Seracini, “Neutron back scattering,” pp. 68.

the back wall, and Leonardo’s mural wall. Seracini’s team mimicked this layout for testing the effectiveness of neutron back scattering.

In testing out his procedure, Seracini’s team conducted neutron back scattering on the mock Hall of Five Hundred walls and came to a hopeful conclusion. By placing gesso on the mural wall of the structure, Seracini could test the effectiveness of neutron back scattering. The results showed that the NBS system discovered the gesso on the back wall through the front two walls. However, the further away the NBS system was from the oil concentrations the less accurate the numbers were. This raises safety concerns for Vasari’s mural if the NBS system cannot pick up hydrogen without going deeper into the wall. The conclusion from the research suggested NBS is an effective technique without penetrating Vasari’s fresco.\textsuperscript{38} Seracini and his team discovered a successful method through experimentation, but the only way to see the effectiveness was to travel to the Palazzo Vecchio.

Neutron back scattering was one of the possible techniques to uncover the lost Leonardo, but it was not the only one. A.V. Kuznetsov researched the possibility of using Nanosecond Neutron Analysis/Associated Particle Technique to search for the \textit{Battle of Anghiari}. Nanosecond Neutron Analysis (NNA) and neutron back scattering are similar, but NNA allows the user to pick an area of space to investigate. NNA is referred to as a “neutron in, y out” technique, which focuses on irradiating the object with neutrons and measuring the secondary y-radiation induced by these neutrons.\textsuperscript{39} However, the neutron in, y out technique

\textsuperscript{38} Seracini, “Neutron back scattering,” p. 67.

\textsuperscript{39} A.V. Kuznetsov, “Nanosecond Neutron Analysis for the search of the lost Leonardo’s masterpiece, the Battle of Anghiari,” \textit{Nuclear Instruments and Methods in Physics Research}
takes long periods of time in the identification process, a deficiency that led to the Nanosecond Neutron Analysis/Associated Particle Technique (NNA/APT).

NNA/APT takes a different approach compared to the standard neutron in, y out techniques. NNA/APT instead focuses on irradiating fast neutrons to speed up identification time.\textsuperscript{40} Besides the quicker identification time, NNA/APT can also be transported easier than most irradiating devices. The neutron generator can be turned off, which makes it safer to transport because it eliminates the fear of radiation exposure while traveling. Kuznetsov tested the efficiency of NNA/APT to see if it could aid in discovering the exact location of the Battle of Anghiari. Kuznetsov used a device known as SENNA (Sensory for Explosives detection based on Nanosecond Neutron Analysis), which originally focused on exposing concealed explosives.\textsuperscript{41} Similar to Seracini’s experiment, the main focus became searching for the gesso underneath Vasari’s fresco. However, while Seracini and NBS focused on hydrogen, NNA/APT focused more on discovering copper, lead, mercury, and tin. Kuznetsov looked for these elements due to the document of Leonardo’s materials.\textsuperscript{42}

To test NNA/APT’s effectiveness, Kuznetsov developed an experiment by building a brick wall with copper and lead behind the wall. After the results, Kuznetsov determined that


\textsuperscript{40} Kuznetsov, “Nanosecond Neutron Analysis,” p. 3694

\textsuperscript{41} Kuznetsov, “Nanosecond Neutron Analysis,” p. 3695

\textsuperscript{42} Kuznetsov, “Nanosecond Neutron Analysis,” pp. 3694
NNA/APT can be effective in helping the search for the lost Leonardo. The technique of using NNA/APT poses no threat to the Vasari mural and anything possibly hidden underneath.

While NNA/APT and NBS are two proven effective techniques, M. Pieraccini developed yet another technique that would not affect the existing Vasari mural. Pieraccini’s approach took into account the fact that the walls of the Hall of Five Hundred are very dry. He developed and used high-frequency radar with a high-frequency large bandwidth synthetic aperture designed to penetrate this particular dry material. 43 The radar operates on a frequency of 10GHz with microwave components, which created a large bandwidth at low cost. According to Pieraccini, high frequency radar struggles with dealing with moisture. 44 The moisture causes high attenuation, which blur the desired image from the radar. Since the Hall of Five Hundred masonry is dry, the bandwidth radar is an effective option.

Like the others, Pieraccini created mock walls to test the effectiveness of his bandwidth radar. To mimic the masonry, Pieraccini’s team placed the bandwidth at three meters away from the first wall. The bandwidth radar successfully picked up the depth of the wall and materials hidden behind the masonry. 45 This success determined that it could be used in the actual Hall of Five Hundred, which Pieraccini subsequently did.


Pieraccini’s team calculated the parameters of the Hall of Five Hundred and used the bandwidth radar on the eastern and western walls. They placed the radar itself three meters from the mural at a height of six and half meters. The bandwidth radar conducted scans of two meters up to thirty times up and down both walls.46

Could the results aid in the search for Anghiari? The results revealed that the western walls had no evidence of any interface. Nothing suggesting a hidden wall behind the mural appeared on the scans. The theory of the western wall being empty already was confirmed by Newton and Spencer when pieces of the fresco were removed. However, Pieraccini discovered that the eastern wall displayed images different than the western wall. The images produced from the eastern wall display a discontinuity at the end of the wall of approximately seventy centimeters and at a depth of fifteen centimeters. The depth of fifteen centimeters is irregular compared to the typical depth of around four or five centimeters.47 Therefore, this can be identified as the wall Vasari created to protect Leonardo’s work.

Could the gap behind Vasari’s Battle of Marciano lead Seracini to the lost Battle of Anghiari? The mysterious clue of “Cerca Trova” and the fifteen centimeter gap made the east wall the likely placement of Leonardo’s work. Seracini believes that the east wall holds the lost mural and with the evidence discovered he put his search into motion.


Seracini’s Hunt Officially Begins

Seracini’s hunt for the Battle of Anghiari began in the 1970’s while he was working for Newton and Spencer. His own search officially began in 2007. After years of providing the Florentine government with information on the possible whereabouts of Leonardo’s unfinished Battle of Anghiari, Seracini received approval to examine the Hall of Five Hundred. According to a Florence newspaper, The Florentine, Seracini teamed up with American scholars and received funding of one million euros.\(^{48}\) With the help of National Geographic, Seracini’s search would be documented. However, the Florentine government initially granted Seracini only one year to complete the project.

With funding and preliminary tests completed at the University of San Diego, Seracini readied himself to finally uncover Leonardo’s Battle of Anghiari. Support from Florence’s mayor, Matteo Renzi, was critical in launching the project. During Seracini’s search for the Battle of Anghiari, Renzi was an increasingly prominent, Italian politician. When Seracini first gained approval, Renzi was the President of the Florence Province with aims to elevate his political position. Did Renzi see Seracini’s search as political advantage and could backing the search elevate his status? Renzi openly supported Seracini from the beginning and stated he believed Seracini would find something in the Hall of Five Hundred.\(^{49}\) With his support growing,


Renzi was elected Mayor of Florence. Having mayoral support was crucial to Seracini’s search because if anything went wrong, the mayor would be a powerful ally. Renzi eventually became the Prime Minister of Italy in 2014 due to his popularity all across the country.  

