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A New Approach to the Restoration of Cimabue's *Santa Croce Crucifix*

A Capstone Project Submitted in Partial Fulfillment of the
Requirements for the Renée Crown University Honors Program at
Syracuse University

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and Renée Crown University Honors
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Honors Capstone Project in Art History

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Abstract

On November 4, 1966 floodwaters submerged Cimabue's late thirteenth-century *Santa Croce Crucifix* in Florence and stripped off nearly half of its original paint. Soon regarded as a key symbol of the flood's catastrophic effects on the city's rich artistic legacy, the crucifix was carefully conserved, but no attempts were made to hide the extensive scars left by the disaster. Instead, lead conservators Umberto Baldini and Ornella Casazza adopted an abstract approach to filling the work's loss that claimed to honor the flood while providing a seamless viewing experience for the contemporary audience. This thesis shows that their theory and practice did not fully align.

In four chapters I both examine and confront the challenges presented by the *Santa Croce Crucifix* and its conservation. I work chronologically, beginning with an analysis of the crucifix within its thirteenth-century context before moving to a discussion of its devastation in the flood of 1966. I then summarize the ten-year process required to restore the work to its current appearance, detailing the theories and techniques employed by Baldini and Casazza. Finally, I reflect on the conservators' method through my personal experience in front of the work at its location in the basilica of Santa Croce and the creation of my own panel painting that suggests a new approach to its restoration. I lead the reader through my experience as I restored a replica of a detail of the work, outlining my goals, technique, and the challenges that I faced along the way. I ultimately present an approach that builds upon but challenges the technique of Baldini and Casazza. While my new restoration does not attempt to erase the memory of the flood, it succeeds in redefining the contours and forms of the original composition that are now lost in the color abstraction.

In conducting my research, I have discovered an overwhelming gap in the scholarly record regarding the innovative and, in some respects, problematic approach applied to the *Santa Croce Crucifix*. My alternative restoration breaks this silence and encourages new dialogues in the field. In the end, this project draws a connection between the disciplines of art history and conservation, proving that comprehensive and honest evaluation of the past is essential for preserving a work of art for the future.

Acknowledgements

This project would not have been possible without the generous support of the Department of Art History. I would first like to thank my advisor, Gary Radke, who has believed in me and stood by me from the very beginning. Nearly a year ago, we were standing in front of the *Santa Croce Crucifix* in Florence, and now we stand here today with our own little piece of Cimabue back home. I also want to thank my reader, Sascha Scott, for her endless support and thoughtful feedback. Your enthusiasm and guidance has continually encouraged me to take a step back and look at my work from a different perspective.

I am so grateful for all of the passionate characters that I met during my time abroad in Florence who made me fall in love with the city and its art. To my professors, Diane Kunzelman and Ezio Buzzegoli, thank you for providing me with the tools and confidence to create my own panel painting. To Antonio Casciani, thank you for giving me my first taste of restoration. And to Susi, mia mamma italiana, thank you for embracing me with open arms and welcoming me into your home and family. Finally, I would like to thank my friends and family in Rochester, Syracuse, and Florence who always encourage me to be myself and have laughed with me along the way.

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Executive Summary/ Introduction

The artistic legacy of Cimabue, a renowned thirteenth-century Italian artist, has been plagued by natural disasters in recent history. An earthquake on September 26, 1997 in the Italian region of Umbria significantly damaged the basilica of San Francesco in Assisi, which houses major wall paintings by Cimabue. Nearly thirty years earlier on November 4, 1966, a catastrophic flood devastated the city of Florence, threatening the lives of its citizens and its art. Cimabue's *Santa Croce Crucifix* (Figure 1)—a panel painting that revolutionized the history of Italian art—was severely damaged by flood, losing nearly half of its original paint. All eyes turned to conservators to restore the beloved crucifix and return it to its home in Santa Croce, an imposing Franciscan church in Florence where the work had hung since its creation in approximately 1280. After the flood, the large, 3.90 by 4.33 meter panel underwent an extensive restoration that lasted ten years but could not erase the flood's disastrous effects on the artistic legacy of Florence.

The basilica of Santa Croce experienced extreme flooding due to its low elevation and its close proximity to the banks of the Arno. The floodwater submerged Cimabue's *Santa Croce Crucifix*, causing its wooden support to swell. As the panel expanded, the surface of the painting began to crack, buckle, and flake off into the surrounding water. When the flood receded later that evening and conservators assessed the damage, they found Cimabue's work devastated by the flood. The water had stripped Christ of half his face, and an enormous gash

spread across his legs, hips, and torso. Nearly half of the central figure's body was lost.

This thesis examines and confronts the challenges presented by the restoration of the *Santa Croce Crucifix*, focusing on the technique innovated by the lead Italian conservators, Umberto Baldini and Ornella Casazza, to address the extensive gaps sustained by the panel during the flood. Through direct contact with this object while I studied abroad in Florence, I was able to analyze the successes and failures of the conservators' abstract restoration techniques. While they sought to preserve the memory of the flood without distracting from the integrity of the original composition, I found the results unsatisfying. This dissatisfaction led me to propose a new approach for restoring the *Santa Croce Crucifix*, producing my own panel painting of part of the work. My new approach to the restoration synthesizes the extensive research—both scholarly and visual—presented by this thesis, proving that a successful restoration must consider equally the past, present, and future of a work of art.

Before one can understand the significance of the work's restoration, one must first appreciate what was lost—both artistically and historically—to the flood. In the *Santa Croce Crucifix* (see Figure 1), Christ's hip swings out to the very edge of the panel, its curve contrasting the rigidity of the cross on which he is nailed. The crucified figure of Christ appears vulnerable, nearly naked in his diaphanous loincloth. His body hangs limp on the cross, as his dead weight pulls down on his hands. His face, too, droops down onto his shoulder with a lifeless expression. Cimabue painted the background of the cross with deep blue, evoking

the impression of a timeless sky. Two panels depicting the Virgin and St. John the Evangelist flank either side of Christ's outstretched arms. Both figures rest their heads on their hands, weighed down by an expression of sorrow. This is truly one of the greatest masterpieces of the early Italian Renaissance.

The first chapter of this paper thus examines the *Santa Croce Crucifix* within its historical context in the late thirteenth century, when it was commissioned as a central devotional object for the Franciscan church of Santa Croce. The Franciscan religious order emphasizes the commonality between its followers and the figure of Christ as expressed through their shared humanity and suffering. For this reason, the object's artist, Cimabue, began to shift away from the more medieval style of his contemporaries, whose rich and otherworldly approach distanced the viewer from illustrations of biblical figures. In the *Santa Croce Crucifix*, Cimabue grounded the figure of Christ with ideal human proportions and emotions, reflecting the tenets of the Franciscan faith. By placing the work within its historical context, this chapter reveals Cimabue's revolutionary stylistic innovations in the *Santa Croce Crucifix* and highlights the importance of this object and artist in the study of Renaissance art. The artist's use of naturalism ultimately paved the road for the Italian Renaissance.

The second chapter of my thesis sets the scene in November 4, 1966, the date of the flood, and outlines the emergency response of conservators in the wake of the catastrophe. I study the restoration of Cimabue's *Santa Croce Crucifix*, detailing its ten-year journey through the hands of numerous conservators until its return to Santa Croce in 1976. I particularly focus on the

writings of Umberto Baldini and Ornella Casazza, the restorers tasked with the challenge of repainting the panel's extensive gaps. To restore this work, the conservators invented an approach that they called "color abstraction." As the name implies, Baldini and Casazza's experimental method reads as highly abstracted patches of color and does not attempt to replicate the work's appearance before the flood. Unlike the highly imitative or starkly neutral approaches that dominated conservation practice at the time, Baldini and Casazza sought a balance between the two extremes. They wanted to imitate and average the colors of the original composition while still preserving the memory and the scars of the disaster. Although slight variations appear in their approach, the conservators generally applied this same average of colors to all gaps in the work's pictorial surface. As they appear today (Figure 2), the gaps lost to the flood in 1966 are clearly visible.

In order to evaluate the enduring effects of the restoration, I traveled to Florence to examine the *Santa Croce Crucifix* in person. I paid particular attention to the nuances of the restoration both in terms of color and light that I was not able to observe accurately in digital and printed reproductions. During my stay in Florence in the summer of 2013, I visited Santa Croce on multiple occasions to study Cimabue's *Santa Croce Crucifix* in the church's refectory.¹ With each trip, I recorded my reactions and observations in front of the panel, as it towered above my head in the dimly lit museum space. Visiting the crucifix on multiple occasions gave me a more comprehensive understanding of the work's

¹ For preventative measures, the work has since been moved to a new museum space at the Sacristy of Santa Croce, a portion of the basilica that did not flood in 1966.

appearance, as the illumination of the crucifix within the refectory's interior changed with the time of day and the weather.

In chapter three, I detail the results of these visits and provide a nuanced visual analysis of Baldini and Casazza's work. I reveal subtleties in color abstraction that are not otherwise noted in the conservators' own description of their approach. I similarly provide a visual analysis of four additional examples of restoration that I found in museums housing large collections of panel paintings: the Galleria dell'Accademia in Florence, the Pinacoteca Nazionale in Siena, and the Museo dell'Opera di Santa Croce. The four works I chose represent a wide range of restoration techniques, from highly imitative approaches undetectable to a viewer from a distance to examples more closely related to Baldini and Casazza's abstract technique. Before I could develop my own approach to the restoration, it was important to determine where different approaches fall short and where they succeed.

I conclude the chapter on visual analysis with a comparison of my own experience in front of the *Santa Croce Crucifix* against the claims outlined by Baldini and Casazza in their writing. While I understand the conservators' attempt to preserve and commemorate the scars of the flood, I question whether their abstract approach accomplishes all they claimed and adequately honors the historical significance of the work. Sitting before the *Santa Croce Crucifix*, I could not help but feel distracted by the color abstraction, which extends over such a significant area of the work and does not reflect the forms and contours of the original composition.

In the fourth and final chapter, I narrate the theories, considerations, and step-by-step process required to arrive at my new approach to the restoration of the *Santa Croce Crucifix*. Having established my own opinions and pinpointed the problems of color abstraction, I sought to conceptualize and execute an approach that would address and resolve some of my concerns. Rather than simply expressing my critiques of Baldini and Casazza's restoration in prose, I challenged myself to put theory into practice. Due to the sheer size of the work, I chose to recreate only the detail of St. John from the right end of the cross's horizontal arm. Similar to the loss that extends over the entire crucifix, the detail of St. John suffers from both large and small gaps. In making my own panel painting, I employed my training in Florence from an apprenticeship in the private conservation studio of Antonio Casciani and through a course I took on Renaissance painting techniques with Ezio Buzzegoli, a professional conservator who worked during the years of the flood. Ultimately, by viewing my finished panel side-by-side with a reproduction of the *Santa Croce Crucifix* as it appears today, this project reveals the shortcomings of Baldini and Casazza's approach while simultaneously proposing new considerations for future projects.

In my new restoration, I redefine the original contours and forms of St. John lost to the flood. While color abstraction averages the colors of the entire composition and applies equally to all areas of loss, my approach averages the colors of the four major areas of St. John individually: his red robe, brown tunic, olive flesh, and gilded background. I clearly distinguish between these four forms in my restoration through contrast and color. In focusing only on the colors

directly surrounding each gap, my restoration suggests the shapes of the original composition and integrates more successfully with the work. As I noted in my reflection in front of the *Santa Croce Crucifix* as it appears today, I did not want my restoration to jump out at the viewer and distract from the significance of the work. My goal in re-restoring the panel of St. John was to propose a new approach that recedes in the eye of the viewer from a distance while still remaining visible as loss. To this end, my panel provides a more seamless viewing experience without disregarding the memory of the disaster.

Baldini and Casazza's restoration approach presents clear visual problems and disadvantages, particularly when viewed from a distance. However, there has been reluctance in the scholarly and conservation communities to critique this approach. Through speaking with working conservators in Florence, I learned that while color abstraction continues to be respected for its innovations in theory and technique, it is no longer in favor. Still, it seems that the prestige of the restoration team and sensitivity to the tragedy of the flood has created a polite silence around Baldini and Casazza's work on Cimabue's *Santa Croce Crucifix*. In general, Italian restorers do not readily or explicitly state their misgivings about the work of other professionals in the field in order to protect their reputations. I therefore take advantage of my position as a student not yet part of the conservation community to assess Baldini and Casazza's work more openly. As an American living nearly fifty years after the Arno's disastrous overflow, I have been able to fill the enormous silence in the scholarship surrounding the restoration of Cimabue's *Santa Croce Crucifix*.

Chapter 1

Cimabue's *Santa Croce Crucifix*: Context and Significance

Cesare Brandi, a leading voice in the theory of painting conservation around the time of the flood in 1966, defined restoration as “the methodological moment in which the work of art is recognized, in its physical being, and in its dual aesthetic and historical nature, in view of its transmission to the future.”² Brandi reveals here that a successful conservator must first understand a work’s past in order to prepare it properly for the future. Therefore, as I set out to re-restore Cimabue’s renowned *Santa Croce Crucifix*, I began my work with a comprehensive study of the artist and his painting within their historical context. In order to understand the severity of the loss to the work in the flood of 1966, I first had to understand what once filled its gaps.

Sparse documentation exists on the life and work of Cimabue, a thirteenth-century Florentine artist who pioneered the shift towards naturalism in Italian art.³ Because of his thin historical record, Cimabue’s name can often get lost among the artistic giants of the Renaissance. Yet, his *Santa Croce Crucifix* from approximately 1280 (Figure 1) transformed the history of Italian art. This chapter outlines the characteristics that define the work as a “masterpiece,” both in its artistic innovation and its pivotal role in the history of its Franciscan commissioners. With this panel painting, Cimabue began to return the image of Christ—and art in general—from the otherworldly realm of Byzantine tradition

² Cesare Brandi, *Theory of Restoration*, ed. Giuseppe Basile, trans. Cynthia Rockwell (Florence: Nardini, 2005), 48.

³ Luciano Bellosi and John White are leading experts on Cimabue and his work.

back to earth, focusing on human proportions and suffering. By placing Cimabue's work in its historical context, I ultimately reveal the crucifix's pictorial power to transform faith, the viewer, and the history of art.

Modern biographies of Cenni di Pepo, better known as Cimabue, date the artist's life span between 1240 and 1302.⁴ The etymology of 'Cimabue' indicates that this is not a family name, but rather a nickname owing to his strong personality. When divided into its two parts, the Italian nouns *cima* and *bue* mean "summit" or "head," and "ox" respectively.⁵ The nickname of "Oxhead" therefore suggests the artist's stubborn character. Alternatively, 'Cimabue' could derive from the verb *cimare*, to prune, referring to a cutting personality.⁶ A statement by an anonymous contemporary of Dante included in a commentary on the *Divine Comedy*, written only three decades after Cimabue's death, confirms this interpretation of the artist's nickname: "Cimabue...knew more of noble art than any other man; but he was so arrogant and proud withal, that if any discovered a fault in his work, or if he perceived one himself...he would instantly abandon that work, however costly it might be."⁷ Despite the negative connotations of the artist's nickname, the quote reveals Cimabue's pride in his work and his dedication to artistic excellence.

Very little is known about Cimabue's life. His name first appears in an official Roman document of 1272, which records him as a witness to the signing

⁴ Umberto Baldini and Ornella Casazza, *The Crucifix by Cimabue* (Florence: Olivetti, 1983), 20.

⁵ Eugenio Battisti, *Cimabue*, trans. Robert and Catherine Enggass (University Park: Pennsylvania State University, 1967), 5.

⁶ Monica Chiellini, *Cimabue*, trans. Lisa Pelletti (Florence: Scala Books, 1998), 5.

⁷ Quote from *L'Ottimo Commento della Divina Commedia*, 1333-34, as translated in Eugenio Battisti, *Cimabue*, trans. Robert and Catherine Enggass (University Park: Pennsylvania State University, 1967), 5.

of a notarial act.⁸ Cimabue's name appears along with seven other prominent witnesses, including high officials from basilicas in Rome such as Santa Maria Maggiore and San Martino ai Monti.⁹ This early record reveals Cimabue's connection to the Church and the papacy, suggesting the prestige of the artist in his lifetime. Although the document confirms Cimabue's presence in Rome, no known work survives from this visit. There is then a thirty-year gap in the archival record of the artist until his name appears again in Pisa in 1301. Between September 1301 and February 1302, documents record weekly payments to Cimabue for his work on a mosaic of the figure of St. John in the apse of the Duomo at Pisa—the only officially documented work by the artist.¹⁰ The final record of the artist's name comes from March 19, 1302, describing that Cimabue's heirs inherited an estate in Fiesole, a town neighboring Florence.¹¹ The mention of the artist's heirs leads scholars to believe that Cimabue died between February and March of 1302.

In his biography of Cimabue's life, Giorgio Vasari recognizes that history often overlooks the innovations of Cimabue in the shadow of Giotto. In fact, Vasari, too, was guilty of favoring the latter. Since the work of Cimabue predates that of Giotto, however, Vasari admits, "Cimabue was, as it were, the first cause of the renewal of the art of painting."¹² Vasari credits Cimabue with sparking the

⁸ Luciano Bellosi, *Cimabue*, trans. Alexandra Bonafante-Warren, Frank Dabell, and Jay Hyams (New York: Abbeville, 1998), 66.

⁹ Bellosi, *Cimabue*, 66.

¹⁰ John White, *Art and Architecture in Italy: 1250-1400* (Baltimore: Penguin Books, 1966), 115.