However, not everyone supported Seracini’s quest for the Battle of Anghiari. Art historian Tomaso Montanari openly disagreed and called it a “scratch and win lottery ticket.”

Tomaso Montanari, a historian of modern art and a professor at the University of Naples, became a powerful opponent to Seracini’s search. Montanari’s power and position within the Italian art world made him the key opponent of the search. Montanari even received Giorgio Bassani Prize, which goes to an outstanding Italian who defends cultural heritage. Despite the uproar caused by Seracini’s search and a powerful opponent, plans efficiently moved ahead.

In November of 2007, Seracini and his team of thirty tested out the neutron activation analysis (NAA) technique inside the Hall of Five Hundred. NAA sent a beam of neutrons that collide with the nuclei of elements, which in turn spawns’ gamma rays. The rays were picked up by a detector and the energy was studied. NAA was a relatively simple yet safe technique for the Vasari mural. However, challenges emerged due to the portability of NAA and the placement of the instrument. Due to the size of the mural on the east wall, the instrument had to be placed on a scaffold and scan every inch of the fresco. The process of scanning could take


weeks or months, according to Seracini, because each piece of data had to be precisely captured.

The NAA scanner successfully could see through the Vasari murals, but how did Seracini know what to look for? Fortunately, Leonard Da Vinci recorded all of the materials that he had purchased for the mural while working in the Hall of Five Hundred. The receipts and lists left by Leonardo showed Seracini what chemical elements to search for. The NAA scanner would penetrate the Vasari mural on the east wall and detect chemical traces of materials such as gesso. Seracini gave an example of the NNA scanner and what he was looking for in an interview by Nicole Martinelli. Seracini states that if the NAA scanner creates gamma rays associated with mercury at certain points on the mural, it shows that a common element of vermillion red is present. By having Leonardo’s receipts and knowing chemical reactions, Seracini pinpointed possible areas where the Battle of Anghiari was hidden.

Seracini also deployed the previously mentioned technique of neutron back scattering (NBS). This technique enabled the investigator to detect the traces of hydrogen molecules within the organic paint materials. Shooting neutrons in a steady beam, the NBS device detected hydrogen atoms when the beams returned and were detected by a measuring instrument. When the device detected the neutrons, Seracini believed that they pointed to the existence of some kind of organic material beneath the surface of the mural. Materials such as


54 Martinelli, “Neutron Beams Search For Da Vinci’s Lost Masterpiece,” 2007
linseed oil and resin were used by Leonardo, which when the neutrons make contact should send the neutrons firing back. 55

As Seracini carried out his investigation, political pressure on the mayor and the officials of the Palazzo Vecchio mounted. After several months, Seracini was told to break off the investigation. According to Seracini, a political change in administration halted operations due to external pressure. 56 Seracini’s biggest problem in the search for the Battle of Anghiari would come from the movement against his research.

Seracini’s Search Halted

Securing approval from the Florentine government to conduct work in the Hall of Five Hundred took Seracini several years. During the first few months of operations, Seracini’s team constantly felt political pressure from Florence as well as criticisms from art historians. Despite the criticism, Seracini continued to conduct research until the administration changed in 2009. However, Seracini gained a powerful political ally when Matteo Renzi became the new mayor of Florence. Renzi even called the lost Leonardo “the greatest mystery in the history of art” and helped send more funding to Seracini’s cause. 57 With a political ally and funding, Seracini overcame external pressure and continued his research. Seracini had so much support with Renzi that he suggested a new technique to try that actually penetrated the Vasari murals.

While NAA and NBS helping Seracini identify possible locations of the *Battle of Anghiari*, the next step involved drilling into Vasari’s mural. Seracini aimed to gain enough evidence to finally convince the Florentine government to let him remove Vasari’s mural. Finally in 2011, Seracini gained approval to drill holes into the Vasari mural to see what lies beneath. Seracini used an endoscopic probe with a camera to examine the wall behind Vasari’s mural.\(^{58}\) Seracini chose sections that he believed were previously damaged and restored to drill holes. In Seracini’s mind these were the best places because of the increased ability to restore them since they had already been restored once before.

With the proper areas chosen and the government’s permission, Seracini and his team drilled into Vasari’s *The Battle of Marciano* on the east wall. In December of 2011, Seracini’s team drilled the first hole into Vasari’s mural. The drilling caused an uproar when a photo was published of the team using a red Hilti drill on the mural.\(^{59}\) Within days a petition created by art historian Tomaso Montanari garnered over 300 signatures to stop Seracini’s project.\(^{60}\) The opposition saw Seracini’s search as unethical because it threatened the safety of a historic Florentine fresco. Indeed, when Seracini began drilling, the safety of Vasari’s mural became even more uncertain, which spurred the petition. Seracini and mayor Renzi faced immediate backlash from the art historian community due to Seracini’s methods. Art historians argued


\(^{59}\) Luck, “The New Battle of Anghiari,” p. 43

that drilling into Vasari’s mural violated ethics. Cecilia Frosinini, who was in charge of wall paintings and art conservation at the conservation institute in Florence, deemed the work unethical and refused to supervise the project. Frosinini believed that the lack of background information regarding the drilling caused it to be unethical. Frosinini saw the lack of research as a careless attempt to find the Battle of Anghiari, which would harm Vasari’s mural. Frosinini was replaced so the project could keep moving, which frustrated the art community even more.\footnote{Luck, “The New Battle of Anghiari,” p. 46} With a growing petition against Seracini’s project, the hunt for the lost Leonardo hit a major roadblock.

By drilling into the 500-year-old Vasari fresco, Seracini faced more organized opposition from powerful opponents in the art community than ever. Such resistance could halt the search once and for all. Seracini’s techniques caused powerful members of the art community to speak up against the project. Keith Christiansen, the curator for Italian paintings in New York’s Metropolitan Museum of Art, openly spoke against Seracini’s search by calling it a “bad idea at a bad time.”\footnote{Luck, “The New Battle of Anghiari,” p. 46} Alessandra Mottola Molfino, a famous art historian, became so enraged she reached out to Florentine prosecutors and called for criminal allegations.\footnote{Luck, “The New Battle of Anghiari,” p. 46} Molfino was more than just an academic disagreeing with Seracini, she was the head of several art museums. Molfino directed the Poldi Pezzoli Museum as well as the Central Director of Culture for Milan. She also was the president of Italia Nostra, which is an organization dedicated to the protection of cultural landmarks.