¹¹ Bellosi, *Cimabue*, 256.

¹² Giorgio Vasari, *Lives of the Artists*, Vol. 1, trans. George Bull (New York: Penguin Books, 1965), 55.

shift towards naturalism later perfected in the art of the Italian Renaissance—the highest form of art in the eyes of Vasari.

Cimabue's innovations appear most notably in his renowned 3.90 by 4.33 meter panel painting of the *Santa Croce Crucifix* (see Figure 1). Despite disagreeing over its exact date, scholars generally concur that Cimabue created this work in the 1280s, most likely for the new church of Santa Croce in Florence.¹³ The Franciscans began drafting plans for the church in 1285 in response to the completion of Santa Maria Novella six years earlier, a magnificent church of the rival Dominican Order. The grand basilica of Santa Croce, as well as the commission to Cimabue for its decoration, became a tool for the Franciscans to establish dominance in both the physical and spiritual landscape of Florence.

Cimabue, the Franciscans, and the Basilica of Santa Croce

Italy was transformed during the thirteenth century with surges in population, an increase in Mediterranean travel, and the birth of new religious movements.¹⁴ The visual arts experienced a parallel transformation, as artists became widely exposed to the art of the Byzantine Empire. Crusaders returned home with plundered treasures from Constantinople after its sack in 1204.¹⁵ In addition, the Franciscans established relations throughout the Mediterranean,

¹³ Anne Derbes, *Picturing the Passion in Late Medieval Italy: Narrative Painting, Franciscan Ideologies, and the Levant* (Cambridge: Cambridge University Press, 1996), 32.

¹⁴ Derbes, *Passion*, 1.

¹⁵ Derbes, *Passion*, 15.

constructing religious houses in the East and settling at Byzantine courts.¹⁶

Consequently, Italian artists of the Duecento began to infuse the style of Byzantine models into their work, creating an aesthetic fittingly described as “Italo-Byzantine.”

To better understand the innovations of Cimabue’s *Santa Croce Crucifix*, we need to discuss his earlier and more Byzantine *Arezzo Crucifix* of approximately 1270 from the Dominican church of San Domenico in Arezzo (Figure 3). Cimabue’s highly stylized and ornamental treatment of the crucifix here strongly reflects the Byzantine influence on his work. A comparison to an early eleventh-century mosaic of the crucifixion scene from the Hosios Lukas monastery in Greece (Figure 4) reveals several characteristics of the Byzantine formula that Cimabue adopts in his work. Unmistakable similarities emerge between the Hosios Lukas and Arezzo representations of the crucifix, most notably in the stylized treatment of Christ’s musculature. Luciano Bellosi describes the body of Christ as giving “...the impression that it could be disassembled into clearly demarcated pieces.”¹⁷ Following the style of the Byzantine mosaic, Cimabue unnaturally divided Christ’s forearm and bicep at the elbow, depicted a double kneecap, and sharply outlined the abdominal region. The zigzagging drapery, gold striations, and central knot in the loincloth also directly reference the formulaic Byzantine style.

One can recognize Cimabue’s departure from this tradition in the *Santa Croce Crucifix*, painted just a decade later. Cimabue dramatically softened his

¹⁶ Derbes, *Passion*, 25.

¹⁷ Bellosi, *Cimabue*, 98.

treatment of Christ's muscles, modeling the figure with subtle chiaroscuro to create an impression of real flesh. Sharp divisions no longer fragment the figure of Christ. Still, in Alfred Nicholson's analysis of the crucifix he notes that "...beneath its softened surface will be found an anatomical schematization identical to that of the Arezzo Crucifix."¹⁸ Bellosi challenges Nicholson's assertions by arguing that Nicholson overlooks a critical adjustment in the positioning of Christ on the cross.¹⁹ Cimabue did not arrange the body identically to that in the previous example but rather captured a greater sense of tension in this later composition. In the *Arezzo Crucifix*, Christ's arms relax in a sagging gesture. In the later *Santa Croce* work, Cimabue stretched the arms into a strong horizontal that evokes a sense of real weight pulling down on Christ's hands. In addition, the artist narrowed Christ's waist to exaggerate the sweeping curve of his body, his hip pushing all the way up against the frame of the panel.

The schematization of Christ's body reveals another innovation in Cimabue's work that offers insight into the artist's humanistic interests. In Umberto Baldini and Ornella Casazza's writing on the *Santa Croce Crucifix*, they illustrate that the figure of Christ fits into an ideal geometric scheme proposed by the ancient writer Vitruvius (Figure 5). Vitruvius expounded his theory of the ideal proportions of the *homo quadratus*, or a male figure's ability to fit into both a square and a circle, in his book *De Architectura*.²⁰ Superimposing a circle and square over Cimabue's *Santa Croce Crucifix* (see Figure 5) reveals that Cimabue

¹⁸ Alfred Nicholson, *Cimabue: A Critical Study* (Princeton: Princeton University, 1932), 30.

¹⁹ Bellosi, *Cimabue*, 100.

²⁰ The theory of Vitruvius described in Joel Brink, "Carpentry and Symmetry in Cimabue's *Santa Croce Crucifix*," *The Burlington Magazine* 120 (1987): 651.

rendered Christ's height equivalent to the distance between his outstretched fingertips, even though Christ's body slumps on the cross. Throughout the Middle Ages and the Renaissance, cosmological theories interpreted man's relationship to the square as a means to parallel man to the divine harmony of the universe.²¹

Baldini and Casazza celebrated Cimabue's achievements in proportion:

It is with Cimabue that a renewed occupation with, and the new interpretation of, the human body and its basic measurements begins. This represents a new reflection on the beauty of human forms and a new consciousness of human values. Having been recovered, these values could fill the whole dramatic burden connected with human suffering, and in an absolute, no longer abstract, form.²²

In this way, Cimabue heightened the drama of the crucifixion by returning the image of Christ to a rational form.

While Cimabue introduced a trend towards naturalism in his later work, he never completely shed the influence of the Byzantine style that dominated Italian art of the Duecento. A comparison of Cimabue's two crucifixes also highlights one critical stylistic change that derives from Byzantium: a shift in the fabric of the loincloth from opaque to transparent. While some scholars view this choice as "unprecedented," art historian Anne Derbes proves that we should not interpret this change as Cimabue's attempt to depart from Byzantine tradition.²³ Returning to the mosaic at Hosios Lukas (see Figure 4), she points out that the transparent loincloth does in fact appear in Byzantine models.

The deliberate, sudden shift of style in the *Santa Croce Crucifix* begs the question of why Cimabue chose to appropriate the transparent loincloth for this

²¹ Brink, "Carpentry and Symmetry," 651.

²² Baldini and Casazza, *Crucifix*, 20.

²³ Derbes, *Passion*, 28.

particular image. To answer this question, the work must be contextualized as being a Franciscan commission. Monica Chiellini is the first scholar to suggest a specific relationship between the stylistic changes in Cimabue's work and the religious beliefs of his commissioners.²⁴ She begins her argument with a discussion of the differences between Dominican and Franciscan worship. The Dominican Order emphasized a more contemplative form of piety through the representation of God as divine and infinite. The Franciscans, however, preached an active relationship with a God to whom one can more easily relate on a human level.²⁵ A possible explanation now emerges as to why Cimabue removed the otherworldly stylizations observed in the *Arezzo Crucifix* when he created the work for the Franciscan Order. Chiellini specifically cites Cimabue's paler color scheme and elimination of gold striations in the *Santa Croce Crucifix* as an attempt to transform the crucifix into a more relatable image.²⁶ When viewing the detail of St. John from the two crucifixes (Figures 6 and 7), one can see that Cimabue replaced the use of gold highlights with soft, monochromatic modeling in later representation of St. John's robe. The viewer no longer feels distant from a rich image; rather, the more worldly representation of Christ, Mary, and St. John parallels the teachings of St. Francis calling for "...a brotherly unity, involving us all, even the most uncouth and poorest among us, because of our common experience of suffering."²⁷

²⁴ Chiellini, *Cimabue*, 8.

²⁵ Chiellini, *Cimabue*, 8.

²⁶ Chiellini, *Cimabue*, 15.

²⁷ *Ibid.*

Anne Derbes expands this argument, focusing her attention on Cimabue's image of Christ not only as a reflection of Franciscan beliefs, but more specifically as a representation of St. Francis himself. The writing of Elias of Cortona, one of the Order's first members, announced the discovery of stigmata wounds on St. Francis in 1226 and explicitly linked the founder to the figure of Christ.²⁸ Bonaventure, the Minister General of the Franciscan Order between 1257 and 1274, further emphasized this connection in his sermons and writings, identifying St. Francis as *Alter Christus*, the second Christ.²⁹ Passion scenes therefore dominated the artistic program of the Franciscans, as thirteenth-century viewers understood the distinct parallels between the lives of the two figures.

Within the religious discourse of the time, Cimabue's translucent loincloth reveals yet another layer of visual and moral comparison between St. Francis and Christ. Derbes characterizes the *Santa Croce Crucifix* as a nude representation of Christ, or as close to nude as possible while still respecting thirteenth-century decorum.³⁰ The idea of the nude Christ emerges in the writing of Bonaventure, who died only about a decade before the commission for the church of Santa Croce and Cimabue's work. In Bonaventure's *Defense of the Mendicants* of 1270, he repeatedly referred to Christ as hanging nude on the cross. Bonaventure writes, "Since [Christ] desired to end His life in the nakedness of absolute poverty, He chose to hang unclothed upon the cross."³¹ Just as St. Francis chose to reject his father's wealth and found a mendicant Order, Bonaventure characterizes Christ's

²⁸ Derbes, *Passion*, 18.

²⁹ Derbes, *Passion*, 22.

³⁰ Derbes, *Passion*, 31.

³¹ José de Vinck, trans., *The Works of Bonaventure*, vol. 4, *Defense of the Mendicants* (Florence: Edifir, 2001), 133.

nudity as voluntary. The nude image of the Christ embodies the core tenet of Franciscan faith—a strict vow of poverty.

A clear connection emerges between St. Francis, the beliefs of the Order, and the specific stylistic changes observed in Cimabue's *Santa Croce Crucifix*. Derbes urges that one should not solely understand Cimabue's translucent loincloth as an inclination towards naturalism but also as a direct reflection of Bonaventure's teachings and the tenets of the Franciscan Order. She concludes, "The Santa Croce cross thus seems to serve as validation of the vow of poverty, proclaiming the poverty of Christ as exemplar for the Order."³² The work within the Franciscan church visually connected St. Francis to Christ; but equally as important, it connected and attracted the devout viewer to both figures in a shared understanding of poverty and suffering.

The purpose behind the crucifix's stylistic changes reveals Cimabue's acute understanding of the work's context within Franciscan history as well as the building in which it would later hang. Cimabue created this work at a time when a fracture among the Franciscans threatened the very tenets on which the Order stood. Tension existed within the Order since its foundation; however, in 1274, the Franciscans split into two distinct groups: the Spirituals who adhered strictly to the vow of poverty and the Conventuals who preferred a looser interpretation.³³ The building of Santa Croce magnified the conflict between the two groups, as the enormous, lavish church contradicted the core of Franciscan spirituality. One monk of the Spiritual faction reported a dream in which Frate Giovenale, the

³² Derbes, *Passion*, 31.

³³ Derbes, *Passion*, 32.

Conventual head of the plans for Santa Croce, remained in hell until Judgment Day with two hammers perpetually beating him over the head.³⁴ Another contradiction appears in Cimabue's naturalistic rendering of Christ's suffering and nudity within the grandeur of Santa Croce—a representation consistent with the beliefs of the Spirituals although the work hangs in a Conventual structure. Perhaps, Derbes argues, this contradiction reveals the ultimate purpose behind Cimabue's stylistic changes in the *Santa Croce Crucifix*: “The ‘destitute and naked’ Christ...may have been conciliatory gestures on the part of the Conventuals, intended to mollify the Spirituals and their sympathizers.”³⁵ In this way, Cimabue's work became the mediator at a critical period in the Order's history.

The pictorial value and power of a large tempera crucifix can easily be lost on today's viewers. In Margaret Miles' book, *Image as Insight: Visual Understanding in Western Christianity and Secular Culture*, she accounts this loss to contemporary society's interpretation of “...vision as a passive experience imposed by the object of vision.”³⁶ However, in analyzing the significance of Cimabue's *Santa Croce Crucifix*, we must not forget the importance of visual imagery specifically in the context of the Franciscan faith. The very foundation of the Order resulted from the power of a painted crucifix. St. Francis experienced a mystical vision in front of the crucifix in his local church at San Damiano in

³⁴ Battisti, *Cimabue*, 58.

³⁵ Derbes, *Passion*, 33.

³⁶ Margaret R. Miles, *Image as Insight: Visual Understanding in Western Christianity and Secular Culture* (Boston: Beacon, 1985), 65.

which Christ spoke to him and sparked St. Francis's religious journey.³⁷ In this way, thirteenth-century viewers actively engaged with art, understanding the power of pictorial images to inspire, empathize, heal, and even convert a person. The significance of Cimabue's work therefore stems not only from artistic innovation but also from its active role in the lives of the church, the Franciscan faith, and the viewer.

Chapter 2

The Flood of November 4, 1966 and Its Legacy

³⁷ Miles, *Image as Insight*, 65.

Cimabue's *Santa Croce Crucifix* was severely damaged in the flood that overwhelmed Florence on November 4, 1966 and ever since has been associated with that event. Florence had survived fifty-five floods since the Arno's first documented overflow in 1177, but the fifty-sixth was the worst of all, threatening the physical, cultural, and artistic landscape of the city.³⁸ This chapter begins by setting the scene of the flood and the days that followed, when a rush of support sought to rescue and preserve Florence's rich cultural heritage. The devastation of the city's art and architecture was a profound loss not only to the Italians but to the global community, as the influence and impact of the Renaissance far transcends its time and the borders of the country. I will then narrow in on the impact of the flood on the *Santa Croce Crucifix*, considered the most significantly damaged work in the wake of the disaster. I provide a narrative of the crucifix's ten-year journey through the hands of numerous conservators and the exact measures performed to restore the work to how it appears today, a symbol of the resilience of the Florentine people and culture.

November 4, 1966, a national holiday in Italy, began as any other *Giorno delle Forze Armate*. The date, commemorating the end of Italy's involvement in the First World War, celebrates the nation's armed forces with an annual parade of police officers. Andrea Rothe, a conservator living and working in Florence at the time, recalls that driving to work on the morning of the holiday in 1966 began

³⁸ Andrea Rothe, "New Methods of Painting Conservation Developed in Response to the Flood," from Helen Spande, ed., *Conservation Legacies of the Florence Flood of 1966* (London: Archetype, 2009), 131.

as expected, plagued by the usual case of rain and traffic.³⁹ Even with the standard hubbub surrounding the celebration, though, he sensed something eerie; the rain seemed to pour harder and the traffic was more chaotic. When Rothe reached the Arno at the city's center, he discovered that a parade had not caused the traffic but raging waters that had begun to spill over the retaining walls of the river.

Accounts have estimated that at its peak the water charged through the city's streets between twenty-five and thirty miles per hour, sweeping away parked cars and throwing them against buildings.⁴⁰ By 7:30 A.M., the city had completely lost power, sounds of car alarms polluted the air, and the water continued to rise until 6:00 P.M, when it slowly started to recede.⁴¹ The streets of Florence, usually bustling with nightlife, appeared lifeless that evening, the flood leaving the city without gas, water, electricity, telephone lines, or a functioning sewage system. By the next day, an official count began to assess the casualties of the flood—both human and artistic. In total, thirty-five people lost their lives to the flood of 1966.⁴² Ugo Procacci, the superintendent of museums in Tuscany, found that an exact quantification of art devastated by the flood would be impossible to calculate due to the countless works in private collections around Florence. However, one source records Procacci's damage count of public works as follows: 734 paintings—321 on panel and 413 on canvas—11 fresco cycles, 39 individual frescoes, 31 other frescoes previously detached from their original

³⁹ Helen Spande, ed., *Conservation Legacies of the Florence Flood of 1966* (London: Archetype, 2009), 2.

⁴⁰ Sandro Pintus, "An Account of the Flood and the Days that Followed," trans. Heather Roberts, from Helen Spande, ed., *Conservation Legacies of the Florence Flood of 1966* (London: Archetype, 2009), 11.

⁴¹ *Ibid.*

⁴² Pintus, "Account of the Flood," 13.

location (measuring 32,000 square feet), 158 sculptures, and innumerable texts and archaeological objects.⁴³

News of the flood quickly made international headlines, and Florence experienced *una seconda alluvione*, a “second flood” of foreigners who arrived to help.⁴⁴ People from across the globe—conservators, students, artists, and simply art-lovers—abandoned their work and traveled to Florence, not knowing what to expect or how long they would stay. The foreigners who arrived in the city received the nickname of *angeli del fango*, the “mud angels,” for their instrumental efforts in removing over 450,000 tons of mud that had invaded the city’s streets and buildings.⁴⁵ Most of the relief efforts in Florence did not require an expertise in art or conservation; they needed as many hands as possible. In addition, the city provided basic training for outside support. The U.S. Committee to Rescue Italian Art (CRIA) funded seventeen American students from various universities around the country to travel to Florence in the summer of 1967.⁴⁶ Upon their arrival, the students attended a two-week training program related to the specific techniques of flood relief and restoration.

Foreign aid also arrived in the form of money, fundamental in providing the resources and facilities required to restore the city. The governments of Norway, Sweden, Finland, and Denmark funded the Nordic Center, an international restoration laboratory in Florence with over one hundred

⁴³ Robert Clark, *Dark Water: Flood and Redemption in the City of Masterpieces* (New York: Doubleday, 2008), 181.