\footnote{Luck, “The New Battle of Anghiari,” p. 46}
of Italy’s historical arts.\textsuperscript{64} Essentially, Molfino became a voice that the Florentine government and Seracini could not resist. Molfino and the resistance argument also touched on financial issues in the art community. Molfino attacked the Florentine government for allowing funding for Seracini’s project instead of funding art conversation. Florence allowed damage to be done to a historic fresco, rather than resourcing that money to conserve other art projects in Florence. Molfino criticism of the Florentine government created a valid argument for the resistance. Molfino also argued that Seracini’s search violated the Italian constitution. Molfino claimed the Italian constitution guarantees the protection of Italian cultural heritage, and she believed Seracini violated the protection of a historic mural.\textsuperscript{65} Molfino argued that the Florentine government does not protect its artwork, but instead allows destruction of historical murals.

With Florence opening up investigations against the search, art historians slandered Seracini’s project. Protestors called the search a “marketing opportunity” and “marketing ploy.”\textsuperscript{66} By drilling into the east wall of the Hall of Five Hundred, Seracini created a landslide of resistance. Not only was Seracini affected, the Florentine government became stuck in the middle. The government is the only entity that could approve or stop Seracini’s search. However, Seracini would not go quietly against the protesters who slandered his name and work.


\textsuperscript{65} Elisabetta Povoledo, “Methods for Finding a Lost Fresco by Leonardo Lead to a Protest,” 2011

\textsuperscript{66} Elisabetta Povoledo, “Methods for Finding a Lost Fresco by Leonardo Lead to a Protest,” 2011
With criminal allegations against his research, Seracini chose to fight back against the slander. In reality, the groups against Seracini’s search had no ground to stand on because he had received approval from the Florentine government and Seracini knew this. Alexander Moen, Vice President of Mission Programs for National Geographic, defended his business partner by telling The New York Times that Seracini received all the proper approval to drill into the murals. Seracini gained approval from the city of Florence as well as the state and each designated drill spot had been mapped out beforehand. Seracini did not drill a hole anywhere he liked, instead he had it mapped out to drill in areas already once restored. Further, Seracini had taken all the proper legal steps in order to further his investigations. Seracini even hired one of the most renowned art restoration institutions, Opificio delle Pietre Dure, to help repair the Vasari mural. The institute is considered the world leader in art restoration and is based in Florence. Therefore, Seracini had the best resources to protect the Vasari mural if anything were to go wrong. Both sides had compelling arguments to continue or disband the search. Seracini’s approach was technically sound and aimed at having the utmost safety for Vasari’s mural. Therefore, what legal actions could the resistance take? The resistance could apply pressure to the government in order to halt the search for the Battle of Anghiari, which is exactly what happened.

The extreme backlash against Florence’s decision to let Seracini drill holes into a Vasari mural put Florentine officials in a bind. One on hand, Seracini conducted the process legally and


had kept the government informed. On the other hand, the search caused so much resistance from the art community that stopping the search served as a viable option. Florence conducted an investigation into the search and in late December 2011 the Minister of Culture ordered the search to be stopped.69

Seracini once again hit a road block that could end his search for the lost Leonardo once and for all. However, Seracini still had a powerful ally in Florentine Mayor Renzi. Renzi championed the project because of the success it could bring him. If the Battle of Anghiari did lie underneath the Vasari fresco and Renzi was the one to approve the search, he would become famous in Florentine politics. Renzi supported all the work done by Seracini, even telling newspapers he was very satisfied with the search and stopping this far in would be crazy.70 Having Renzi’s support helped Seracini overcome the gridlock and continue the project. Two days after the Minister of Culture suspended the search for the Battle of Anghiari, the project regained approval.71

The Search Resumes: January 2012

After the setback occasioned by political controversy, the project continued with a request to drill fourteen holes in Vasari’s mural. Each hole was strategically picked to give the team the best chance to find the Battle of Anghiari. However, the Florentine government only approved seven of the holes in consideration of the safety of the fresco. After the first six holes

69 Luck, “The New Battle of Anghiari,” p. 47

70 Elisabetta Povoledo, “Methods for Finding a Lost Fresco by Leonardo Lead to a Protest,” 2011

71 Luck, “The New Battle of Anghiari,” p. 47
were drilled, the Florentine government feared for the integrity of the Vasari mural and blocked the seventh hole from being drilled.\textsuperscript{72}

Why did the team propose to drill holes? Through each hole, Seracini hoped to insert an endoscopic probe camera and photograph glimpses of the hidden Leonardo mural, \textit{The Fight for The Standard}. The first hole drilled only revealed blank plaster behind the Vasari mural. The second hole revealed no more than the first. Once again, Seracini only saw blank plaster as he looked through the camera. Seracini continued to struggle when hole three did not even make it completely through the Vasari mural. Hole three got stuck between the brick work in Vasari’s mural and did not find the air gap between the walls.\textsuperscript{73} Seracini slump continued with holes five and six, the two holes suffered the same fate as hole three. So far Seracini’s drilling had been a complete failure, which would only strengthen the resistance movement against his work. However, hole four gave Seracini the glimmer of hope he had prayed for. Hole four successfully made it through the Vasari mural and entered the cavity. Instead of seeing only blank plaster as in hole one, the endoscopic camera picked up images that differed from blank plaster but no images of horses or soldiers appeared. After Seracini found the gap between the wall, he took three samples from the hidden wall.

Seracini took the samples to two different laboratories in order to have varying perspectives. The Editech in Florence and the Pontlab in Pontedera analyzed each of the three samples.\textsuperscript{74} Each lab returned similar results that instilled more hope into Seracini’s hunt. The

\textsuperscript{72} Luck, “The New Battle of Anghiari,” p. 47

\textsuperscript{73} Luck, “The New Battle of Anghiari,” p. 47

\textsuperscript{74} Luck, “The New Battle of Anghiari,” p. 47
materials taken from the hidden wall came back as an organic black pigment containing manganese and iron. The black pigment Seracini discovered can also be found in the Mona Lisa and the portrait of St. John the Baptist, both paintings done by Leonardo da Vinci. The labs also found a red varnish and some beige, which appeared to resemble brush strokes.  

Seracini’s groundbreaking discovery created more overwhelming evidence that a lost piece of Leonardo’s work lies behind Vasari’s mural. However, Seracini’s discovery created new pressures on the Florentine government. Due to Seracini’s success in discovering new evidence of a lost painting, he would ask to use even more hazardous techniques to eventually find the Battle of Anghiari. Additional drilling would only upset the resistance in the art community, thus continually putting the Florentine government in a bind. The more success Seracini had, the more pressure mounted on the Florentine government to halt the project.

While Seracini gained confidence with the latest discovery of organic black pigment, others did not share his confidence. With drilling being effective, Seracini hoped to use more invasive technologies to uncover the resting place of the Battle of Anghiari. Invasive technology only upset the masses against Seracini’s search creating further struggle between the two sides.

The controversy eventually halted the project for good. In September of 2012, a few months after Seracini’s discovery, Renzi officially ended the search.  