⁴⁴ Spande, *Conservation Legacies*, 149.

⁴⁵ Rothe, “New Methods,” 129.

⁴⁶ Bernard Rabin, “CRIA Student Restoration Activity in Florence: Summer, 1967,” *Bulletin of the American Institute for Conservation of Historic and Artistic Works* 8 (Oct. 1967): 27.

conservators collaborating from the four countries.⁴⁷ Denmark specifically raised money for relief through the sale of special stamps that commemorated the flood. The catastrophe also caught the attention of famous artists around the world, who intimately felt the loss of material culture and threats to deep-rooted artistic tradition. Picasso, for example, donated his work *Femme Couchée Lisant*, painted in 1960, to the CRIA, which was then sold during an internationally televised auction in February 1967 benefiting flood relief efforts.⁴⁸ Combined with significant contributions from the Italian government, foreign aid also helped to fund the construction of a large conservation laboratory in the Fortezza da Basso, an old Medici fortress, for use by the Opificio delle Pietre Dure. Under the direction of Umberto Baldini, this became the center for painting conservation, both on canvas and panel, following the flood.

A positive light can be shed on this catastrophe, as the new problems presented by the flood and the exchange of ideas between international conservators fostered innovation and ultimately transformed the field. One of the greatest developments of the time concerned removing the brown heating oil that had leaked into the floodwater and now coated frescoes and statues around the city. Washing these surfaces with sponges and water, the standard practice prior to the flood, proved only to drive the staining deeper into the wall or stone. To remedy this, conservators working in Florence developed a more effective technique using the application of poultices, typically composed of silica, gypsum, clay, or cotton, which drew out the moisture and contaminants using

⁴⁷ Spande, *Conservation Legacies*, 149.

⁴⁸ Spande, *Conservation Legacies*, 7.

capillary action—a technique still used today.⁴⁹ Also, as diverse groups of conservators came from their respective countries, they often brought and used native materials that conservators in Italy had never before seen. The Russians, for example, introduced the use of sturgeon glue to seal paint and reduce the number of fragments flaking off of parchment and wooden panels, an adhesive that quickly became the preferred material for this job.⁵⁰

Santa Croce and the Poster Child of the Disaster

The flood hit Santa Croce and its surrounding neighborhood the hardest. The low elevation of the area and its relative position to the Ponte Vecchio, the only surviving bridge after World War II, magnified the effects of the flood. This medieval bridge withstood the raging tide of the Arno; however, its few small arches allowed only a portion of the floodwater to pass, creating a disastrous dam-like effect.⁵¹ Santa Croce, sitting upstream of the Ponte Vecchio, therefore experienced the highest levels of floodwater in the city. Sources agree that Santa Croce suffered the worst conditions during the disaster, but discrepancies exist over the exact measurement of the water's peak. Within the refectory, where Cimabue's *Santa Croce Crucifix* hung, estimates for the height of the water generally range between fifteen and twenty feet, submerging the work as far as the top of Christ's halo.⁵² After the floodwaters receded, the interior of the refectory of Santa Croce had a layer of sludge coating its floor. Photographs

⁴⁹ Rothe, "New Methods," 131.

⁵⁰ Spande, *Conservation Legacies*, 4.

⁵¹ Silvia Messeri and Sandro Pintus, *4 Novembre 1966: l'Alluvione a Firenze* (Florence: Ibiskos Editrice Risolo, 2006), 15.

⁵² Brink, "Carpentry and Symmetry," 645.

(Figure 8) gives the viewer a spatial sense of just how high the water climbed, almost entirely staining Taddeo Gaddi's fresco of the Last Supper on the back wall of the refectory.

Umberto Baldini received a note from Ugo Procacci on the morning of Sunday November 6, urging him to drop all work and come at once to Santa Croce, the chief concern being the safety of Cimabue's work.⁵³ The urgency of this letter in a sea of thousands of damaged works of art provides proof of the disastrous conditions in the Santa Croce neighborhood, but even more so, a testament to the significance of Cimabue's masterpiece. In a personal account of the catastrophe, Baldini vividly recalls the memory of the student who delivered the letter, saying he will never forget the young man's expression of anxiety and pure exhaustion.⁵⁴ Baldini writes that upon his arrival at Santa Croce, he did not initially speak or spring into action as his colleagues had expected. Instead, overwhelmed by sleep-deprivation, shock, and sorrow, he stood in front of the *Santa Croce Crucifix* and cried.⁵⁵

The sight devastated Baldini. The work had sustained severe damage from the flood, leaving Christ with only half a face and significant losses to his torso and legs. In addition, the water had washed away large areas of the work's priming, exposing the wooden structure below (Figure 9). The paint surrounding these gaps began to buckle, curl up at the edges, and ultimately, flake off. The areas of original paint that remained, soaked from submersion in floodwater for hours, now appeared cracked and puckered. The tragedy of the loss to this work

⁵³ Umberto Baldini and Ornella Casazza, *The Crucifix by Cimabue* (Florence: Olivetti, 1983), 26.

⁵⁴ Baldini and Casazza, *Crucifix*, 26.

⁵⁵ *Ibid.*

was heightened by the fact that prior to the flood, scholarship referred to it as the best preserved work by the artist.⁵⁶ On Christmas Eve of 1966, while praying before the work, Pope Paul IV referred to Cimabue's *Santa Croce Crucifix* as the catastrophe's "most important victim."⁵⁷

In the days, months, and years following the flood, the *Santa Croce Crucifix* became the poster child of the devastation of the flood and its lasting imprint on the cultural heritage of Florence. As alluded to by Pope Paul IV, the crucifix now represents all of the art damaged in the flood due to the magnitude of loss on a work with such historical and artistic significance. In a passage by Philippe de Montebello, the director of the Metropolitan Museum of Art from 1977 to 2008, he writes, "The Crucifix has come to symbolize Florence's remarkable recovery after the flood of 1966, and through its delicate restoration the talent, industry, and resourcefulness of Italian conservators."⁵⁸ Indeed, the collaboration, innovation, and, at times, risk required to restore the *Santa Croce Crucifix* exemplify the resilient spirit in Florence following the disaster. The work now serves to commemorate the catastrophe of November 4, 1966, owing in large part to the work's innovative in-painting that does not attempt to hide the scars of history.

Summary of the Restoration of Cimabue's *Santa Croce Crucifix*

In their book *The Crucifix by Cimabue*, lead conservators Umberto Baldini and Ornella Casazza provide an extensive report of the exact procedures they carried out on restoring the panel from the moment the floodwaters receded to the

⁵⁶ Bellosi, *Cimabue*, 270.

⁵⁷ Baldini and Casazza, *Crucifix*, 25.

⁵⁸ Baldini and Casazza, *Crucifix*, 5.

conclusion of its restoration ten years later.⁵⁹ They include various essays on how they treated each layer of the work—the paint, canvas, gesso ground, animal size, and wooden support—summarizing the techniques of the many conservators involved. As the only source that details the restoration of Cimabue’s *Santa Croce Crucifix*, this book serves as a fundamental tool in the study of the work as it appears today. In what follows, I synthesize the writing of Baldini and Casazza in order to develop a comprehensive and objective understanding of the goals, methods, and reasoning behind the restoration of Cimabue’s *Santa Croce Crucifix* following the flood of 1966. In working toward developing my own approach, I had to first understand the theoretical and technical foundations on which the conservators originally based their work.

Before I delved into the restoration of the *Santa Croce Crucifix*, I sought to contextualize this work briefly within the established principles of restoration around the time of the flood. To do this, I revisited the writings of Cesare Brandi. In *Theory of Restoration*, first published in 1977, Brandi clearly identifies the primary goal of conservators: “Restoration should aim to re-establish the potential oneness of the work of art, as long as this is possible without committing artistic or historical forgery, and without erasing every trace of the passage through time of the work of art.”⁶⁰ To this end, Brandi makes it clear that a conservator should not attempt to hide the marks of history or, in the case of the *Santa Croce Crucifix*, natural disaster. The words of Brandi here especially applied in the wake

⁵⁹ Unless otherwise noted, all of the following information under this subheading comes from Baldini and Casazza’s writings in *The Crucifix by Cimabue* (Florence: Olivetti, 1983), 25-57. Still, I distinguish between the different sections of this book in footnotes throughout the chapter.

⁶⁰ Brandi, *Theory*, 50.

of the flood, as conservators went back and forth between wanting to preserve the memory of the catastrophe and honor the original pictorial integrity of the work.

Baldini and Casazza began their writing on the flood and its aftermath by clearing up several misconceptions that developed surrounding Cimabue's work due to false reporting by newspapers at this time. Sensationalized reports claimed that the conservators did not reach the crucifix in time, bogged down by the sludge coating the floor of Santa Croce, and they therefore watched in dismay as the surface blistered and sixty percent of the original paint flaked off into the mud. Baldini and Casazza provide an assertive defense:

We protest against this product of the imagination and, taking full responsibility for the truth we defend, emphasize that from the moment of our arrival on that day not even the smallest particle of paint fell to the ground or was lost. We say this not in order to make claims for our own efficiency, but rather to confirm that what was supposed to have happened had unfortunately already taken place.⁶¹

Contemporary accounts of the disaster also wrote that the monks of Santa Croce sieved through the mud for days, finding a large number of paint fragments. While the Franciscans indeed displayed devotion in tirelessly restoring their church, the conservators maintain that the purpose of these efforts was for cleaning and not to find lost paint. Lastly, a photograph of Cimabue's work lying flat in Santa Croce quickly spread throughout newspapers and perpetuated the belief that the floodwater had ripped the work off the wall. Reports spoke of the waves treacherously tossing the panel back and forth. The conservators counter this by stating that upon their arrival at Santa Croce after the water had subsided,

⁶¹ Baldini and Casazza, *Crucifix*, 25.

the work's hanging support had resisted the disaster, and it remained on the wall; however, efforts quickly began to bring the work down and lay it flat.

Due to the sheer size and weight of the crucifix, measuring over one thousand pounds, it required fifteen men, yards of rope, and seven hours of labor to bring the work down safely.⁶² Immediately upon its descent, the conservators faced the panel with rice paper and Paraloid B-72 resin to avoid further loss and to retain the remaining areas of brittle paint. The chief concern at this stage became where and how the work should dry. The various layers of the panel—the paint, canvas, ground, and wood—all dry at different rates. As these layers dry, the resulting shrinkage would cause further tugging, flaking, and buckling of the painted surface, risking additional loss. They reasoned it best to leave the work in Santa Croce initially so as not to shock it with another sudden change in moisture and temperature. During its stay at Santa Croce after the flood, mold that threatened to attack the paint began to form between the pictorial surface and its wooden support. Collaborating with the departments of chemistry and microbiology at the University of Florence, the conservators found that nystatin, a fungicide, was safe to use as a disinfectant on works of art and therefore sprayed it over Cimabue's *Santa Croce Crucifix*.

Approximately a month after the flood, the work was transferred to the Limonaia, a large greenhouse in the Boboli Gardens behind the Palazzo Pitti. Following the flood, Baldini secured funding to transform the Limonaia into a climate-controlled space for damaged panel paintings, housing approximately 300

⁶² Information on the work during the days immediately following the flood found in Baldini and Casazza, "The Restoration of the Crucifix," *Crucifix*, 27-31.

in total on drying racks.⁶³ Baldini designed the Limonaia to maintain high levels of humidity, prolonging the drying and subsequent shrinkage of the wooden supports. As time passed, controllers gradually decreased the humidity to ease the works into the drying process. When the *Santa Croce Crucifix* arrived at the greenhouse in December 1966, conditions in the Limonia measured ninety-five percent humidity and twelve degrees Celsius. Under the direction of Vittorio Granchi, conservators treated the work three more times with nystatin until the mold no longer reappeared.⁶⁴ Granchi also removed the rice paper initially attached to the work and returned any displaced fragments of paint to their correct positions. The pictorial surface was then sealed with a mixture of pure wax and resin in a ratio of one to four, giving the paint protection and elasticity.

The transfer of the work to the laboratory at the Fortezza di Basso in June 1968 sparked a rapid drying of the panel. By October of the same year, conservators noticed that the shrinkage of the wood, amounting to a considerable three-centimeter difference, was continuing to cause damage to the painted surface. The floodwater had dissolved some of the original animal glue, weakening the bond between many areas of the panel's layers. However, in the places where the canvas was still firmly bound to its support, the shrinkage caused extensive swelling of the paint. Granchi concluded that the only way to eliminate the threat of the wood's distortion on the painted surface would be to completely separate the canvas from its wooden support. Although high risk surrounded this procedure, the danger of leaving the two layers connected heavily outweighed any

⁶³ Rothe, "New Methods," 130.

⁶⁴ Work of Vittorio Granchi described by Baldini and Casazza, "From the First Emergency Measures to the Separation of Painting and Wood," *Crucifix*, 32-33.

doubt. The fact that Cimabue painted on canvas rather than directly on gesso (plaster) covered wood, as is most common in panel paintings, allowed for an easier separation of its layers. In the places where adhesion remained the strongest, Granchi injected a neutral solvent between the canvas and the wood with a syringe and even pried the two apart with an extremely thin spatula.⁶⁵ Ultimately, the separation allowed the possibility of treating both components individually without the worry of one's reciprocal effect on the other.

Sergio Taiti and Gastone Tognacini began the renovation of the canvas, now having access to both its front and its back.⁶⁶ This process started by cleaning the sludge and oil off the painting, which had accumulated during the flood and darkened its surface (Figure 10). The floodwater had also destroyed the proper ratio between the animal glue size and the gesso in the work's priming. A new animal size was therefore prepared and distributed over the entire surface of the work under an infrared lamp. The heat from the light aided in the size's ability to spread and absorb, returning stability and adhesion to the paint, gesso, and canvas. After protecting the new surface with double-layered rice paper, the conservators then turned the painting over and focused on its backside. They carefully scraped and cleaned the canvas of irregularities. Taiti and Tognacini reinforced numerous, irregular pieces of original canvas by gluing strips of cotton along their seams.

In February of 1975, after the wood had finally dried, Renzo Turchi, Gianni Marussich, and Roberto Boddi transferred the work to the carpentry

⁶⁵ Clark, *Dark Water*, 238.

⁶⁶ Work of Sergio Taiti and Gastone Tognacini detailed by Baldini and Casazza, "The Renovation of the Canvas Stabilization of the Paint, and its Application to the New Support," *Crucifix*, 36-38.

workshop where they completed the restoration of the wooden support.⁶⁷ As the three iron rings attached to the back of the support suggest, Cimabue's work originally hung above the choir screen of Santa Croce. In its original position, the Duecento viewer observed the work from both the front and the back. The conservators noted the exceptional geometric organization of the backside of the cross, as even the placement of the nails created an intentional visual rhythm (Figure 11). Therefore, they could not simply scrap the devastated wooden support and replace it with a new one; to do so would have meant sacrificing the visual and historical significance of the work. Indeed, Baldini and Casazza equated the thought of destroying the original wood to "premeditating a most serious crime."⁶⁸

The process to restore the wooden support began by dismantling the crucifix into the individual panels that composed the whole. The restorers first removed the iron framework from within the wooden support, which alone reduced the weight of the work by over 450 pounds. In addition, they removed the original nails and numbered each to ensure that they would be returned to their exact positions. The conservators could then treat each piece of the panel individually, stopping up cracks in the wooden surface with wedge-shaped plugs of aged poplar—the same material as the original. The choice of poplar to fill the gaps not only restored the stability of the panels but also ensured a chromatic balance between the original and the new sections of wood. Due to the significant warping of the wood throughout its submersion in floodwater and subsequent

⁶⁷ Baldini and Casazza, "Measures Involving the Restoration and Renovation of the Wooden Support," *Crucifix*, 33-36.

⁶⁸ Baldini and Casazza, "Renovation of the Wooden Support," *Crucifix*, 29.

drying process, the support no longer matched its original dimensions and therefore would not align with the painted surface. The effects of the shrinkage were most notable in the joints between the two horizontal arms and the large vertical component of the cross. The restorers added the same type of poplar wood here to increase the surface area of these parts and restore the work to its original dimensions.

Without altering the exterior appearance of the wooden support, the conservators next reassembled the restored parts through innovative work beneath the surface. They replaced the internal iron framework with stainless steel, a significantly lighter material that resists rusting and corrosion. This new stainless steel frame helped to secure the three rings used to hang the work, which over the course of time and natural disaster, had lost their ability to support the heavy wooden structure. In addition, woodworms had destroyed the wooden pins that originally held the smaller pieces, such as Christ's halo and the two side panels of Mary and St. John, to the main structure. The conservators reconnected these pieces with poplar pins that mimicked the originals. In the holes left by the nails that had been removed earlier, they added new stainless steel screws and fixed them in place with adhesive resin. To maintain the external appearance of the backside of the work, the heads of the old nails were placed on top of the new screws, creating the impression that nothing had changed.

In an attempt to buffer the effect of future warping on the pictorial surface, restorers Guido Botticelli and Sabino Giovannoni created a thin resin support on which the canvas and paint could be attached without direct contact with the

wood.⁶⁹ Polyester resin and fiberglass, the materials chosen for the job, proved to be both durable and malleable enough to create a successful support. The conservators first applied a layer of tinfoil over the wooden support and rolled on the mixture, making sure any irregularities in the topography of the wood imprinted into the material. After being allowed adequate time to dry and cement, the new millimeter-thick support easily separated from the wood due to the protective layer of tinfoil. Botticelli and Giovannoni then used fine sandpaper to obtain an absolutely smooth surface and attached the painting to the new support with a resin-based glue—an adhesive chosen and preferred by the restorers because it can easily be reversed.

Giovanni Venturini and Renzo Biondi then headed work on the final details in reassembling the crucifix, connecting the restored wooden structure, the new resin support, and its gilded frame.⁷⁰ Again, these restorers emphasized their goal to attach the three parts using a non-invasive, reversible technique that would account for future warping. They conceptualized a process by which the resin support, already adhered to the canvas and painting, could fasten to the wooden structure through a series of magnetic parts. The conservators embedded magnets into the wood of the cross, which ultimately interacted with thin plates of iron added to the back of the resin. To this end, the two supports hold together tightly but can be disconnected without harm to the work. The attachment of the frame further stabilized the painting and its support, but it applied pressure in such a

⁶⁹ The work of Guido Botticelli and Sabino Giovannoni detailed in Baldini and Casazza, “Preparation, Characteristics, and Application of the New Support,” *Crucifix*, 39.

⁷⁰ The methods of Giovanni Venturini and Renzo Biondi described in Baldini and Casazza, “Work to be Carried Out on the Metal Screw Chase, as well as Accessories,” *Crucifix*, 40-41.

way as to compensate for the possibility of future movement and distortion of the work's support.

The last section of Baldini and Casazza's writing explains the method they invented for the work's pictorial restoration.⁷¹ They begin this section by outlining the primary goal of their approach: restoring the expressive significance of the work without falsifying, competing with, or imitating the original. Fitting within the context of Brandi's theory of restoration, the conservators here define forgery both artistically and historically. They assert in their writing that they wanted to neither forge the hand of Cimabue nor attempt to reverse the passage of time. In addition, they intended their restoration to appear on the same visual plane as the original without interfering with the viewer's experience. To solve the problems presented by the significant gaps in the *Santa Croce Crucifix*, Baldini and Casazza conceptualized a new method that they called "color abstraction." This technique is unique in that it does not focus on the colors that border individual gaps, but rather it averages the colors of the entire composition and creates an abstraction that applies equally to every area of loss. Using this technique, the in-painting of the *Santa Croce Crucifix* began in 1975 at the Fortezza da Basso.

To better understand the inventions of Baldini and Casazza's approach, I interviewed Diane Kunzelman, a professional conservator who worked in Florence after the flood in 1966.⁷² I spoke with her at the conservation laboratory

⁷¹ All of the following information on the in-painting of the *Santa Croce Crucifix*, including the method of color abstraction and the theory of additive synthesis has been summarized from Baldini and Casazza, "Measures for Restoring the Painting," *Crucifix*, 42-57.

⁷² Diane Kunzelman, interview by author, Florence, June 19, 2013.

at the Fortezza da Basso, where she still works today. While Baldini and Casazza borrowed from Brandi's established theories of restoration, Kunzelman revealed the ways in which color abstraction deviated from the established practices in the field. Up until this time, an Italian conservator would restore a work in one of two ways: imitate the original or fill the gaps with a flat, neutral tone, often beige. Kunzelman explained that most often in the cases of extensive loss, such as that sustained by the *Santa Croce Crucifix* after the flood, a conservator would use the latter. In this way, color abstraction was the first example that attempted to find a balance between these two extremes approaches, imitating the colors of the original composition while still reading as an overall abstract in-painting.

Baldini and Casazza dedicate the majority of their writing on color abstraction to explaining the color theory of additive synthesis by which they selected the colors used for the in-painting. Additive synthesis describes the detection of color in the human eye through various combinations of colored light. The retina perceives color using three types of light-sensitive cones: red, green, and blue. Referred to as the tri-stimulus RGB values, or the primary colors of additive synthesis, any color on the spectrum of visible light can be achieved through a specific combination of these three colors.⁷³ Employing the help of Vito Capellini, professor of electrical engineering at the University of Florence, the conservators quantified and averaged the RGB values in Cimabue's work. Acquisition cameras with optical filters separated the colors in the panel and produced exact intensity measurements. The conservators then utilized this

⁷³ Ornella Casazza, "Trattamento Digitale delle Immagini e Conservazione e Restauro di Opere d'Arte," *Critica d'Arte* 50 (Jan.-Mar. 1985): 72.

quantitative analysis to choose the appropriate pigments and intensities to create a color abstraction that would integrate the areas of loss naturally with the fragments of original paint that remained. To a certain extent, they argue this scientific approach decreases the subjectivity of the restoration.

To achieve the desired color abstraction, the restorers interwove the colors yellow, red, green, and black in successive layers. The colors were applied using a fine paintbrush in the form of small hatch marks, beginning with a base of yellow, followed by the application of red lines, then green, and finally, black (Figure 12). The restorers did not hatch in such a way as to totally cover the previous layer; rather, the pure colors of each of the four layers remain partly visible in the final product. The first layer of yellow covered the newly applied gesso ground with a dense texture of vertical strokes. The conservators then applied the second layer of red with sparser, more horizontal strokes, perpendicular to the direction of the yellow. In this way, portions of the two layers stand out as pure to the viewer, while others overlap to produce the appearance of a third color due to the transparency of the paint. The third and fourth layers of green and black were applied similarly, altering the density and direction of the hatching in order to achieve the desired effect. Overall, the viewer's eye not only perceives the sum of the four layers but also the pure chromatic value of each individual color.

According to Baldini and Casazza, the four layers used in the pictorial restoration produce a color vibration in the eye of the viewer that reduces to a mixture of yellow and black. The principle of additive synthesis explains that the combination of the primary colors red and green will optically produce yellow

(Figure 13). In the restoration, the application of yellow as the base color further emphasized this property of additive synthesis. Therefore, the first three layers—yellow, red, and green—ultimately generate a yellow intensity that mixes with the final black layer, averaging in the viewer’s eye to create the impression of an olive green in-painting.

Although the primary colors in additive synthesis include blue, the restorers omitted the color to avoid a restoration that would read as achromatic or gray to the viewer. When the three primary colors of light combine, the area of overlap becomes white (see Figure 13). Therefore, if a layer of blue had been added next to red and green, the result would have appeared white and thus, muted. When overlapped with the fourth layer of black, then, the restoration would have read as more of a neutral gray. Baldini and Casazza argue that an overall impression of gray did not align with their intentions for inventing color abstraction, which sought to reflect the colors of the original work. They write that an achromatic in-painting would have compromised the intensity of colors in the *Santa Croce Crucifix*.

This discussion now raises the question of how the restorers account for the significant areas of blue in the original background of Cimabue’s panel. If the restorers claim that the color abstraction averages all of the colors in the original, then the restoration must in some way include the deep blue that spans the majority of the cross behind Christ. To address this question, the conservators turn to a discussion of complementary colors. They argue that although blue pigment is not physically present, the viewer’s eye supplies the color itself due to a

phenomenon referred to as *il contrasto di successione*, the contrast of succession.⁷⁴ When presented with a color, our eye simultaneously demands its complement, and in its absence, the mind will create the color itself. Upon observing a green square for a certain period of time, the image of a red square will appear when shifting one's gaze quickly to a white surface. In the case of Cimabue's *Santa Croce Crucifix*, the emphasis on yellow in the restoration therefore forces the viewer's mind to supply the complement in additive synthesis, blue.

The conservators next describe the changes that they made to the color abstraction technique in order to successfully infill the areas of gilded loss. Throughout their essay, Baldini and Casazza pride themselves on their ability to average the colors of the whole composition and apply the same abstraction to all areas of loss; however, they justify altering their technique on the gilded surfaces because gold leaf reflects light differently than paint. The metallic property of the gold predominately reflects the colors yellow and red with only hints of green. The conservators therefore accounted for this in the in-painting of the gold, removing altogether the fourth layer of black from the previously described technique and significantly decreasing the density of green. The restoration here creates an effect that reads as more of a yellow-orange. In addition, unlike the interwoven texture achieved in the restoration of the painted surface, the conservators favored verticality in the hatching to fill the gaps in the gilded backgrounds of Mary and St. John. In the gilded haloes of Christ, Mary and St. John, the short strokes of hatching move with the curve of the halo.

⁷⁴ Baldini and Casazza, *Crucifix*, 47.

As Baldini and Casazza reflect on their new method of color abstraction, they emphasize their success in transforming a “loss” to a “linkage.”⁷⁵ The conservators assert that the in-painting generates a color vibration that averages the colors in the entire composition and seamlessly moves the viewer’s eye between the abstraction and the existing paint. They claim that the interwoven texture of the crosshatching in each subsequent layer of the restoration further enhances this linkage, physically drawing the viewer’s gaze between different areas of the panel.

Within their discussion, Baldini and Casazza never once claim to have removed the gaps left by the flood. Consistent with the theory of Brandi, they write that the areas of loss cannot and should not be reversed, now embedded into the lifetime of the work of art.⁷⁶ The restorers maintain that the technique of color abstraction succeeds in honoring history without interrupting the contemporary viewing experience. After a decade of work on the *Santa Croce Crucifix*, passing through the hands of numerous conservators, the restored crucifix returned to its position in the refectory of Santa Croce on the tenth anniversary of the flood in 1976, an event that inspired a civic celebration. Hung using an extensive pulley system, the cross can now be raised should floodwaters again threaten it. In December 2013 the security of the cross was furthered enhanced by moving it to a new museum space in the Sacristy of Santa Croce, which was not inundated in 1966.

⁷⁵ Baldini and Casazza, *Crucifix*, 48.

⁷⁶ Baldini and Casazza, *Crucifix*, 43.

Chapter 3

Restoration Visual Analysis

Baldini and Casazza consistently judged the success of their work on Cimabue's *Santa Croce Crucifix* according to its effect in the eyes of the viewer. As previously discussed, they made claims about the ability of their in-painting to vibrate in the viewer's eye and seamlessly link the areas of loss to what remained of the original paint. In this way, they recognized that the viewer plays a critical

role in assessing the success or failure of a restoration. Conservators do not solely intend their work to be critiqued and analyzed by other professionals in the field, but rather they must consider its effectiveness in the eyes of the everyday viewer. The best way for me to test the claims of Baldini and Casazza, therefore, was to become a viewer myself—to travel to Florence and examine the work and other similar restorations in person.

I begin this chapter with a visual analysis of four works that represent alternative techniques for filling in losses. I found these four case studies in museums housing significant collections of tempera panel paintings: the Galleria dell'Accademia in Florence, the Pinacoteca Nazionale in Siena, and the Museo dell'Opera di Santa Croce. These works illustrate different approaches to restoration, ranging from highly imitative to neutral and abstracted. Unfortunately, there is no published information on these restorations that indicates the names of the conservators involved or the dates in which the works were restored. Thus, I treat this chapter strictly as an exercise in visual analysis. I examined and compared the positive and negative aspects of the different methods in attempt to shape my own understanding of what constitutes a successful restoration. I then used this visual training to arrive at my own analysis of Cimabue's *Santa Croce Crucifix* as it appears today, and later, as a tool to develop my own approach to its restoration.

Jacopo di Cione, Niccolò di Tommaso, and Simone di Lapo's panel, *Coronation of the Virgin* (Figure 14), suffers from a vertical crack that extends the entire length of its surface. In the top half of the composition, an imposing figure

of Mary bows her head and receives a gilded crown from Christ. Below, St. Mathew kneels in the foreground among an audience of saints, all focusing their gaze on the coronation scene in the heavenly realm above. The crack in the work runs from the pink cloth draped around St. Matthew's legs up through the seated Virgin in white at the top of the panel. This loss stands out to the viewer because of the panel's otherwise pristine condition; the vibrant paint shows no other signs of fading or chipping. It appears as if two of the boards composing the panel separated from one another, removing roughly an inch of the original paint down the entire seam.

The panel's restoration (Figure 15) employs a stippling technique to fill the linear gap. The dots draw in the colors of the surrounding areas, though the colors in the dots are less saturated than the original. Within the restoration, a clear color division in the stippling exists where St. Matthew's sleeve overlaps his robe (Figure 16). The dots, from a distance, appear blue in the sleeve and then shift to pink in the area of the robe, reflecting the colors of the original composition. This color change completes the bottom contour of St. Matthew's arm, though ultimately creating a less sharp line than the original. Some blue dots in the sleeve escape down into the pink section and blur this separation. Only when examined closely does it become clear that the individual dots are not in fact the same uniform blue or pink as the clothing. Instead, the restorer broke down these colors; teal and purple dots, for example, compose the sleeve and from a distance mix in the viewer's eye to give the impression of blue.

Although this restoration technique takes into account the colors surrounding the vertical gap, it does not respond to the surrounding form. For example, the blue stippling does not reflect the folds of the sleeve. The bend of the St. Matthew's arm creates defined wrinkles, but these shadows do not continue through the area of restoration. Instead, the restoration creates an impression of flat color that ultimately disrupts the modeling of the drapery.

When analyzing the work as a whole, a viewer can clearly identify the less saturated restoration, but this does not distract from the overall viewing experience in all but one area. The line that cuts through the neck and hair of St. Matthew succeeds the least at merging the gap for the viewer (Figure 17). The colors chosen for the stippling of the golden collar of his shirt, the skin tone of his neck, and the light brown of his hair are too similar to clearly differentiate among the three. The restoration here reads as a beige line that distractingly cuts the back of the figure's head in two. In this case, I noted that the areas of the in-painting that succeed most are those that better reflect the contrast between the forms and colors of the original. If the restorer had defined more distinctly between St. Matthew's dark hair and his warm flesh, I believe that the in-painting would have integrated more successfully from a distance.

The restoration of Guido da Siena and Dietisalvi di Speme's *Entombment* (Figure 18) presented new challenges for the conservator as the loss was no longer confined to a single stripe, but rather it extends unpredictably over the work in large areas. A viewer can hardly discern the horizontal figure of Christ lying in his tomb, now swallowed by the significant gap in the work's foreground.

As the work appears today, all that remains of Christ is his lifeless face. A group of mourners crowd around the burial scene, as the Virgin leans over her son in agony. The landscape in the background of the work, composed of fantastic blue and pink mountains and a stylized tree, sustained the least amount of damage.

When examining the restoration closely (Figure 19), a viewer can see that tiny strokes of color now replace the use of dots. Similar to the stippling technique, the strokes here mimic the color of the surrounding forms using different hues that visually mix from afar. However, the restorer applied more saturated colors than the first example, unafraid to match the vibrancy of the original. One can also see an attempt to continue some of the contours of the original composition. A detail of the restoration reveals the intersection of three distinct forms: a mourner wearing red, another in gray, and the icy blue mountain (Figure 19). Within the loss, tiny strokes of gray extend the curve of one figure's hunched back, separating it from both the red of the other mourner's tunic and the landscape. Yet, the contour is not crisp or decisive; the restorer purposefully blurred this line by extending strokes of the gray into the red and vice versa.

With a thin area of loss such as that seen in the first example, a restorer can easily predict the composition missing in the gap. However, in the example of the *Entombment*, the damage covers such a large portion of the work that the restorer could no longer guess or recreate its original composition. In the detail of Mary mourning over the body of Christ (Figure 20), the conservator included some suggestion of the Virgin's blue robe and arm, but otherwise filled the area of loss with a neutral color. Tiny hatch marks of red, blue, and yellow overlap to

create the impression of a beige area that does not attempt to guess the original composition. The conservator applied this neutral approach predominately in the foreground of the composition where Guido da Siena and Dietisalvi di Speme once depicted the body and the tomb of Christ. The surrounding figures appear to bleed into this neutral area with no real definition of where one figure ends and another begins.

The neutral hatching technique is advantageous in the case of extensive loss, as it allows a conservator the freedom to fill the gaps without the fear of false imitation. The restoration here succeeds at maintaining the vibrancy of the work through the saturation of its in-painting. Still, the tiny strokes produce an overall effect of confusion and unease for the viewer. Instead of complementing the remaining areas of original paint, the indecisive restoration blurs the entire composition together. The work becomes difficult to read as all the forms dissolve into one another, clouding the work in a dizzying haze.

The restoration of Gilio di Pietro's *Madonna and Child* (Figure 21) differs from the previous two examples in that the viewer cannot clearly distinguish the restoration from a distance, if at all. In the work, the Christ Child intimately sits in his mother's arms and looks up at her with a loving gaze. The composition overflows with the rich textiles of the figures' clothing, intricately laced with geometric, gilded designs. As it appears today, the restoration is imperceptible from a distance; the conservator expertly integrated the gaps with the original work in terms of both color and form. Surprisingly, the work suffers from significant loss concentrated in the bottom half of the panel that extends over the

Christ Child's feet, the figures' intricate clothing, and small areas in the Virgin's face.

A detail of the Virgin's stylized red blouse (Figure 22) reveals the technique chosen to fill the gaps: small strokes of color, longer than the previous example, compose the in-painting. Consistent with the previous two cases, each stroke does not match the exact color of its counterpart; rather, the restorer chose colors that will mix in the viewer's eye from a distance. For example, strokes of the primary colors now compose the sections originally covered with gold leaf, visually combining from afar to give the impression of a golden hue. A detail of the clothing's intricate design illustrates the difference between the original and restored gilding (see Figure 22). Having lost nearly half of its original gold leaf, a triangular form within the textile's pattern juxtaposes the original, cracked gold with the hatching of this restoration technique. Although the differentiation between the old and the new is clear in the detail, from a distance a viewer can hardly detect this change.