75 Luck, “The New Battle of Anghiari,” p. 47
Seracini’s search is the closest anyone has been to finding the *Battle of Anghiari*. With the search suspended indefinitely, Seracini still hopes that one day he might resume his work. Advances in technology and a change in government could open up the opportunity for Seracini to finally finish his project. For now, the *Battle of Anghiari* remains hidden due to the ethical and political dilemma the Florentine government faces.

**Political Pressures and Backlash: Florence’s Ethical Dilemma**

Maurizio Seracini’s search for Leonardo da Vinci’s lost *Battle of Anghiari* created an ethical dilemma for the Florentine government. In fact, ethical dilemmas confronted all of those involved in approving Seracini’s invasive technologies. Is it ethical to risk destroying an existing historical work of art in the hope of finding a lost Leonardo da Vinci mural? Each time Seracini requested approval to further his research, this question became the center of discussion. When Seracini’s methods included neutron back scattering and nanosecond neutron analysis, ethics were never really questioned.\(^{77}\) The non-invasive technologies posed no dilemma for Florentine officials and no one questioned the safety of Vasari’s *Battle of Marciano*. However, Seracini’s progress, and use of invasive technologies, made the ethical dilemma grow. Ironically, the success of one man’s project caused greater stress for Florence rather than joy that a lost Leonardo could be uncovered.

The question of ethics arose when news surfaced of Seracini drilling into Vasari’s *Battle of Marciano*. Protesters called the project unconstitutional in that the drilling violated the

\(^{77}\) Kuznetsov, “Nanosecond Neutron Analysis,” p. 3694
cultural rights of Italy. While accusations of constitutionality can be handled legally, ethics is not a black and white matter. Ethical considerations fall in the gray or blurred-line category because such considerations essentially boil down to relative values. Each side possessed different values regarding the integrity of the Vasari mural. The resistance saw the drilling into Vasari’s mural as unethical because it harmed the existing mural. The harming of original paint is an ongoing ethical issue in the art restoration community in consideration of the intentions of the artists. According to Ernst Van De Wetering, art historians experience dilemmas during restorations because they do not know the wishes of the artist and what they intended their work to be. They become conflicted by their own decision to restore the art in their own ways or attempt to follow the wishes of the artist. The concept of art conservation in itself causes dilemmas for conservators due to respecting the originality of art. A conservator’s job is to preserve the art work, but to respect the originality at the same time, which creates a paradox. Art historians believe that a minimalist approach is needed in art conservation because adding restorations to old works takes away from the artists original intentions. However, certain projects require more work than others to keep them up to date, which creates the dilemma of balancing out preservation and originality.

The ethical quandary of art restoration gives life to the question, does restoring a piece of work depreciate its cultural value? Tomaso Montarini’s and Alessandra Molfino’s argument fell under the area of leaving Vasari’s mural as is. The values of the resistance disagreed with

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78 Nicholas Stanley-Price, Mansfield Kirby Talley, and Alessandra Melucco Vaccaro, Historical and Philosophical Issues in the Conservation of Cultural Heritage (Los Angeles: Getty Conservation Institute, 2010).
any alterations to Vasari’s mural because they do not know the wishes of Vasari and the deprecating value of losing original paint. Original works by famous artist have higher value because they are what the artist envisioned. In the case of Vasari’s Battle of Marciano, the cultural significance of the work depicts a crucial moment in Florentine freedom. Therefore, leaving the mural as is represents immense cultural value for the people of Florence. Altering the Vasari mural would infringe on the rights of Vasari as well as the rights of the people. In order to protect Vasari’s rights and the cultural rights of the mural, Monatarini created a petition and Molfino took legal action.

When Seracini drilled into the Vasari mural, the city of Florence attempted to understand both sides. Seracini requested fourteen drilling locations, but Florence only permitted half of the holes. In my opinion, Florence tried to play both sides by pleasing each group. By allowing Seracini to drill some holes and blocking the rest, Florence believed they maintained a neutral status. However, the side of the resistance considered even one hole drilled as unethical because it alters the original status of the mural. When Seracini discovered more evidence from drilling, Florence felt the pressure to make a decision on allowing or denying more holes. Ultimately, Florence listened to the voice of the resistance and ended the search indefinitely. In the end, the leaders of Florence decided harming the Vasari mural is unethical to the rights of the mural and the cultural rights of Italy.

The question of harming Vasari’s Battle of Marciano to find Leonardo’s Battle of Anghiari is an ethical dilemma. However, it can be seen more logically when comparing the two artists, which begs the question of whether you can value one historical artist over another. If

79 Luck, “The New Battle of Anghiari,” p. 46
you believe that finding a hidden piece of work by Leonardo da Vinci is worth more than protecting the originality of Vasari’s mural, then you simply value Leonardo over Vasari. However, the dilemma of ethics is never as simple as it seems. The Florentine government could not take a stance on valuing Leonardo over Vasari because they were entrusted with the protection of the interests of the people, some of whom wanted Vasari’s mural unharmed. On the other hand, Seracini saw finding Leonardo’s *Battle of Anghiari* as more important than protecting the originality of Vasari’s *Battle of Marciano*. In my opinion, I believe it is ethical to alter the originality of Vasari’s mural in order to find the *Battle of Anghiari* due to Leonardo’s value in relation to that of Vasari. Leonardo da Vinci’s value over Giorgio Vasari would bring profits to Florence due popularity and the price of the work. In addition, technological advances protect Vasari’s mural, even though they alter its originality.

**Leonardo da Vinci vs. Giorgio Vasari**

Can you place a greater value on Leonardo da Vinci over Giorgio Vasari? I would argue that Leonardo da Vinci’s value is greater than Giorgio Vasari due to his popularity and the worth of those works associated with Leonardo’s name. Since Leonardo’s name brings greater value, it would be advantageous for the city of Florence to restart the search for the *Battle of Anghiari*. The benefits of tourism and publicity would provide economic returns for Florence.

Both Leonardo da Vinci and Giorgio Vasari were prominent artists in Renaissance Florence. To the general public, Leonardo da Vinci’s name is known worldwide and respected, while Giorgio Vasari is known relatively only in the art community. Even though Vasari is one of the most renowned artist of the Renaissance, his name does not compare to da Vinci’s.
Leonardo da Vinci’s name transcends time due to the works he left behind. A lot of the appeal of Leonardo’s work comes from the fact that very few paintings or works – only a handful – can be completely or partially. Of those works, two of them are arguably some of the most famous pieces of art work. *The Mona Lisa* and *The Last Supper* put da Vinci’s art realism on display for the whole world. The image of Jesus breaking bread the last time with his disciples is seen through the eyes of Leonardo in *The Last Supper*. When followers of Christ imagine that final scene, the painting by Leonardo becomes their reference point. Some argue that Leonardo’s work is the most famous piece of religious art ever created. In the appreciation of a religious masterpiece such as *The Last Supper*, the Leonardo fan base expands to involve religious followers.

Even though *The Last Supper* reached levels of extreme popularity, the popularity of Leonardo da Vinci’s *Mona Lisa*’s surpassed that of any other painting. Leonardo’s portrait of a woman with dark hair and a fair complexion became known as the most recognizable and popular painting ever. When religious people think of Leonardo, they think of *The Last Supper*. When scientists and mathematicians think of Leonardo, they think of his work on the Vitruvian man. However, when the rest of the world thinks of Leonardo, their mind goes straight to the portrait of *Mona Lisa*. The *Mona Lisa* even has the notorious rumor that her eyes follow you when you glance upon her.

Since Leonardo’s name can only be attributed to a handful of paintings, the demand for his work rises and its value increases exponentially. This comes down to basic supply and demand, the demand for Leonardo’s work is extremely high due to the lack of supply. This
factors in on why Leonardo’s top two paintings reached levels of notoriety that other artists could never achieve.

Even though Leonardo’s fame is known worldwide, Giorgio Vasari also contributed historic work during the Renaissance. Vasari’s work is respected throughout the art community and beyond due to the contribution he made to art history. Vasari’s contribution did not come in a form of a painting or mural, but through a book of art history. *Lives of the Most Excellent Painters, Sculptors, and Architects*, which some describe as the foundations of art history. Giorgio Vasari essentially is known as the first art historian and started the movement of art history writing. His encyclopedia of historical artists became the blueprint in documenting art.⁸⁰ In addition to his book, Vasari’s art work competed with the best of the Renaissance era.

During the mid 16th century, Giorgio Vasari became a favorite of the powerful Medici family, who commissioned many works from him. Vasari’s fame grew during his lifetime, but never truly progressed after his death. Leonardo da Vinci’s fame, on the other hand, continued to grow after his death.

Vasari contributed seventy-three works of art during his lifetime. His most famous work, the *Battle of Marciano*, is at the center of the *Battle of Anghiari* controversy.⁸¹ It stands as a historical reminder to the people of Florence and has stood for nearly 500 years. However, Vasari’s fame from his work does not extend far out of Florence. His limited fame puts him at a

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disadvantage when comparing popularity to Leonardo. Instead, Vasari remains a huge figure in the art history and architectural community.

Vasari’s legacy arises from his book, *Lives of the Most Excellent Painters, Sculptors, and Architects* and from his paintings. But, Vasari also had a successful career as an architect in Renaissance Florence. Vasari’s most notable architectural venture comes from the work he conducted on the Uffizi Art Gallery in Florence. Vasari’s loggia next to the Arno river brought him architectural fame. A loggia consists of an outdoor covered gallery similar to a corridor. The loggia has a rare view of the Arno River that very few structures enjoy. Vasari also created a corridor that connects the Uffizi Gallery with the Palazzo Pitti across the Arno. The corridor goes by the name “Vasari’s Corridor” and combined with the loggia creates a beautiful view of the riverside landscape. Vasari’s Renaissance architectural skill is renowned as his creations still stand. However, Vasari’s most important design connected to architecture comes from his work inside the Hall of Five Hundred that few know about.

Giorgio Vasari’s success as an architect is the main reason why the search for Leonardo’s lost *Battle of Anghiari* is relevant. When both Leonardo da Vinci and Michelangelo abandoned their murals, Grand Duke Cosimo commissioned Vasari to restructure the room. Grand Duke Cosimo wished to hold court inside the Hall of Five Hundred and instructed Vasari to redesign the whole room. However, some art historians speculate that while Vasari reconstructed the room he salvaged the *Battle of Anghiari*. Instead of destroying Leonardo’s work completely, Vasari created another wall about 15 centimeters in front. The new wall covered the *Battle of Anghiari*, hiding the mural. Vasari’s work inside the Hall of Five Hundred did not gain notice in

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82 Luck, “The New Battle of Anghiari,” p. 43
this regard until Maurizio Seracini discovered the gap between the two walls. Seracini’s find supports the rumors of Vasari creating a second wall to save Leonardo’s *Battle of Anghiari*. While the controversial search focused on Vasari’s murals, very few focused on his architectural work that saved the lost mural. Vasari’s skills permitted him to save the *Battle of Anghiari* by creating the new wall. If Vasari had no such skills, the wall would not have been built and the *Battle of Anghiari* would have been lost for eternity. Therefore, Vasari’s greatest unrecognized contribution architecture is saving the unfinished work by Leonardo that he praised so much.

Comparing the popularity of Leonardo da Vinci and Giorgio Vasari is not as easy as it seems. Both artists are revered for different work. Vasari’s popularity came from his contribution to the development of art history with his book, *Lives of the Most Excellent Painters, Sculptors, and Architects*. Vasari’s work began the historical consideration of art and created a standard for centuries to come. Vasari’s is a local fame, while Leonardo’s expands to the whole world. People with very little art knowledge know the name Leonardo da Vinci and have seen *The Last Supper* or *The Mona Lisa*. Leonardo is also famous inside the art community due to the beauty of his work. His abilities are documented and appreciated, with his work making an appearance in Vasari’s book. Certainly, in terms of popularity, Leonardo is better known to a general audience, making him more popular than Vasari.

Popularity is one way to value Leonardo da Vinci over Giorgio Vasari; comparing the monetary value of the works of each artist is another. Price of work plays a huge factor in determining the value of two artists, even though art is collected for nonmonetary reasons. Popularity and price also have a slight correlation because the more popular an artist is, the more expensive their work. When comparing the price of Leonardo’s work to Vasari’s work you
have to take into context more than just art work. Both Leonardo and Vasari had other successful ventures besides painting. Leonardo’s scientific and mathematical work, especially the Vitruvian man, are held in such high standards. While Vasari also served as a successful writer and architect during the Renaissance era. However, for the purpose of the argument, only the price of the paintings of the artists will be factored in determining who is more valued. It is simply too hard to figure in the price of Vasari’s architecture work and book sales. While calculating the price of Leonardo’s contribution to the math and science fields cannot be measured in a dollar value. Therefore, only the prices of Leonardo and Vasari’s art work will be considered.