Unlike the use of static dots in the first example, the small strokes utilized here can move in different directions to follow the contours of the forms. In the same detail of the Virgin's clothing (see Figure 22), the artist embellished the red fabric with a spiraling design. In the portion of the spiral that moves into the area of loss, the restorer continued this shape using strokes that follow the curve of the gilded design. The strokes in the red backdrop, on the other hand, move perpendicularly to those that restore the gold. The conservator here oriented the strokes to flow with the movement of the original composition, creating the

impression of a restoration that fits more naturally into the forms of the work. This placement also contributes to the crisp contours achieved in the restoration. The restorer here did not blur lines together, but rather clearly distinguished between shapes using both color and opposing directions of the brushstrokes.

A detail of the two feet of the Christ Child in Gilio di Pietro's *Madonna and Child* (Figure 23) reveals a possible disadvantage of closely juxtaposing the old with the new. Although the restorer rendered parts indistinguishable from a distance, he or she completely recreated the foot at the left of Christ while the foot at the right from the original composition remains almost entirely intact. The short strokes of the restoration succeed at creating a sense of three-dimensional modeling in the left foot that mimics the original. The conservator mixed strokes of white with the skin tone to highlight the ankle and used brown, red, and blue to capture the shadows of the foot. The direction of the strokes also complements the form of the foot, as the lines follow the curve of each toe.

A potential disadvantage emerges in that from a distance, it appears as if the same hand composed both feet. Returning to the writing of Cesare Brandi in *Theory of Restoration*, this approach could be criticized as “committing artistic or historical forgery” and trying to erase the work’s passage through time.⁷⁷ In its near-perfect integration, the restoration could be considered inauthentic, suggesting that the conservator’s hand attempted to imitate that of the artist. However, a counter argument exists that through closer examination, the trained or observant eye can clearly differentiate between the original and its restoration. Challenging the theory of Brandi, the case of Gilio di Pietro’s *Madonna and Child*

⁷⁷ Brandi, *Theory*, 50.

raises the question of the distance from which a restoration should be perceptible as loss.

The restoration of a predella panel from Nardo di Cione's *Madonna and Child, St. Gregory and St. Job; Histories of St. Job's Life* (Figure 24) reveals an alternative solution to reintegrating extensive areas of loss. The viewer observes large, clearly defined gaps predominately in the landscape of the panel's background, almost framing the long, horizontal table in the foreground. A gruesome scene surrounds the central table. Fatally wounded, lifeless figures drape across the table, staining the crisp white tablecloth with the blood. Freshly spilled wine indicates that the deadly scuffle had just taken place.

Similar to the technique discussed in the example of Guido da Siena and Dietisalvi di Speme's *Entombment*, the restorer utilized a neutral in-painting technique that does not attempt to guess or imitate the original composition. Using strokes of primary colors, white, and black, the restorer overlapped these lines to produce a color that reads as a neutral gray from a distance. When a viewer examines the strokes individually in a detail of a man lying at the end of the table (Figure 25), it appears as if the restorer composed the neutral with specific colors from the surrounding composition. When broken down visually, the red strokes in the neutral restoration imitate the color of the man's pants, the blood, and the wine; the pink and blue strokes, the color of the clothing of the figures draped over the table; the yellow strokes, the color of the bread. Although the gray reads as arbitrary from a distance, it becomes clear that the restorer

wanted to merge the gaps of the composition using colors drawn directly from the original paint.

This example differs from the previous three cases in that the restorer offered no variation in color or the direction of strokes within the in-painting. The conservator applied the same neutral approach to all areas of loss. While the short brushstrokes discussed in the example of Gilio di Pietro's *Madonna and Child* follow the natural flow of the original contours, each area of loss in the predella panel employs the same vertical hatch marks. The vertical application works most successfully in the background of the work because it creates a clear distinction between the background and the long, horizontal table in the foreground. In the example of the man lying alongside the table (see Figure 25), the loss extends over the man's torso into the foreground of the work. Although the man lies horizontally, the vertical strokes of the restoration interrupt the compositional flow by working perpendicular to the position of the body. This shows that the direction of hatching plays a critical role in a panel's restoration. Had the strokes moved with the horizontal position of the figure's body, the in-painting would have integrated more naturally into the forms of the original composition.

The restoration of Cimabue's *Santa Croce Crucifix* (see Figure 2) utilizes a similar neutral technique to fill the work's extensive losses. A viewer can clearly identify the areas of damage in the crucifix. The contrast between the neutral technique and the original paint does not mask the damage; rather, it clearly defines the irregular gaps. The gaps vary in size from a small blotch missing from Christ's left palm to an enormous area of loss extending from

Christ's abdominals, spreading across his hips, over his thighs, and down to his shins. Roughly half of the original paint of Christ's body no longer remains, and the same can be said for the torso of the Virgin Mary (Figure 26), whom Cimabue represented on the left end of the vertical arm of the cross. Smaller, sparser gaps appear on the panel of John the Evangelist (Figure 27) on the opposite end.

While in theory the restoration seems similar to the previous example of Nardo di Cione's predella panel, the restorers did not apply the same neutral tone to every area of loss on the *Santa Croce Crucifix*. Subtle color variation exists within the restoration, as revealed by a detail of the largest area of damage on Christ's two thighs (Figure 28). The conservators suggested the shape of Christ's now missing left thigh through the addition of red to the neutral tone. The warm color added to the left leg pushes it forward over the right, which sinks back with the addition of a cooler green-blue tone. Also, the addition of red here emulates the adjacent color from what remains of the hanging loincloth, suggesting a continuation of the fabric across the figure's body. Because of the legs' large presence in the composition, a viewer can distinguish this color change from a distance.

Tonal variation within the neutral in-painting suggests the contours of Christ's body, though it succeeds in varying degrees to distinguish the figure of Christ from the background of the cross. In a detail of Christ's arm (Figure 29), several gaps spill out of the boundaries of Christ's bicep into the dark blue background. The restorers attempted to define the contour of Christ's body by dividing these gaps into two tones. The portion of the gap across Christ's skin

reads as a neutral with more green and yellow to reflect the lifeless flesh of Christ. Where the gap extends into the background, the in-painting becomes slightly darker to separate itself from the arm and continue the contour of Christ. A detail of Christ's head (Figure 30) reveals a more distinct tonal contrast between his hair and the surrounding gilded halo. The restoration in the halo strips away all other colors besides yellow and red. Next to the significantly darker neutral tone in the hair, the outline of Christ's head becomes clearly evident to the viewer. While the slight contrast between Christ's arm and the darker background does not translate well from a distance, the viewer can clearly identify the distinction between Christ's head and his halo. In fact, the halo appears as if it shows no signs of damage from afar. The areas of in-painting that replace the gilding most successfully blend into the original composition.

The discussion of the contrast between the restored areas of Christ and the surrounding crucifix now begs the question of why the restorers so clearly defined the head but were more hesitant where the body overlaps the blue background. Why did the restorers fill the gaps in the skin and the background with nearly the same tone, yet separated the halo and the hair so distinctly? The restorers could have been trying to suggest and emphasize the different material properties of the gold leaf and the painted surface. Alternatively, perhaps it is simply because the golden halo and the dark hair of Christ naturally have more contrast than Christ's dark skin juxtaposed with the dark background. However, a counter example complicates the argument. In the detail of Christ's body (see Figure 28), a portion of the loss extends off Christ's hip, over a strip of the loincloth, and into the dark

background. Similar to the contrast between the hair and the golden halo, the bright loincloth sharply stands out against the dark background. Still, the conservators added no more contrast to the in-painting here than where Christ's dark skin overlaps the blue.

The detail of Christ's face (see Figure 30) reveals that the direction of the brushstrokes also contributes to the distinction between the tones of the in-painting as well as to the overall integration of the restoration into the form of the figure. Similar to the technique used in the restoration of the Gilio di Pietro's *Madonna and Child*, the short brushstrokes flow logically with the composition. The strokes curve around the head of Christ, moving naturally with the direction of the individual hairs detailed in the original painting. Although the strokes create an overall impression of moving along this curve, the restorers faintly crosshatched all of the areas of loss on Christ's body. The strokes in the halo, on the other hand, all move in the same direction. The restorers applied the strokes perpendicular to those in the head, creating a clear distinction between the two. It should also be noted that the neutral in-painting in this detail does not account for the individual features of Christ's face; the gap extends over his lips, nose, eye, and hairline without any variation or suggestion of form or modeling.

Inconsistent with previously discussed parts of the restoration, two further details do in fact show attempts to suggest the three-dimensionality of Christ's body. Where Christ's head hangs onto his shoulder (see Figure 30), a suggestion of a shadow appears. A faint contrast emerges that pushes Christ's head forward where it overlaps the darker portion of the shoulder. However, this nuance is

barely recognizable in the detail, let alone when the viewer stands back to examine the work as a whole. The conservators also created a gradation under the arm of Christ (Figure 31) that is not consistent with the otherwise flat areas of restoration. The restoration begins lightest furthest into the body and becomes darker with black as it moves to the edge of Christ, suggesting the torso's round form. The restoration, then, is not nearly as consistent as Baldini and Casazza suggested in their writings, revealing instead a number of different approaches.

Ultimately, Baldini and Casazza's work must be critiqued from a distance. Because the *Santa Croce Crucifix* is an enormous panel, it must necessarily be viewed from a substantial distance. Rarely would one have the opportunity to closely examine the work, as I have been able to do from detailed photographs. While some of the nuances of the color abstraction are indeed beautiful in their subtlety, they disappear at a distance. The restorers seem to have been more committed to documenting the damage than hiding the loss with an imitative approach. Although Baldini and Casazza claimed that the vibration of the colors and brushwork in their in-painting would transform the loss to linkage, the work ultimately draws the viewer to ponder and even concentrate on the neutral restoration because of its relatively light color rather than focus on the darker original painting by Cimabue. Theory and practice do not fully align.

As I moved on to develop my own approach to the restoration of the *Santa Croce Crucifix*, I came away from this exercise in visual analysis with several key lessons that I later applied to my own work. First, I decided that I always needed to consider my work from a distance to evaluate its success. I wanted to be able to

discern forms but still be aware that certain areas had been completely lost. In addition, I now understood that the direction of brushstrokes could be a valuable tool for implying the movement of the original composition. And finally, I sought to answer the question posed by the highly imitative approach to the restoration of Gilio di Pietro's *Madonna and Child*. Does a middle ground exist between replicating the original and adopting the color abstraction of Baldini and Casazza? Could I honor the flood without disregarding the forms and colors of the original composition? As I describe in my final chapter, I believe I did find a positive response to this dilemma.

Chapter 4

Re-Restoring Cimabue's *Santa Croce Crucifix*

Equipped with a thorough understanding of the method and intentions of Baldini and Casazza, and a comparison to other examples of restoration techniques in Italy, I set out to create my own panel painting that might suggest an alternative approach to Baldini and Casazza's in-painting of Cimabue's *Santa Croce Crucifix*. While recreating the entire fourteen-foot-tall crucifix was impossible in the time frame of the thesis (and the spatial limitations of my

apartment), I chose to focus on the detail of St. John the Evangelist from the right end of the cross's horizontal arm (see Figure 27). This portrait can be seen as a microcosm of the larger work after the flood. Both St. John and the body of Christ present the problem of how to find one technique that can successfully treat large and small gaps as well as loss that extends over different colors and forms. Like the enormous area of damage across Christ's torso and thighs, St. John suffers a significant gap that extends down his red robe and nearly over his entire left arm. In addition, sparser areas of loss on Christ's feet correspond to the small gap beneath St. John's chin.

Having chosen the segment of the crucifix on which to experiment, I created two copies of the figure of St. John. I used one panel to experiment with my technique and the other to produce a finished work. In this chapter, I detail the step-by-step process I used to create the panels of St. John and describe the new approach that I conceptualized for its in-painting. To execute the project, I applied my training in tempera painting from my semester abroad in Florence in the spring of 2012. During this time, I took a studio course on Renaissance painting techniques with Ezio Buzzegoli, a professional conservator working in Florence during the time of the flood. He led the class through the traditional method to create a panel painting—from preparing the gesso to pouncing the design, gilding the surface, mixing the paint, and applying the tempera. In creating my copies of St. John, I have adapted the approaches that I learned from my experience abroad

and supplemented them with Altoon Sultan's more contemporary approach to panel painting in *Luminous Brush: Painting with Egg Tempera*.⁷⁸

The Initial Stages of the Project

I first found a detailed image of the restoration that I could enlarge and use as the background of my panels. I scanned a high-quality color detail of St. John (see Figure 27) from *The Crucifix by Cimabue* by the lead restorers, Baldini and Casazza.⁷⁹ I scaled the image electronically to the size of the original in order to create panels that accurately simulate a viewer's experience with the real crucifix. To calculate the approximate dimensions, I used a diagram from Joel Brink's article in *The Burlington Magazine* titled "Carpentry and Symmetry in Cimabue's Santa Croce Crucifix" (Figure 32).⁸⁰ I then had the file printed professionally on matte poster paper. Using a utility knife, I carefully cut around the areas of loss and removed any traces of the current in-painting from the two images.

To form the foundation of my panels, I purchased one large piece of untempered hardboard and cut it down into two pieces of the desired size. Both boards measure thirty inches in height and 16.5 inches in width, consistent with the approximate dimensions of the original. I then roughed up the surfaces of each board with coarse sandpaper, creating a tooth to which other materials could more easily bond.

⁷⁸ Altoon Sultan, *Luminous Brush: Painting with Egg Tempera* (New York: Watson-Guption, 1999).

⁷⁹ Baldini and Casazza, *Crucifix*, 128.

⁸⁰ Brink, "Carpentry," 647.

I first applied a layer of sizing to the hardboard. Traditionally, artists like Cimabue would have made sizing from animal skins, most commonly rabbit or goat.⁸¹ Contemporary artists, however, use unflavored, powdered gelatin as a quick alternative.⁸² I purchased a package of Knox original gelatin that contained four envelopes, each measuring one quarter of an ounce. To create the sizing solution, I followed the ratio of gelatin to water as one quarter ounce, or one envelope, to one half cup.⁸³ I doubled this measurement to account for the large surface area of my two panels. Using a double boiler, I started boiling water on the stove in the bottom half while I added the appropriate amount of gelatin and water in the top portion. I then heated the mixture over the boiling water until the gelatin completely dissolved and felt hot to the touch. With the sizing now ready, I applied it to the entire surface of the hardboard using a two-inch brush in quick strokes, making sure to move only in one direction. The panels dried overnight.

The process to make the gesso began with the same steps used in making the sizing, as it forms the base of the gesso mixture. Gesso requires one and a half cups of dry whiting, or calcium carbonate, to one cup of sizing solution.⁸⁴ Again, I doubled this measurement. Once I made the warm sizing solution on the double boiler, I began sifting in three cups of the whiting powder. I added the whiting slowly to the strainer, helping it through the holes using a metal spoon. I moved the strainer around during this process to spread the whiting evenly throughout the sizing and to avoid forming a concentrated mound in the center. I checked the

⁸¹ Cennino d'Andrea Cennini, *The Craftsman's Handbook: Il Libro dell'Arte*, trans. Daniel V. Thompson, Jr. (New York: Dover, 1960), 67.

⁸² Sultan, *Luminous*, 38.

⁸³ Ibid.

⁸⁴ Sultan, *Luminous*, 39.

temperature of the gelatin solution regularly, and if the gelatin began to lose its heat, I reheated it over boiling water. After adding all of the calcium carbonate, I gently stirred the mixture with a large brush, being careful to avoid forming bubbles. Introducing air bubbles to the gesso could later affect the evenness of the panels' surfaces. I then poured the gesso into a different bowl, washed the top portion of the double boiler, and stretched two layers of cheesecloth over its top. The cheesecloth became the final strainer to remove any last clumps of undissolved whiting as the gesso returned to the double boiler for further heating.

Before applying the gesso to the hardboard, I used the cut posters of St. John as stencils to trace the areas that the gesso had to cover. I did not want to waste gesso in portions that would simply be covered by the images. I then applied eight layers of gesso each to the two panels. Throughout the application process, the pot of gesso had a tendency to cool and solidify, forming a thick skin over its surface. I therefore reheated the mixture when necessary on the double boiler to maintain its smooth, liquid consistency. With every new coat, I brushed on the gesso in opposing directions. Also, I rotated through the panels, applying the first layer to both before moving to the second coat. This allowed adequate time for the gesso to dry between each layer. After eight coats on each, I allowed the panels to dry overnight.

In viewing the gesso the next morning, raking light revealed uneven surfaces. To bring the surfaces to the desired smoothness, I first used a small wooden block that I had dipped in a shallow plate of water. Using circular motions, I rubbed each panel with the block to dampen the top layer of the gesso.

This allowed the gesso at the surface to be redistributed and evened out by the flat wooden block. After the panels dried from this wet approach, I sanded the gesso with fine sandpaper to give the surface texture its final touch. I then wiped the panels with a damp rag to remove any dust generated by the sanding, ultimately creating a more static surface on which the posters could adhere.

I glued the two posters onto their respective panels with spray adhesive. I sprayed the backside of the images and then attached them to the prepared hardboards, carefully lining up the corners as I laid down each. This final step required a set of extra hands. With that, I completed the preparation of the two panels—faithful copies of the painting as it appears today with the restoration cut out to reveal the silky smooth, pure-white gesso (Figure 33). With blank surfaces in the gaps, I could now propose my alternative approach to the conservation of Cimabue's *Santa Croce Crucifix*.