Leonardo da Vinci’s work has such a higher price tag than most artists due to the fact that very few of his works are available or exist. By having only several paintings attributed to his name in conjunction with his immense popularity, the price of Leonardo’s work is driven up drastically. One of Leonardo’s work, Salvator Mundi, recently sold for four hundred and fifty million dollars in November of 2017.83 The painting apparently disappeared for nearly fifty years, but was found and sold by Christie’s. Leonardo’s Salvator Mundi became the most expensive painting ever purchased. Another one of Leonardo’s work, Ginevra de’ Benci, reached record purchase heights during the 1960’s. Ginevra de’ Benci sold for five million dollars in 1967.84 At that time, it was the most expensive art work purchased; by adjusting for

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inflation, the painting would be worth around thirty-seven million dollars today, a figure which does’t take into account market value. The *Ginevra de' Benci*, interestingly enough, became the only Leonardo da Vinci painting outside of Europe.\(^8\)

Anything Leonardo touched turns into high sales and profits for anyone who owns his works. Even paintings that have his name associated with it, but may not actually be his work, go for millions of dollars. One of the most controversial pieces of work, *La belle ferronnière*, sold for one and a half million dollars at Sotheby’s in 2010.\(^6\) This portrait of a young lady sold for more than triple the estimated value due to its association with Leonardo da Vinci. However, the portrait sold was only a copy of Leonardo’s work that attempted to pass as the original. The copy of the *La belle ferronnière* came into the possession of the Kansas City Art Institute in 1920 as an original.\(^7\) Soon after, the painting could no longer pass as an original and the truth about the copy emerged. In spite of the knowledge that this version of the *La belle ferronnière* is a copy, it was sold for one and a half million dollars. This shows the value of Leonardo da Vinci’s name and how the association of his name sparks interest.

So, several of Leonardo’s works sold for record-breaking amounts, and even a copy sold in the millions. However, these amounts would be eclipsed by the worth of his two most famous works, *The Last Supper* and *The Mona Lisa*. It is difficult to determine the worth of these two works because they are not privately owned nor have they been sold. The *Last

\(^8\) Kelly, “Perspective,” 2017.


\(^7\) Vogel, “Mona Lisa She is Not,” 2010.
Supper mural remains in the Convent of Santa Maria delle Grazie in Milan, Italy. Tours controlled by a Tourism Milan occur all day showing off the biblical work by da Vinci. The tickets to see the Last Supper are 10 Euros which equate to just over 12 USD. With only 25 to 30 people allowed at a time, tickets for viewing the Last Supper must be booked early online.

There is no formal price of the value of Leonardo’s biblical masterpiece, but the consistent revenue from tours show its worth. With tours occurring every 15 minutes for 10 hours and 45 mins a day, the Last Supper can have around 1,300 visitors a day. The Last Supper generates around 15,000 dollars a day with 1,300 visitors at 12 dollars apiece. This means that the Leonardo masterpiece earns over 5 million dollars a year based on visits. However, that number is based on every tour at maximum occupancy with the convent open to the public every day from 8:15 to 19:00. By generating nearly 5 million dollars a year based off of tours, the Last Supper’s value ranks as the highest of the world.

Similar to the Last Supper, The Mona Lisa does not have a clear definite numerical value in that it’s on permanent display at the Louvre Museum in Paris. However, the value of The Mona Lisa can be determined by the insurance taken out on Leonardo’s portrait. The insurance on the painting became essential due to several attempts to remove the painting from its resting place. On August 21st, 1911 someone successfully stole the Mona Lisa from the Louvre, which created a panic inside the museum. The Louvre closed for a week, while investigation


89 Turismo Milano
90 NPR Staff, “The Theft That Made The ‘Mona Lisa’ A Masterpiece,” NPR, NPR, 30 July 2011,
ensued. Louvre employee Eduardo de Valfierno admitted to masterminding the heist. Valfierno created a plan to steal the *Mona Lisa* and have a forger create six copies to be sold to the United States. With the original’s location unknown, the copies value exponentially increased. However, Valfierno’s plan crumbled when he himself became impatient and slipped up. After hiding the original *Mona Lisa* for two years in his apartment, Valfierno attempted to sell it to the Uffizi Gallery in Florence. Directors at the Uffizi Gallery turned Valfierno in, but the *Mona Lisa* remained on display for two weeks before the Uffizi returned the painting to the Louvre.\(^91\) Valfierno knew the value associated with the *Mona Lisa* and aimed to exploit copies to make huge profits.

The historic portrait of *Mona Lisa* has endured more than being stolen. She has been the subject for several attacks and protests. After the portrait returned to the Louvre in 2011, extra precautions were out in place. However, an earlier incident in 1956 demonstrated that theft is not the only issue. In a matter of one year the *Mona Lisa* suffered two attacks against her, damaging her 500-year-old body. One vandal threw acid on the uncovered painting, while the other chipped pigment in the corner by throwing a rock. Due to the threat of vandals and thieves, the Louvre added precautions. Now the *Mona Lisa* remains protected by bulletproof glass that shields her from unruly visitors. The Louvre understood the value of the *Mona Lisa* and took out the largest insurance policy on a portrait.\(^92\) In 1962, an insurance policy valued at

\(91\) NPR, “The Theft,” 30 July 2011,

one hundred million dollars protects the *Mona Lisa*. With inflation, the insurance policy is worth nearly eight hundred million dollars. The *Mona Lisa* insurance policy is the most expensive ever taken out on a painting, according to the Guinness Book of World Records.\(^93\)

The popularity and name of Leonardo da Vinci adds value to anything associated with him. Even though most of his work did not have an approximate value, the worth of Leonardo’s work does not go unnoticed. The most expensive painting ever sold up until 1967 had Leonardo’s name attached to it. Then in 2017, a work of Leonardo breaks another record and is sold for four hundred and fifty million dollars. The most famous portrait by Leonardo has the highest insurance value ever by a painting, while visits to *The Last Supper* has the potential to earn five million USD a year. All in all, the value of Leonardo’s name speaks for itself. However, Giorgio Vasari value cannot be taken lightly with several of his works bringing in tremendous revenue.

Even though the name Leonardo da Vinci towers over others, Giorgio Vasari’s reputation is also strong. Vasari’s name is attached to more art works than Leonardo’s, with seventy three paintings attributed to him. The works of Vasari are more available, with auctioneers such as Christie’s and Sotheby’s selling his work. Due to Vasari’s work being more available, demand does not drive the price of his work. However, Vasari’s works still sell for thousands and even millions of dollars. Recently one of Vasari’s watercolor paintings, *Saints Benedict and Romuald*, sold for one hundred and thirty four thousand five hundred USD at Christie’s. While one of his other works sold for nearly eight thousand USD. Vasari’s work

\(^93\) “Highest insurance valuation for a painting,” *Guinness World Records*,

successfully sell at Christie’s with the past four of his works selling for a total just under two hundred thousand USD.⁹⁴

While his work sold successfully at Christie’s, Vasari thrived at the other iconic auction hall, Sotheby’s. One of Vasari’s more successful paintings is estimated at Sotheby’s for over five hundred thousand USD.⁹⁵ *Two Putti: Allegories of Summer and Winter* is Vasari’s most expensive painting on the market. The beautiful paintings display intricate detail of cherubs interacting. Although several other small paintings have been sold at Sotheby’s, none reach the level of *Two Putti: Allegories of Summer and Winter*. At the end of the day, the value of Vasari’s work does not match up to Leonardo’s million dollar paintings.

Giorgio Vasari’s biggest contribution to art does not derive from his actual works, but from his analytical writing. Vasari became the precursor of art history and created the first art historical encyclopedia, *Lives of the Most Excellent Painters, Sculptors, and Architects*. The six-part book covers biographies and information on every important artist up until 1550. The book has several editions with the latest coming out in 1991 and is still published and read to this day. *Lives of the Most Excellent Painters, Sculptors, and Architects* has been translated to English and several other languages. Paperback versions of the book still sell at around ten USD, according to Amazon. Figuring out the exact worth of *Lives of the Most Excellent Painters, Sculptors, and Architects* becomes difficult to determine due to the lack of knowledge of sales

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⁹⁴ Christie’s, “Giorgio Vasari,” *Giorgio Vasari | Christie’s*, Christie’s, artist.christies.com/Giorgio-Vasari--49124.aspx#.

for the past five hundred years. However, a value can be put on original copies from the 1500’s. Several ancient versions of Vasari’s *Lives of the Most Excellent Painters, Sculptors, and Architects* have been sold at Sotheby’s for sizable amounts of money. A second edition copy from 1568 sold for over twelve thousand USD, even though the copy had defects. Another second edition copy, with less damage, sold for over twenty-seven thousand USD. While a first edition copy from 1550 sold for over forty thousand USD at Sotheby’s. The rare copies of Vasari’s masterpiece are certainly collector’s items that people and museums are willing to spend money on. It speaks volumes of Vasari’s reputation that collectors pay over forty thousand for a copy of his book. Vasari’s legacy left a lasting impact on the art community.

The wealth associated with Leonardo da Vinci’s name is simply untouchable, even for another Renaissance master such as Giorgio Vasari. The most expensive painting ever sold by Vasari does not come close to the four hundred and fifty million dollar price tag for Leonardo’s *Salvator Mundi*. Along with the yearly potential revenue of visiting the *Last Supper* and the insurance value of the *Mona Lisa*, Leonardo places himself above every artist, including Giorgio Vasari. Comparing the monetary value of Vasari and Leonardo is difficult due to the problems of placing a monetary value on Vasari’s work. Vasari contributed to the Renaissance in ways other than painting. *Lives of the Most Excellent Painters, Sculptors, and Architects* revolutionized art history, which is something Leonardo da Vinci did not do. Vasari’s architectural skill is the main reason that Leonardo’s *Battle of Anghiari* remains. Without Vasari redesigning the Hall of Five Hundred, Maurizio Seracini would not have had the opportunity to search for the Battle of

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96 Sotheby’s, “Giorgio Vasari,”
Anghiari. However, Leonardo is worth more than Giorgio Vasari in terms of popularity and monetary value.

The possibility of finding one of Leonardo da Vinci’s lost works outweighs the risk of harming Vasari’s mural, due to Leonardo’s immense monetary value. Ethical dilemmas arise from further research into locating the lost Battle of Anghiari. However, with Leonardo’s value outweighing Giorgio Vasari, it is ethical to potentially harm Vasari’s mural in order to find the lost Battle of Anghiari. The value of finding a lost Leonardo is more important than the safety of Vasari’s mural. The economic benefits of finding the Battle of Anghiari would help Florence greatly. If the Battle of Anghiari is underneath Vasari’s mural and Florence decides to showcase Leonardo’s work, then tourists would possibly flock to the Hall of Five Hundred. The increase in tourism would put more money into the Florentine economy and help the community thrive. The benefits of finding the Battle of Anghiari also benefit the art community because it provides a new Leonardo to examine and study. Ultimately, the economic advantages for finding a Leonardo should motivate Florence to resume the search. With the overwhelming evidence discovered by Seracini and Leonardo’s value over Vasari, the government should allow Seracini to continue his research. The ethical dilemma is answered even further in that the potential to actually harm Vasari’s mural is minimal. Technological advances in art restoration can repair the Vasari mural if anything were to go wrong, which provides more support for Seracini’s search.

**Damage Control: What if Vasari’s Mural Gets Harmed?**

Maurizio Seracini’s recent discovery showed all of Florence that if the Battle of Anghiari were to be found, then invasive techniques are necessary. If this is the case, the only option in the search for the Lost Leonardo is physically harming the Vasari fresco. The safety of Vasari’s
500-year-old mural is at the center of the ethical debate, but if the safety of Vasari’s is guaranteed then theoretically no debate exists.

Art restoration in the past few years has reached advanced levels that can protect and prevent damage to historical art. In 2012, for example, J.L. Bodnar examined how stimulated infrared thermography can detect old restorations and restore murals. Bodnar explained the process of infrared thermography by stating, “The relatively simple principle of this analysis method consists of submitting the analyzed sample to a luminous flow whose absorption produces a local rise in the temperature close to the point of luminous impact. Then, it consists of observing variations of material flux densities, using a thermal infrared camera.”\(^97\) Essentially what Bodnar is trying to say is that infrared thermography is non-destructive and does not require contact with the mural. Bodnar went on to explain how stimulated infrared thermography worked on several famous murals that had defects. The first example is the mural painting on the Medici library ceiling in the French Senate. The ceiling started to display physical cracks to the human eye and the cause of these defects was unknown. The Senate’s head curator struggled to find the origin of the crack due because the standard acoustic analysis was unsuccessful.\(^98\) The curator reached out to Bodnar to see if the stimulated infrared thermography could determine the origin of the crack as well as fix the defects to the mural.


\(^{98}\) Bodnar, “Photothermal Thermography,” p. 1998
Bodnar focused on a photo thermal analyzer that identified old restorations to the French Senate to see if that was where the current defects started. The photo thermal analyzer selected a piece of the mural where old restoration plaster remained and covered it with black paint. The paint’s purpose is to help the analyzer homogenize the surface radiative properties, which showed that previous improper restorations created the defects.\textsuperscript{99} The concept of stimulated infrared thermography is important to the search for the Battle of Anghiari due to the analyzers ability to search for previous restoration. By locating restorations, Seracini and his team would know that area could be drilled in and fixed, as in the past. Drilling into previously restored areas would protect the remaining original paint on Vasari’s mural.

Other researchers in recent years have discovered other more advanced restoration techniques, which can aid in the argument to silence the protesters of the search for the Battle of Anghiari. Marcos Tascon focused on a new successful restoration technique used on the mural paintings at the San Miguel Church in Buenos Aires. Tascon emphasizes the concept of total understanding on the make-up of a mural in order to help restore it. By understanding what elements were used on the mural, more successful restoration strategies can be used to benefit that element. In the example of the San Miguel Church murals, Tascon used different microinvasive techniques to identify all the pigments and materials used. Tascon used cameras that served as microscopes and mapped out all identifiable elements.\textsuperscript{100} X-rays were also used


to examine the materials inside the wall, which helped lead to the origin of the defects. Now that Tascon knew the mural inside and out, the proper restoration technique could be applied.