I chose to work in the medium of tempera for this project because it mimics the technique of the original and, as a water-soluble paint, can be easily reversed—a critical criterion for a successful restoration. Before I could begin the process of in-painting with tempera, I prepared the egg yolk used as a binding agent for the powdered pigments. I first cracked a fresh egg and removed half of its shell, being careful not to break the yolk. I poured the contents of the shell into my hand, spreading my fingers slightly apart to let the excess egg white fall through and separate from the yolk. I then passed the yolk back and forth between my palms, drying my hand with a paper towel between each transfer. By doing this, I removed all traces of the egg white, which does not aid in the binding of the

paint. I next pierced the yolk sac with a needle tool and held onto the membrane with my thumb and index finger, ultimately allowing the pure yolk to spill out into a clean jar. To reduce the thickness and greasiness of the yolk, I mixed in a few drops of water. I had to repeat this technique numerous times throughout the painting process to maintain a fresh batch of the binding agent. Typically, the yolk lasted a week in the refrigerator before it spoiled or became too viscous.

Finally, before I could put paintbrush to panel, I had to achieve the proper proportion and consistency of the paint using a mixture of pigment, yolk, and water. While in Florence studying Cimabue's work, I purchased seven colors of pure powdered pigments from Zecchi, a local art supply store, to use for the in-painting of St. John: white, ivory black, burnt umber, yellow ochre, red ochre, cadmium red medium, and ultramarine blue. The preparation of tempera paint requires equal parts of these pigments and the pure egg yolk.⁸⁵ Tempera dries quickly, so it is important to only mix a small quantity of paint at one time. To make a color, I first scooped a small amount of the powdered pigment from its jar and placed it onto a plastic palette. I then used a paintbrush to obtain a few drops of yolk and position them next to the pile of pigment. The close juxtaposition of the powdered color and the yolk allowed me to see if I had fulfilled the ratio of one to one before combining the two together. Mixing the pigment with yolk created a sticky texture in the paint, which I then had to thin with water. Adding water does not alter the binding properties of the paint; one can add as little or as much water as necessary to reach the desired consistency and translucence. I used

⁸⁵ Sultan, *Luminous*, 67.

a size zero paintbrush to apply the meticulous hatching characteristic of traditional tempera technique.

The In-Painting of St. John: Goals, Process, and Reflection

Before I discuss my procedure for in-painting the gaps on the representation of St. John, it is important to outline the goals of my restoration, as they ultimately guided each technical decision throughout the process. As I summarized earlier in my discussion of the restoration of Cimabue's *Santa Croce Crucifix*, Baldini and Casazza innovated the method of color abstractions to fulfill several goals: to restore the significance of the work without competing with or imitating the original. They wanted their in-painting to fit naturally into the pictorial surface of the panel without distracting the modern viewer's experience. At the same time, they did not attempt to erase the scars of history, as Brandi's theory suggests. They recognized and honored the fact that the gaps created by the flood had become part of the work's composition. In creating my own method, it was not my intention to reinvent the established theories of restoration; rather, I wanted to reinterpret them and conceive an alternative solution to the same problem. By appropriating the goals of the conservators working during the time of the flood, I wanted to present a new approach that would challenge the method of color abstraction while still functioning within the framework previously set by Baldini and Casazza themselves. I set out to create a balance in my work between commemorating the past while integrating it into the present and future.

The posters of St. John presented two notable problems that a professional conservator working with a real panel painting would not have faced. The first involved the slight difference in surface level between the gesso and the pictorial layers of my panels. In Baldini and Casazza's writing on the restoration of gaps in panel paintings, they stress the importance of building up the new surface of the gesso to the level of the original paint. This contributes to a better-integrated restoration, as the viewer's eye remains on one plane. If the gesso were to sink lower than the original surface, this could create an imbalance in the reflection of light. However, as I glued the images of St. John onto the primed hardboard, the gesso therefore appears recessed behind the surface of the poster because of the slight thickness of the paper. A second problem arose due to the inherent differences between the printed image and the tempera paint. Unlike Baldini and Casazza, I juxtaposed two different media; I had to find a solution for integrating tempera paint and printed ink. In addition, the matte finish of the poster paper reflects light differently than the pure tempera paint, appearing muted when seen against the vibrant pigments. I therefore considered my panel painting as its own case study; in some ways, it reflects the task of the original restorers, but it also introduces characteristics and challenges of its own.

I approached the in-painting of St. John the Evangelist in four parts. Upon analyzing the loss, I noted that the gaps extended over four major areas of color: St. John's robe, tunic, skin, and the gilded background. Unlike the approach employed by Baldini and Casazza, I did not want to infill all of the gaps with a single abstraction and disregard the forms of the original. High-quality, color

images exist of the crucifix that preserve the work's appearance prior to the disaster, and therefore I did not have to guess or approximate the contours lost in the flood. Using a reference photo of St. John taken before 1966 (see Figure 7), I first sketched the forms of the figure missing in the gaps of white gesso. For example, I replaced the outlines of the thumb and wrist of St. John, seeking to distinguish his left arm from the surrounding red robe. Now that I had blocked off the four areas of color—robe, background, tunic, and flesh—I began experimenting on my practice panel to find the best balance of colors and translucencies in each region to integrate the loss and the poster.

I started my restoration by focusing on the gaps in the red robe draped over St. John's shoulder, which amount to the largest areas of loss in the work. To account for the aged and darkened appearance of the red color in the printed image, I chose to in-paint using a combination of cadmium red medium and burnt umber. Areas of the robe, specifically under St. John's left arm, remain as bright as the cadmium, while other parts have accumulated dirt and now appear brown like the burnt umber. In overlapping these two colors in my restoration, I attempted to create an average of the various tones of red. On the practice panel, I layered the colors in different orders and experimented with the appropriate amount of water to reach the desired effect. In a detail of my trial panel (Figure 34), the two gaps in the top left corner of the image illustrate my first attempt to restore St. John's robe. I began with vertical hatching of the burnt umber and layered strokes of cadmium on top, adding very little water to either color. While I believe that the color achieved here mimics the hue of the surrounding areas

well, this technique reveals the dramatic differences in light reflection of the two media. From a distance, the vibrancy of the paint here accentuates the paleness of the matte poster paper and creates a clear division between the two surfaces.

While I intended to create a restoration that a viewer could distinguish from a distance, I did not want it to overwhelm the work and distracting from the viewer's experience. This first attempt, I believed, fell into this extreme.

I then experimented with adding more water to the paint to counteract its inherent intensity. In creating more translucent layers, I hoped to balance the muted quality of the poster by allowing traces of the white gesso to show through the paint. Returning to the detail of St. John's robe from my practice panel (Figure 34), the bottom right-hand corner of the image reveals two alternative approaches using paint with a higher proportion of water. The two techniques create what appears to be a gradient, as the top has more cadmium and fades into an in-painting with a lower concentration of red. In both areas, I started with a light wash of the cadmium, treating the tempera paint more as a watercolor. After this layer dried, I filled in the space with short vertical hatching of the burnt umber, again mixing more water to the paint to achieve a lighter brown. I applied the strokes evenly and meticulously, leaving a slight distance between each to avoid masking the entire background wash of red. To create the gradient that I described earlier, I added a second layer of red to the top half of this detail after completing the brown hatching. I applied the second layer of red here in larger and broader strokes than the brown. Taking a step back to analyze the success of this test, I noted that area with the additional layer of cadmium succeeded less in integrating

the loss. The restoration here becomes too red, and its intensity is inconsistent with the overall hue of St. John's robe in the printed image.

I ultimately chose the more diluted cadmium approach to employ on my final panel. With its translucent layers, the in-painting integrates most successfully with the paleness of the poster while simultaneously reflecting the robe's brown and red coloring. I applied the same technique to all areas of the robe lost to the flood: a light wash of cadmium red layered with hatching of dilute burnt umber. In this way, I did not attempt to imitate the modeling of the cloth but rather wanted to create one unified approach in all of the portions of red. I did, conversely, alter the direction of the hatching in some areas to mimic the natural flow of the robe's drapery. In a detail above St. John's left wrist on the finished panel (Figure 35), a viewer can see the intersection of perpendicular strokes. I chose the direction of the hatching based on the implied flow of the drapery—the vertical strokes in the areas where the weight of robe falls from St. John's shoulder and the horizontal strokes in the areas of the cloth lying across his lap. While I understand that from a distance the direction of the strokes becomes trivial, close up the hatching allows the viewer's eye to move more naturally with the forms of the original work.

I also paid particular attention to the thin gold trim that outlines parts of the drapery. The gilded line begins at St. John's neck and snakes down the red robe to his wrist. An additional portion of the trim creates a diagonal that divides his left arm from the robe. The gold trims moves through several of the gaps in the work; however, in Baldini and Casazza's restoration, their neutral technique

severs this contour. Even though the conservators altered the color of their abstraction in the gold background of the crucifix, they ignored the small areas of gilding on the body of St. John. In my panel painting, I did not want to disrupt the compositional flow in this way. Instead, I completed the broken contour and continued the gold line through the areas of red in-painting (see Figure 35). To do this, I used strokes of yellow ochre in line with the established curve of the trim. I layered this with a dilute wash of red ochre to darken the bright yellow and draw in some of the orange appearance of the gold.

I next moved to the large area of loss in the gilded background above St. John's left shoulder. Having found success in the use of yellow and red ochre to restore the thin gold trim, I decided to employ these same colors for the gap in the background while remaining consistent with the technique I used for the red robe. Thus, I altered the choice of pigments here but kept the basic formula the same: a light wash of color layered with a second color in the form of small hatching. To reveal the underlying wash of paint, I similarly applied the strokes at an even distance apart so that the two colors could mix in the eye of the viewer from a distance. On my practice panel, I began with a dilute layer of yellow ochre and then experimented with strokes of red ochre using two different concentrations of water (Figure 36). In the top part of this detail, I tested an approach adding more water to the red ochre and juxtaposed this with more saturated hatching below. Upon viewing my work from a distance, I determined that the richer strokes better reflected the overall appearance of the background. The section with more intense red ochre ties in the hints of orange and brown in the "gilding" of my printed

image. I therefore utilized this approach to in-paint all of the areas of loss to the gold.

Borrowing an aspect of Baldini and Casazza's work, I varied the direction of the strokes within the large gap above St. John's shoulder to imply the form of the halo. Although faint in the reproduced image, Cimabue stamped the original gilded background with indentations to punctuate the outline of the figure's halo. Two concentric rings circle St. John's head, but the gap in the gilding disrupts this geometric form. As I discussed in my summary of Baldini and Casazza's approach in the previous chapter, the conservators differentiated between strokes in the flat gold background and in the halo, the latter curving with its rounded form. Similarly, I applied vertical hatching to those areas outside of the halo in contrast to the arcing movement of those inside (Figure 37). In this way, the hatching on my panel painting creates the impression that the contour of the halo continues through the in-painting.

The third stage of my restoration focused on the loss to St. John's tunic. While these areas of in-painting are small in scale and number, they play a key role in restoring the original contours of the figure's wardrobe. As the loss in the tunic borders that of the robe, I knew that I wanted the coloring of each to be distinct in order to more easily distinguish between the two garments in the newly restored panel. I initially struggled to arrive at the colors to use for the gaps in the tunic. Washes of cadmium red and yellow ochre for the robe and gilded background seemed natural choices, but I could not quite put my finger on the nondescript and muddy color of the tunic in the reproduced image. Although

originally royal blue before the flood, St. John's tunic now largely appears brown with undertones of gray and orange. I initially tried to capture the hints of orange that I was observing by testing an area with a base wash of red ochre and layering it with hatching of burnt umber. From a distance, though, this approach read as too warm next to the cooler coloring of the tunic. I then experimented with a second technique, adding burnt umber to darken the underlying wash. On my final copy, I decided on a dilute mixture of burnt umber and red ochre as a wash and overlapped it with saturated hatching of burnt umber.

The last remaining section of the in-painting—St. John's flesh—proved to be the hardest and most problematic of the four areas. Sticking to my original formula, I sought to find one technique that would apply successfully to all areas of the skin. Similar to the tunic, though, this became difficult due to darkening of the original painting over time and slight discoloring of the poster in the printing process. St. John's flesh appears muddy and inconsistent in the reproduction, showing hints of yellow, green, blue, brown, and black. St. John's left hand appears light with yellows and greens while his neck and chin are cooler. The forearm on which St. John rests his head displays the most extreme contrast, transitioning from yellow at its highlight to nearly black in the areas surrounded by his sleeve. However, I remained committed to my original formula and took on the challenge of trying to find one approach that would apply equally to the wide range of tones and hues in the figure's flesh.

I based my first experiment to restore the losses of St. John's skin in the principles of the color abstraction innovated by Baldini and Casazza. I believe

that their method succeeds best against the areas of flesh in the crucifix. To my eyes, the overall olive-green impression of the in-painting matches a medium value of Christ's skin tone. Had the conservators confined this color abstraction to the areas of flesh and better distinguished between surrounding forms, I believe that their method would have been more successful. For this reason, I attempted to mimic their technique on my practice panel in the gap across St. John's neck, beginning with yellow, then red, green, and black as Baldini and Casazza detailed in their essay (Figure 38). I similarly varied the direction of the strokes with each subsequent layer to ensure that the four pigments did not entirely overlap. Stepping back from my work, I found that the traces of red in this approach did not integrate well with the olive complexion of St. John on my panel. While Baldini and Casazza had included red as a major component of their color abstraction in an attempt to average the colors of the entire composition, I was only trying to average the flesh tones in these areas of loss.

The final approach that I chose for this section strayed from Baldini and Casazza's original technique but similarly attempted to create an overall olive-green impression. As I contemplated which color I should use for the underlying wash in this case, I consistently returned to the green undertones that I observed throughout all areas of his flesh. In order to understand why I was observing this cadaver-like skin color, I read selections from Cennino Cennini's how-to guide on Renaissance painting written in the early fifteenth century. To develop the naturalism of a living person's flesh tone, Cennini teaches that one must first

apply an underpainting of *terra verde* (green earth) and *verdaccio*.⁸⁶ The word *verdaccio* can be broken down into two parts: the Italian word for green, *verde*, and the suffix *-accio*, which denotes a bad or ugly quality. The nickname “dirty green” therefore refers to a mixture of yellow and black, which produces an olive paint traditionally used by Renaissance artists to block out the shadows of a figure before applying the pink flesh tone. The coloring that I chose to in-paint the areas of St. John’s skin makes a nod to this Renaissance technique, tying in the undertones of the figure.

I created an olive green wash similar to the hue of a true *verdaccio* as the first layer of the skin using a mixture of yellow ochre, ultramarine blue, and burnt umber (Figure 39). Through the process of making and remaking this wash for the various areas of loss to St. John’s flesh, I gained a deep appreciation for the sensitivity of the medium and the work of a conservator; an imperceptible difference close up can dramatically alter the appearance of the in-painting from a distance. While I was mixing a second batch of the green wash, I attempted to achieve the exact same ratio of yellow, ultramarine, and umber to match the first application. I also had to dilute the paint with the same amount of water to achieve the proper consistency. When I thought that I had mixed an identical brew, I applied the wash to my finished panel and was satisfied with its likeness from my close vantage point, hunched only inches from the surface of the work. To my surprise, when I viewed the panel from across the room, the two supposedly identical areas of green wash appeared shockingly different—one

⁸⁶ Cennini, *The Craftsman’s Handbook*, 93-94.

more clearly yellow and the other more blue. The smallest change in the ratio of pigments had fooled my eyes from up close but revealed itself from a distance. Throughout the process of in-painting, I gained an appreciation for the concentration and precision required to create a unified restoration across large gaps. I learned that to create a successful in-painting, a conservator must continually step back and analyze the work from various perspectives, something that is not always easy in the restoration studio when working on very large works of art.

I washed off this base coat of green with a cotton swab and water, and I reapplied it several times before I was finally satisfied with its uniformity. I then hatched saturated burnt umber over the underlying wash. I chose the brown pigment to tie in the areas of deep shadows across St. John's flesh. Upon viewing this approach from a distance, though, the in-painting of the skin still appeared too bright in contrast to the darkened appearance of St. John in the printed image. Even with the layer of burnt umber hatching, the lightness of the gesso showing through the dilute wash of olive green overwhelmed the original work. My eyes immediately went to these areas of the panel, particularly in the portions of the in-painting that bordered the dark shadows in the flesh. I concluded that this approach did not function within my established goals for the restoration, ultimately distracting from the integrity of the original work.

To integrate the in-painting of the flesh more successfully, I applied a second layer of hatching using ivory black to darken these areas. I practiced this technique first on my experimental panel in order to observe its effects, painting

the strokes of black at a diagonal to the direction of the burnt umber hatching. In my first attempt, I did not add enough water to the paint, and the black strokes appeared too saturated. They succeeded in darkening the in-painting, but it now matched too closely the saturation of the flesh tone in the poster. While earlier the in-painting distracted due to its paleness, it now fell into the opposite extreme; this technique could be interpreted as too imitative or as an attempt to reverse history. Consistent with the appearance of my approach to in-painting the robe, gold background, and tunic, I wanted the gaps in the flesh to be visible as areas of restoration from a distance. For my approach on the finished panel, I added a significant amount of water to the black, producing more of a dilute gray pigment. This final layer of hatching succeeded in integrating the loss without trying to erase the work's passage through time.

When I finished in-painting the gaps in the flesh of St. John, I had finally covered all remaining areas of bare gesso on my panel and concluded the restoration. For the first time throughout the entire process, I had the opportunity to analyze my new approach in its entirety without the distraction of any glaringly white patches of gesso (Figure 40). As I stepped back from my work—both physically and mentally—I reflected on the original framework of my project, rooted in the established theories of restoration surrounding the flood of 1966. Had I accomplished the goals that I set out for myself? Did my approach achieve a balance between preserving both the memory of the disaster and the original significance of the crucifix? To help answer these questions, I viewed my finished

panel next to the image of Cimabue's *Santa Croce Crucifix* as it appears today (Figure 41).

As I discussed earlier, Baldini and Casazza describe the importance of preserving the scars of history, but the conservators did not apply this theory equally to all areas of the panel's in-painting. When observing the entirety of Cimabue's *Santa Croce Crucifix* in its present state (see Figure 2), one clearly observes the gaps in-painted with color abstraction on the bodies of the figures but can hardly discern any damage to the gilded surfaces of the work. From a distance, the technique that the conservators chose for restoring the gold perfectly integrates with the original gilding. I believe that a major success of my new approach lies in the consistency of theory and technique in all areas of the panel. While I altered the colors of the in-painting to reflect the original forms of the panel, the fundamental concepts in each section—the robe, gilded background, tunic, and flesh—are the same. In my opinion, no areas of my restoration match too closely to the original or imitate the hand of Cimabue, and yet they coordinate more successfully than did Baldini and Casazza's.

When viewing my finished panel and the *Santa Croce Crucifix* side-by-side, an important difference can be noted in the loss directly beneath St. John's chin (Figure 42). In its central position, this gap threatens the focal point of the composition. The significance of the panel relies on the pathos of St. John's face, as a viewer can relate to the expression of mourning over the suffering of Christ. It is therefore critical that the loss does not take over and become the focal point here. My in-painting of the space beneath St. John's chin appears darker than that

of Baldini and Casazza. While both approaches are still recognizable as loss, the color abstraction pushes forward in the composition while my approach recedes. When viewing both works at a distance, a viewer's eye may get stuck on the gap filled by color abstraction, while my in-painting, which more closely matches the tone of the figure's face, allows the viewer to focus more seamlessly on the central emotion of the composition.

The most significant difference between Baldini and Casazza's approach and my own is the consideration of the original forms and contours of Cimabue's composition. Juxtaposed details from the two in-paintings of St. John's thumb (Figure 43) highlight the most notable difference between the original and my new approach. The gap in this detail crosses three forms—St. John's thumb, robe, and tunic—but Baldini and Casazza's color abstraction exhibits neither tonal nor chromatic variation within the gap to distinguish among the three. In this way, their restoration swallows the original contours of the composition. As the color abstraction most closely matches the figure's flesh tone, it appears as if St. John has a large, deformed thumb. In my new approach, I was able to restore his thumb to its normal scale. Similarly, I reestablished the diagonal of the red robe, separating it from the brown in-painting of the tunic. My finished panel suggests that a restorer can preserve the inherent shapes of the gaps without sacrificing the compositional integrity of the work.

Implications of My Work

This case study of St. John now demands considering how my approach would translate to the larger work. If I were to apply my new approach to the entire crucifix, what differences would we see compared to the restoration of Baldini and Casazza? As I previously discussed, the most significant change would come from reestablishing the outlines of forms within the composition. My approach would focus on defining the figure of Christ, particularly from the dark blue background of the cross. On Christ's arms, for example, multiple areas of loss extend across both the flesh and the background. In Baldini and Casazza's in-painting, a viewer cannot clearly distinguish these two forms from a distance. As the color abstraction matches most closely to the flesh tone, it appears as if Christ's skin bleeds into the portions of loss in the background. With my new approach, I would add more ultramarine to the in-painting of the areas surrounding the figure to better reflect its contrast to the lighter flesh of Christ. This, in turn, would better suggest the figure's outline from a distance. My method would not darken the in-painting of the background so much that the gaps would disappear; rather, it would suggest the deep blue color while the gap would still remain visible as loss.

Additionally, I think that the panel would read more clearly to a contemporary viewer if the in-painting restored the hairline of Christ. As it appears today, the color abstraction extends over half of the figure's illuminated face and brown hair, but it does not reflect the inherent contrast of these two areas (see Figure 30). Similar to the method of Baldini and Casazza, my new approach would not restore the facial features of Christ to avoid imitation, applying the

same uniform technique to all areas of the flesh. I would, on the other hand, add more burnt umber to the areas of loss in Christ's hair to re-establish his hairline. With this addition, I believe that this gap, which is at a focal point in the composition, would no longer overwhelm Christ's head—or the viewer.

In focusing on redefining the outlines of Christ, my new approach ultimately reconsiders the significance of Cimabue's work within its historical context. As I discussed in the first chapter, Cimabue's *Santa Croce Crucifix* pioneered the shift towards naturalism in Italian art through its emphasis on humanness in both Christ's suffering and ideal proportions. Cimabue's innovation appears most notably in the figure of Christ, as the artist began to shift away from the otherworldly style of the Byzantine tradition. In contrast to his earlier, more medieval *Arezzo Crucifix*, Cimabue stretched the arms of Christ in the work at Santa Croce to evoke a sense of real weight pulling down on the figure's hands. This tension imbued the work with an acute sense of pathos, allowing the viewer to relate to the more naturalistic depiction of Christ. In addition, Cimabue proportioned Christ within the ideal geometry of Vitruvius's *homo quadratus*, simultaneously fitting the figure into a square and a circle to suggest the ideal harmony of the universe. To this end, the significance of the work hinges on the proportions and schematization of Christ. However, as Baldini and Casazza's color abstraction does not clearly distinguish between forms in the areas of loss, their in-painting disrupts the tension in Christ's arms and the ideal geometry of his body. My new approach proposes to reestablish the basic forms of Cimabue's composition so as to recover the significance of the work. My alternative

technique preserves the work's innovations and the memory of the flood while still considering its effect on contemporary and future viewers.

Conclusion

In *Theory of Restoration*, Cesare Brandi writes, "The work of art conditions the restoration, and not vice versa."⁸⁷ I conclude my project with this quote because I have come away from this experience with a profound understanding of Brandi's words. While the techniques and theories of past conservators inspired me throughout the process, I was ultimately guided by Cimabue's work itself. My project illustrates the inseparable link between art historical study and the work of a restorer. Before I could put paintbrush to panel, I had to first understand the significance of the work's history, both in the perspective of the Trecento viewer and as a symbol of the disastrous flood of 1966. I also relied on the present pictorial state of the work to drive my technique. Sitting in front of the work, I had to respond to the colors of the painting as they appear today, and more specifically, adjust my technique to answer the challenges introduced by juxtaposing matte poster paper and egg tempera. I have learned that there is no one technique or how-to guide that guarantees a successful restoration of all panel paintings. Rather, each job presents new challenges and considerations, and the success of a conservator depends on his or her ability to adapt.

The necessity to adapt and invent keeps the field of conservation alive. Through a deep consideration of both the past and present of Cimabue's *Santa*

⁸⁷ Brandi, *Theory*, 48.

Croce Crucifix, I have arrived at an approach that attempts to sustain the future of the work and, on a broader scale, to encourage new discourse and scholarship in the field. I trust that my work will not engender the polite silence that surrounds Baldini and Casazza's restoration. Rather, I look forward to open critiques of my proposed approach, believing that these new dialogues will expand and enrich the field of art conservation.

Illustrations



Figure 1: Cimabue, *Santa Croce Crucifix* (before the flood of 1966), 1280s, tempera on panel. Museo dell'Opera di Santa Croce, Florence, Italy.

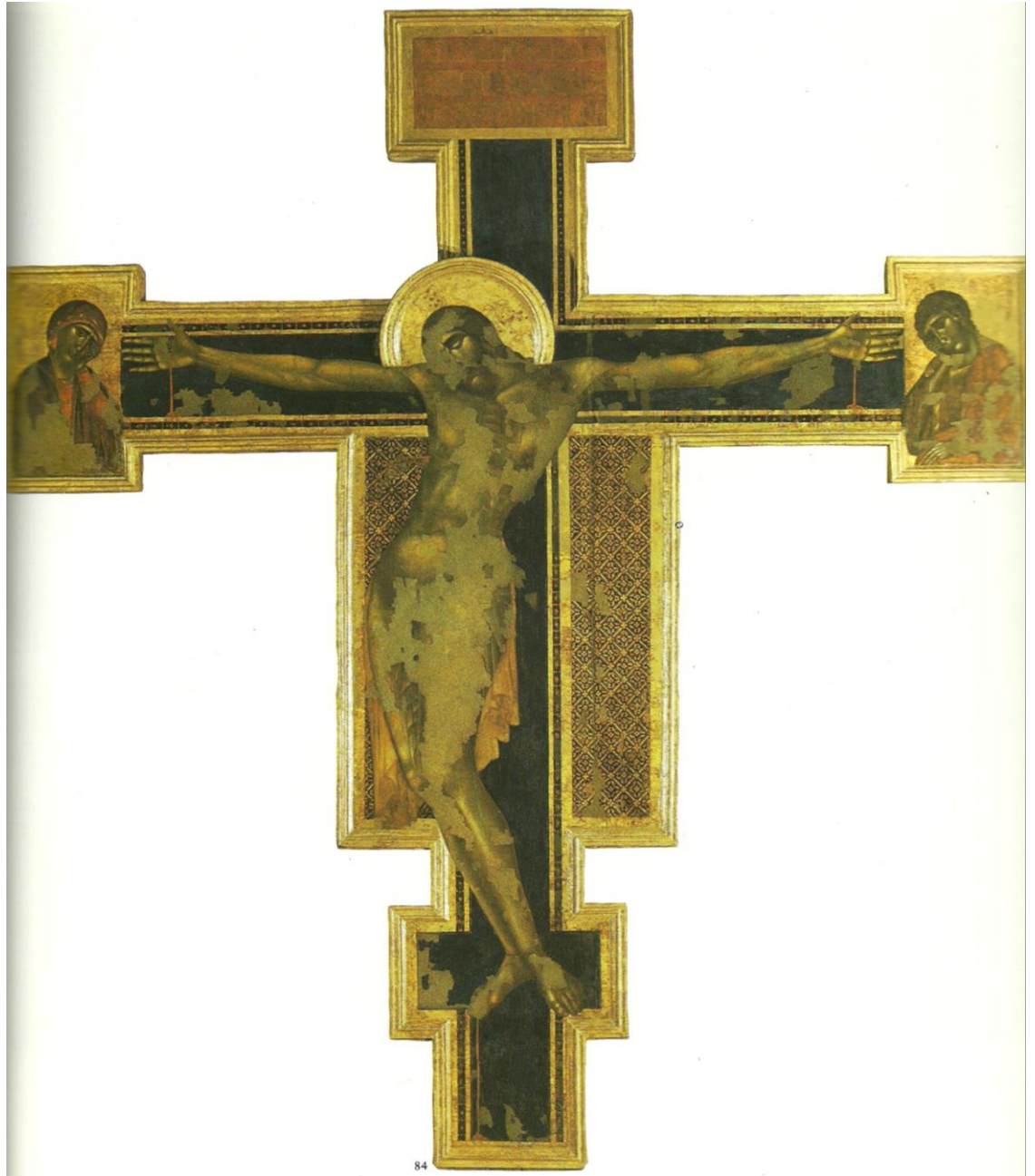


Figure 2: Cimabue, *Santa Croce Crucifix* (after restoration). Museo dell'Opera di Santa Croce, Florence, Italy.

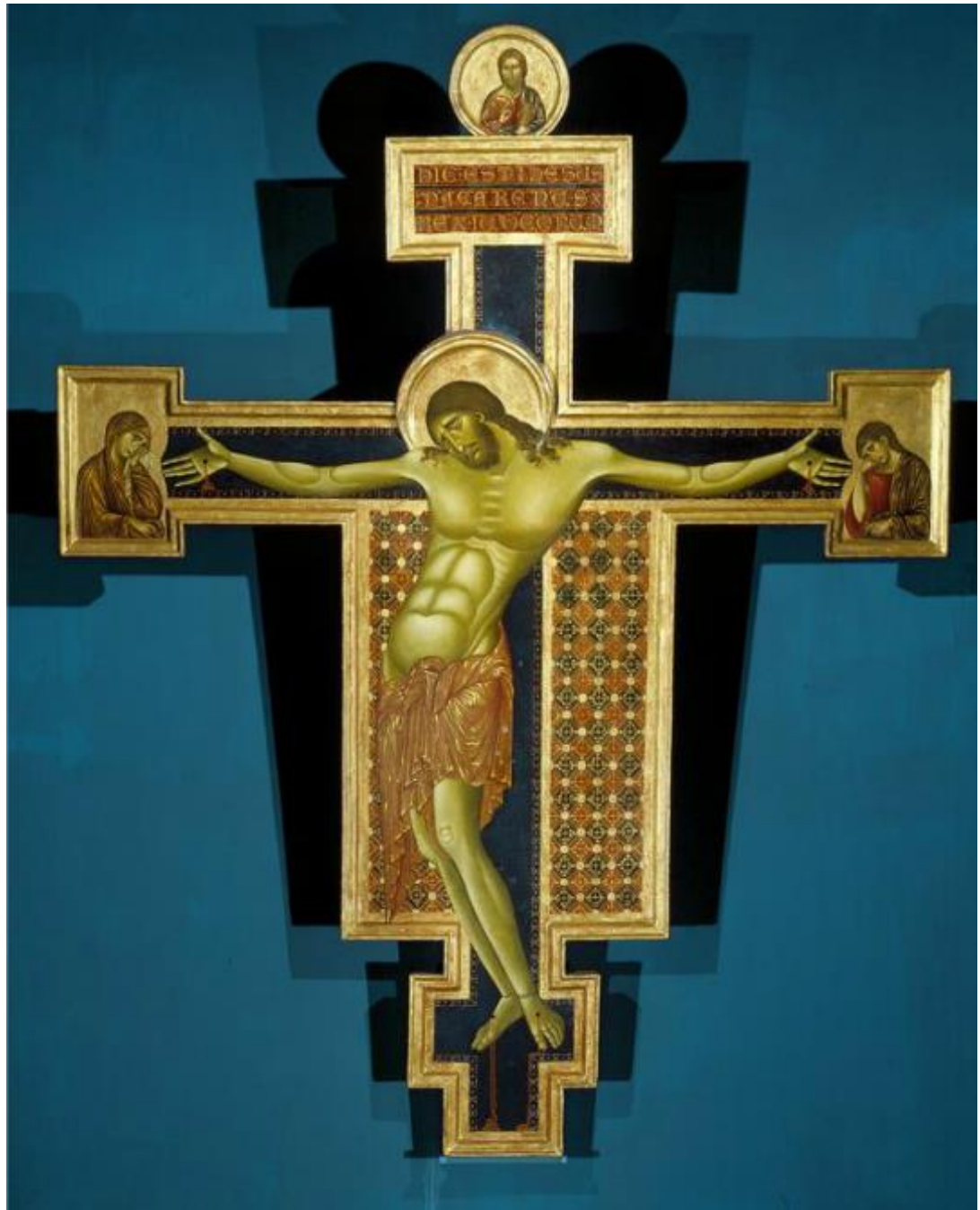


Figure 3: Cimabue, *Arezzo Crucifix*, c. 1270, tempera on panel. San Domenico, Arezzo, Italy.

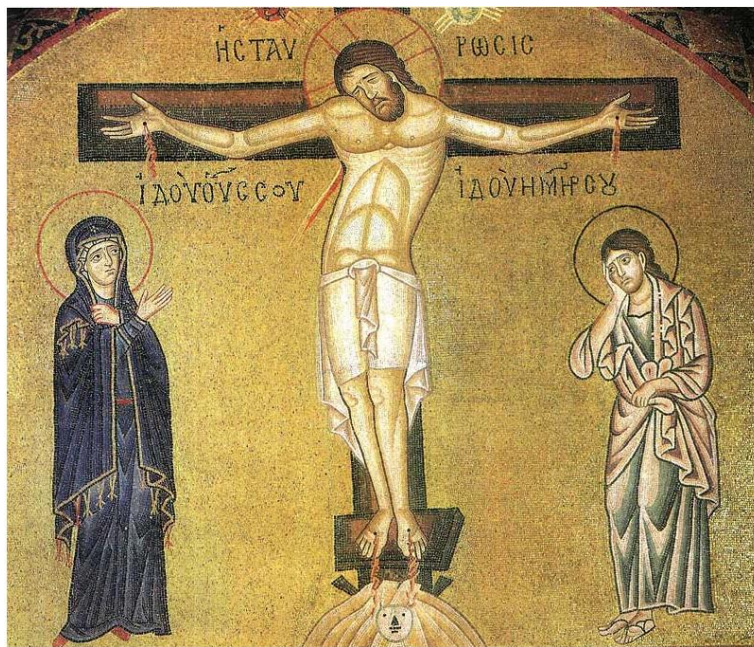


Figure 4: *Crucifixion of Christ Flanked by the Virgin and Saint John*, early eleventh century, mosaic. Narthex of the Hosios Lukas Monastery, Boeotia, Greece.