By understanding Vasari’s mural inside and out, restoration techniques can be used to save the frescos in case it is damaged. The biggest backlash from the search for the Battle of Anghiari stems from the safety of the Vasari fresco. Art historians believe it is too risky to drill and unacceptable to harm Vasari’s fresco in any way, even if a lost Leonardo painting lies underneath. Seracini can use the knowledge of the genetic make-up of the frescos and ease the stress of anyone who fears for the safety of the fresco. By knowing Vasari’s fresco inside and out, a proper emergency plan can be implemented to save the work if necessary. Due to the restoration advances to understand Vasari’s mural, Seracini’s team could drill holes that protect the original paint of Vasari’s fresco. Essentially the art restoration advances can silent the resistance against Seracini’s search.

The popularity and value associated with Leonardo as well as the advances in art restoration support Maurizio Seracini’s search for Anghiari. The benefits of finding a hidden Leonardo mural outweigh the risks of fatally harming the Vasari mural. The Florentine government, who previously disbanded Seracini’s search, should allow more holes to be drilled. It is possible to value one artist over another, and finding the lost Leonardo brings several benefits to Florence. If the Florentine Government resumed Seracini’s search, invasive techniques could be implemented to see if the Battle of Anghiari lies underneath.

**Future Searches**

The evidence discovered by Maurizio Seracini is the closest anyone has come to discovering the lost Battle of Anghiari. If the government were to resume Seracini’s search, the
truth would finally be revealed. Either a form of Leonardo’s unfinished work would be underneath, or the worst outcome that nothing was there at all. However, Seracini’s search aligned with powerful allies such as Matteo Renzi and Friends of Florence. The support from Friends of Florence is crucial because is a nonprofit organization that helps finance art restoration laboratories.¹⁰¹ Friends of Florence aims to promote the city of Florence to the world and have publically supported Seracini’s search. The Friends of Florence can be used as a resource to restore Vasari’s mural after the invasive techniques. Matteo Renzi, the former mayor of Florence and Prime Minister of Italy, is another ally that could garner support to resume the hunt for Anghiari. Combined with evidence and support, Seracini should gain approval to resume and start using techniques such as strappo and stacco.

The only way to truly figure out what lies beneath Vasari’s east wall mural is to take pieces out. However, it must be strategically pinpointed in order to protect the overall safety of Vasari’s work. The main two invasive techniques used would be strappo and stacco. However, stacco’s techniques are considered the safer technique even though it still could jeopardize the safety of Vasari’s mural. Stacco is the process of removing an entire painting from a wall, which includes the plaster, the base layer, and the top layer.¹⁰² Essentially the whole painting is cut out of the wall comparable to cutting out a piece of pie. Stacco is only possible if the paint is firmly attached to the wall. On the other hand, strappo is the high risk high reward technique. The painting is literally torn off of the wall, which requires extreme delicacy and precision. The process consists of cleaning the painting then applying animal glue. The painting is next covered

¹⁰¹ Luck, “The New Battle of Anghiari,” p. 47
¹⁰² Luck, “The New Battle of Anghiari,” p. 48
in binding strips of gauze and layers of canvas are glued on to stabilize the work. After several days of letting the materials dry, the canvas is ripped off with the original painting staying on the canvas. 103 If any of the process is conducted incorrectly, then Vasari’s mural becomes permanently damaged, but the process does effectively work. In 1966 when the Arno river flooded several surrounding galleries, strappo successfully saved several frescos from demise. Stacco and strappo are risky techniques in removing Vasari’s mural from the east wall. When Newton and Spencer conducted their research on the Battle of Anghiari, which they believed to be on the west wall, they used strappo to determine what lay underneath. 104 Even though the west wall revealed nothing, it displayed the effectiveness of strappo in keeping a fresco safe. Stacco also effectively removes a painting from a wall, but also possesses extremely high risks. If Seracini regained approval, strappo would be the first technique used by him. However, if the paint is not firmly attached then strappo is out of the question. Which leaves Seracini’s only possible technique being stacco. Whichever technique is possible, I believe the Battle of Anghiari lies underneath the east wall. However, extreme consequences arise if Anghiari is not there. I believe anyone with the power to approve Seracini’s invasive research sees the project as simply too risky. The potential consequences outweigh the possible rewards from finding the lost Battle of Anghiari.

103 Luck, “The New Battle of Anghiari,” p. 48

104 Luck, “The New Battle of Anghiari,” pp. 48
Consequences if Seracini is Wrong

The resistance against Maurizio Seracini’s project created so much pressure for anyone in charge that the project ended just as it made headway. Protestors applied so much pressure, that authorities feared approving more research. The last thing any politician wanted was to be the one who approved work that potentially destroyed a 500-year-old fresco and nothing lay underneath. There are several outcomes that can occur with the hunt for the *Battle of Anghiari*. Each outcome has different ranges of safety and profits. The best possible scenario for the resistance is for the search to be cancelled forever and never to allow anyone to tamper with Vasari’s mural. The best scenario for Seracini is that the Vasari mural is unharmed and behind is the beautiful *Battle of Anghiari*. The next best scenario includes slight damage, yet fixable, to the Vasari’s work with Leonardo’s work underneath. However, the worst possible scenario strikes doubt in anyone with the power to approve more invasive technologies. There is a large probability that stacco or strappo would damage Vasari’s mural and underneath is nothing but plaster. Florence would experience a negative net in losing Vasari’s mural and not finding Leonardo’s *Battle of Anghiari*. This scenario would cause complete uproar in the art community and eternal shame to anyone who had approved the project. The possibility of losing two priceless pieces of art deters Florence from approving any future research. The best political stance for Florence is to keep the mystery alive and ban any more drilling. If the mystery still exists, people will still believe that the *Battle of Anghiari* may be hidden underneath the Vasari fresco. The safety of Vasari’s east wall mural would not be compromised. The political agenda of Florence blocks any chance of Seracini discovering the coveted treasure.
**Conclusion**

The search for Leonardo’s *Battle of Anghiari* creates issues relating to art restoration ethics as well as cultural rights. The side against the search believes that altering the Vasari mural infringes on the rights on Giorgio Vasari as an artist. The alterations also take away from the originality of a mural that stands for Florentine cultural freedom. However, the benefits of discovering a lost Leonardo work outweigh harming the originality of Vasari’s mural. The overwhelming benefits for Florence should persuade authorities to allow Maurizio Seracini to continue his search for the *Battle of Anghiari*. Leonardo da Vinci’s value over Giorgio Vasari provides more reason for Florence to allow the search to resume. The economic benefits associated with Leonardo’s name would bring tremendous value to Florence. More tourists would visit the Hall of Five Hundred and inflate the Florentine economy. Even though the originality of Vasari’s mural would be altered, the restoration advances would ensure the safety of the mural. The dilemmas for the Florentine government should be ignored due to the benefits of finding the *Battle of Anghiari*. Vasari’s mural would remain safe, just not original, and the Florentine economy would flourish from discovering a new work of Leonardo. At the end of the day, Maurizio Seracini’s search should be resumed to finally uncover the *Battle of Anghiari*. 
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