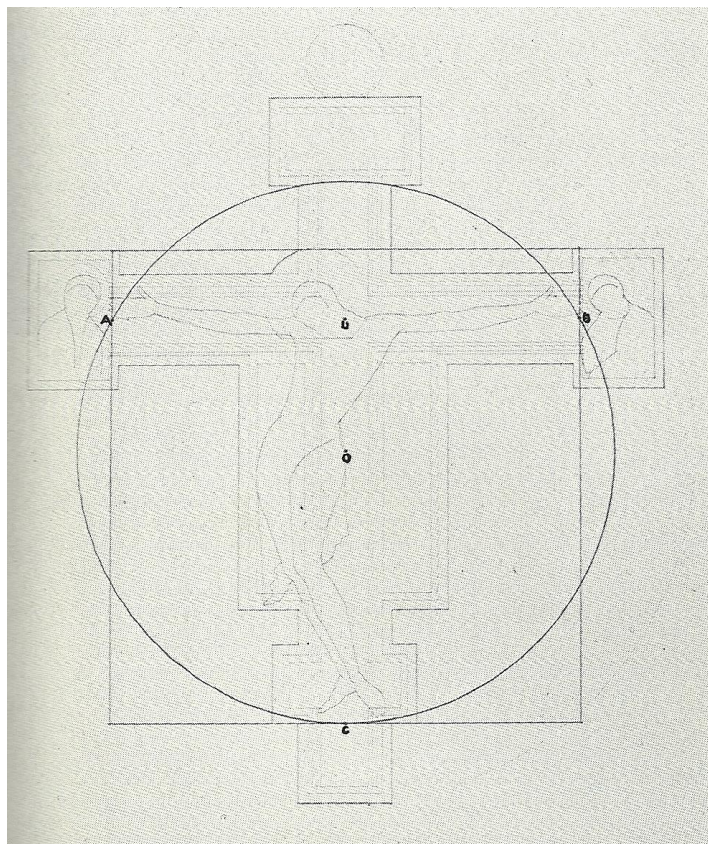


Figure 5: Proportional Scheme of Cimabue's *Santa Croce Crucifix*, illustration from Umberto Baldini and Ornella Casazza's *The Crucifix by Cimabue*, plate 8.

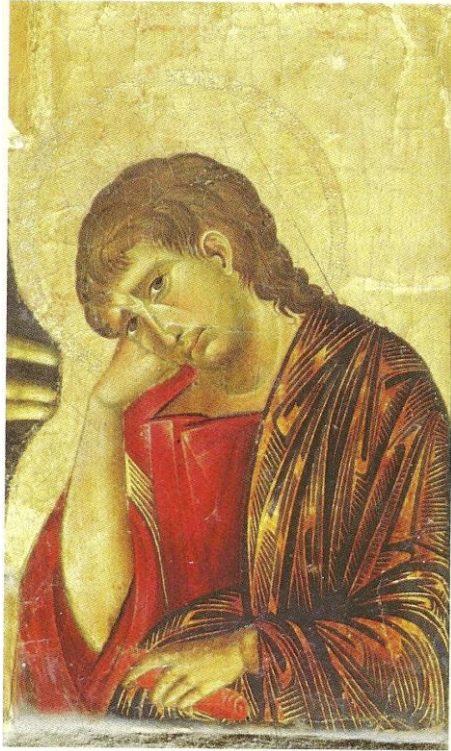


Figure 6: Detail of St. John from Figure 3.

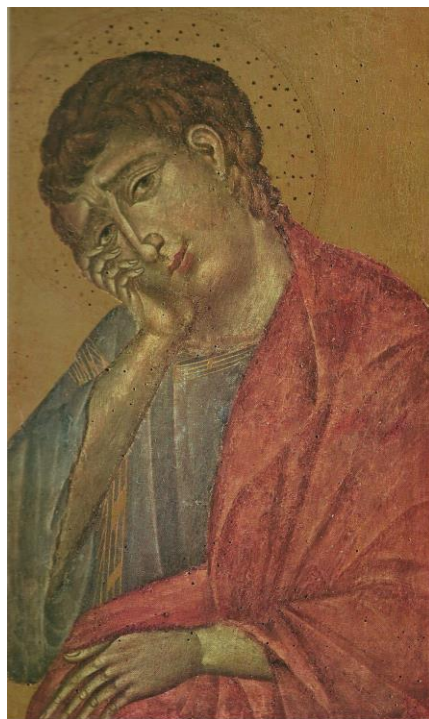


Figure 7: Detail of St. John from Figure 1.



Figure 8: Interior of the Refectory of Santa Croce after the flood, photograph from Baldini and Casazza's *The Crucifix by Cimabue*, plate 21.



Figure 9: Detail of the condition of the painted crucifix immediately after the flood, photograph from Baldini and Casazza's *The Crucifix by Cimabue*, plate 29.



Figure 10: Detail of St. John revealing the removal of sludge and oil from the painted surface, photograph from Baldini and Casazza's *The Crucifix by Cimabue*, plate 72.

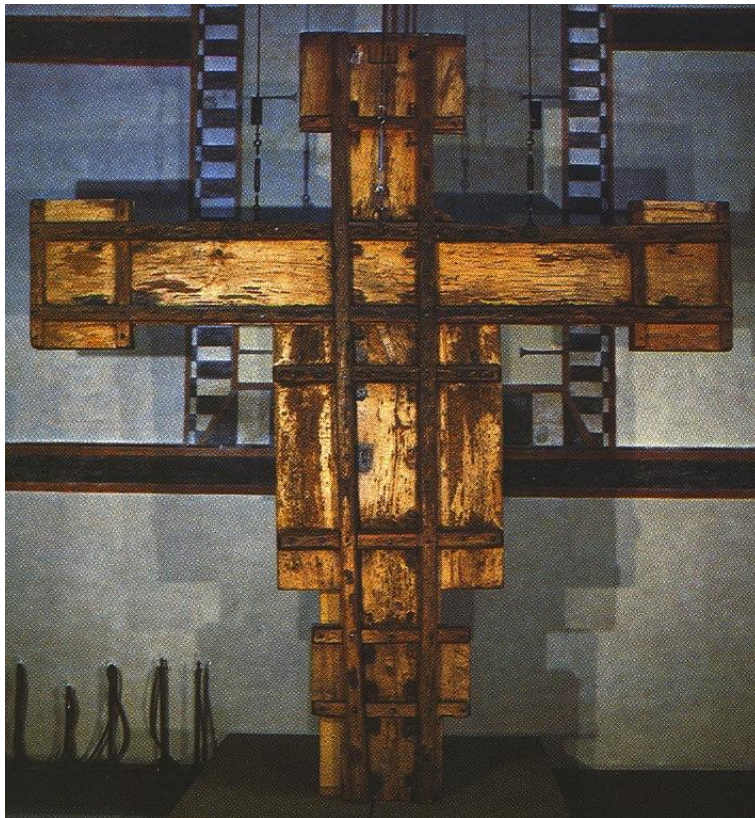


Figure 11: Backside of the work after completion of the structural restoration, photograph from Baldini and Casazza's *The Crucifix by Cimabue*, plate 60.

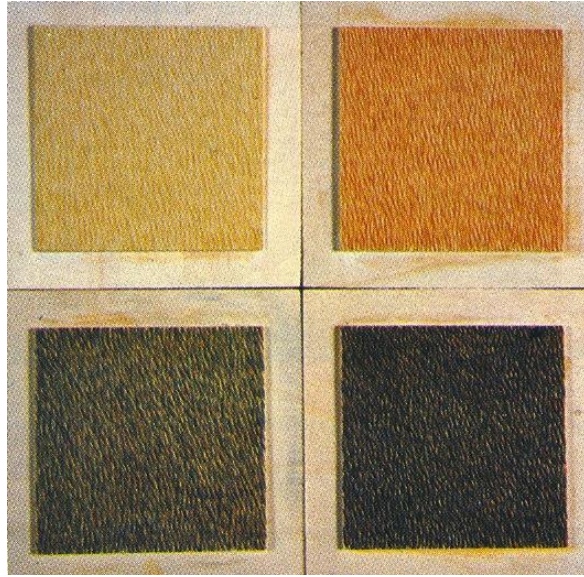


Figure 12: Progression of the hatching of colors—yellow, red, green, black—to achieve the color abstraction used in the pictorial restoration, detail from Baldini and Casazza's *The Crucifix by Cimabue*, plate 83.

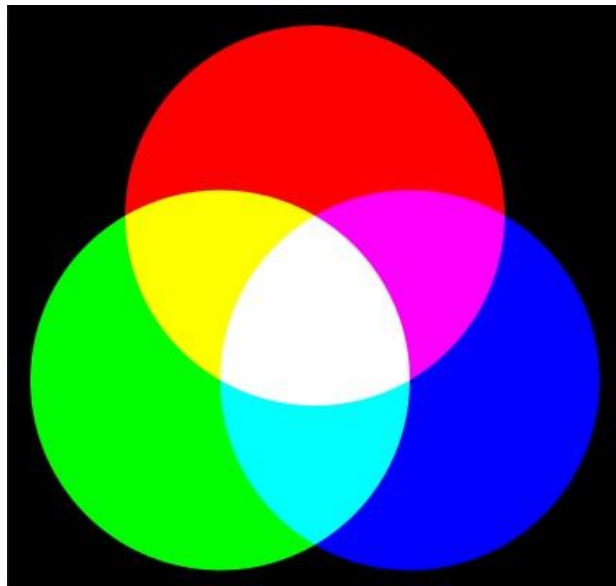


Figure 13: Color chart revealing the additive synthesis of light.



Figure 14: Jacopo di Cione, Niccolò di Tommaso, and Simone di Lapo, *Coronation of the Virgin* (before restoration), 1372-73. Galleria dell'Accademia, Florence, Italy.



Figure 15: Jacopo di Cione, Niccolò di Tommaso, and Simone di Lapo, *Coronation of the Virgin* (after restoration), 1372-73. Galleria dell'Accademia, Florence, Italy.



Figure 16: Detail, Figure 15.



Figure 17: Detail, Figure 15.



Figure 18: Guido da Siena and Dietisalvi di Speme, *Entombment*, second half of the thirteenth century. Pinacoteca Nazionale, Siena, Italy.



Figure 19: Detail, Figure 18.



Figure 20: Detail, Figure 18.



Figure 21: Gilio di Pietro, *Madonna and Child*, second half of the thirteenth century. Pinacoteca Nazionale, Siena, Italy.



Figure 22: Detail, Figure 21.

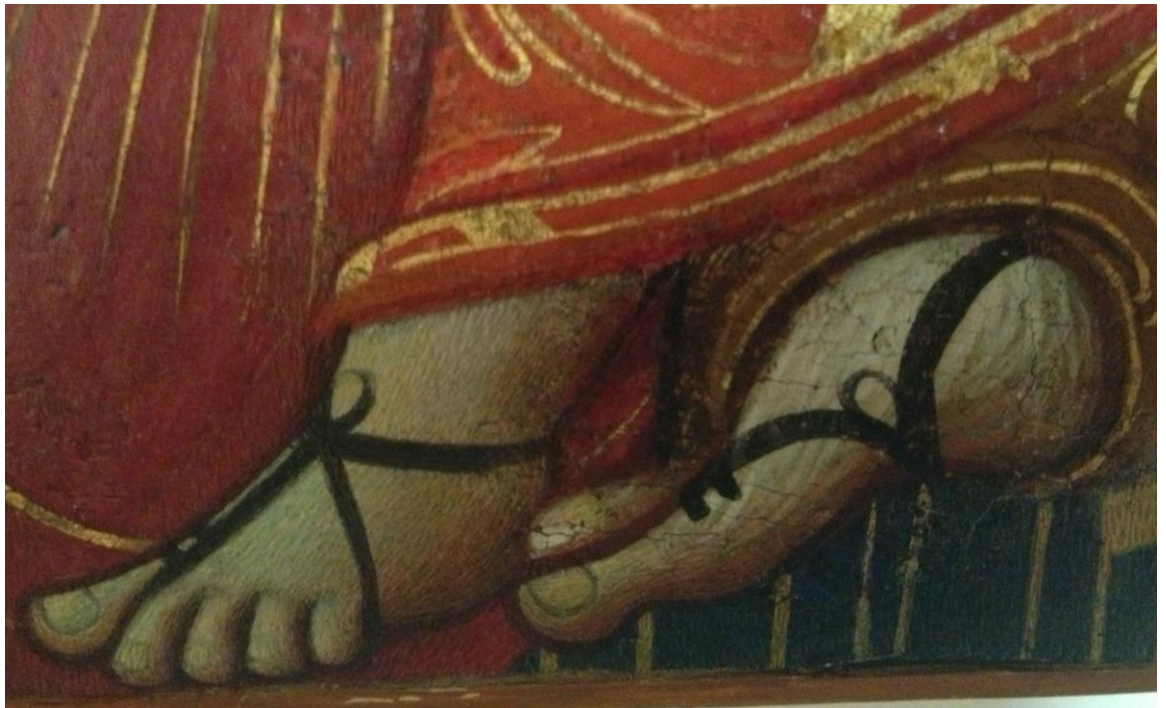


Figure 23: Detail, Figure 21.



Figure 24: Nardo di Cione, *Madonna and Child, St. Gregory and St. Job; Histories of St. Job's Life* (predella), second half of the fourteenth century. Museo dell'Opera di Santa Croce, Florence, Italy.



Figure 25: Detail, Figure 24.

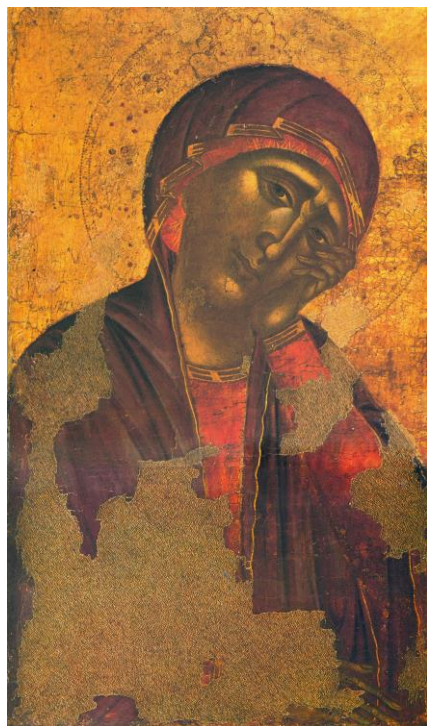


Figure 26: Detail of the Virgin Mary from Figure 2.

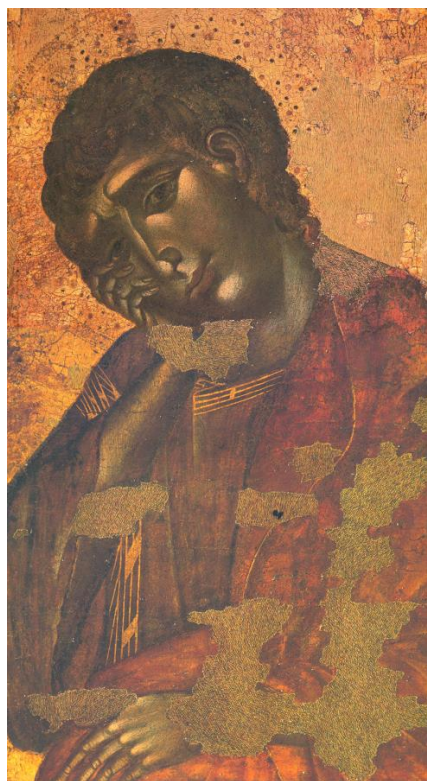


Figure 27: Detail of St. John the Evangelist from Figure 2.



Figure 28: Detail, Figure 2.

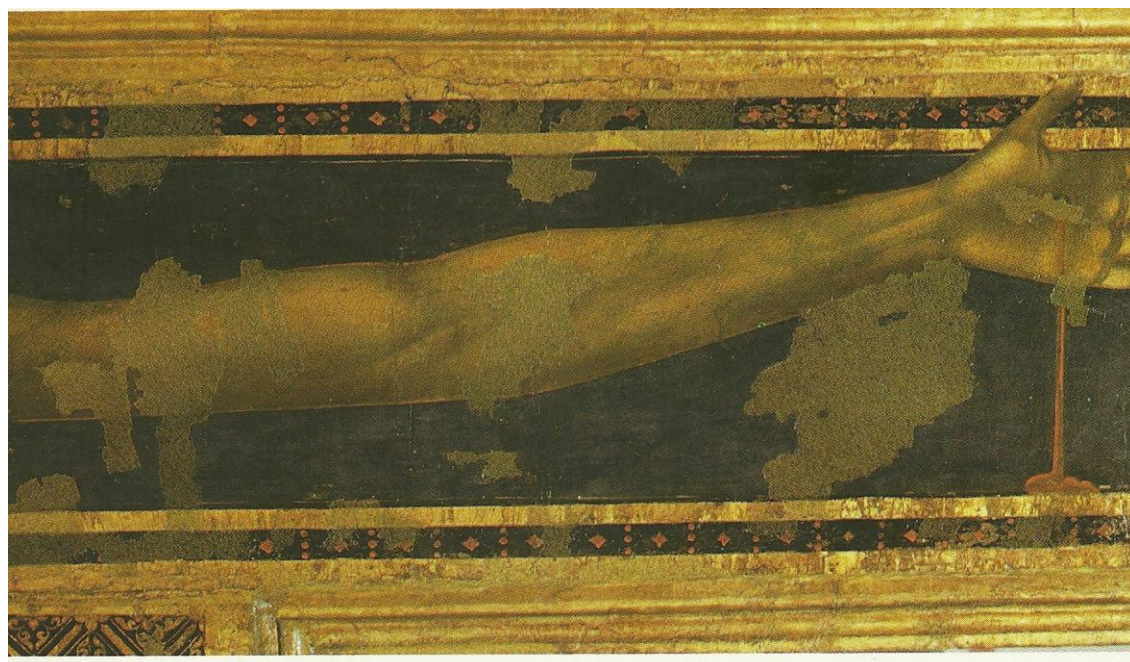


Figure 29: Detail, Figure 2.

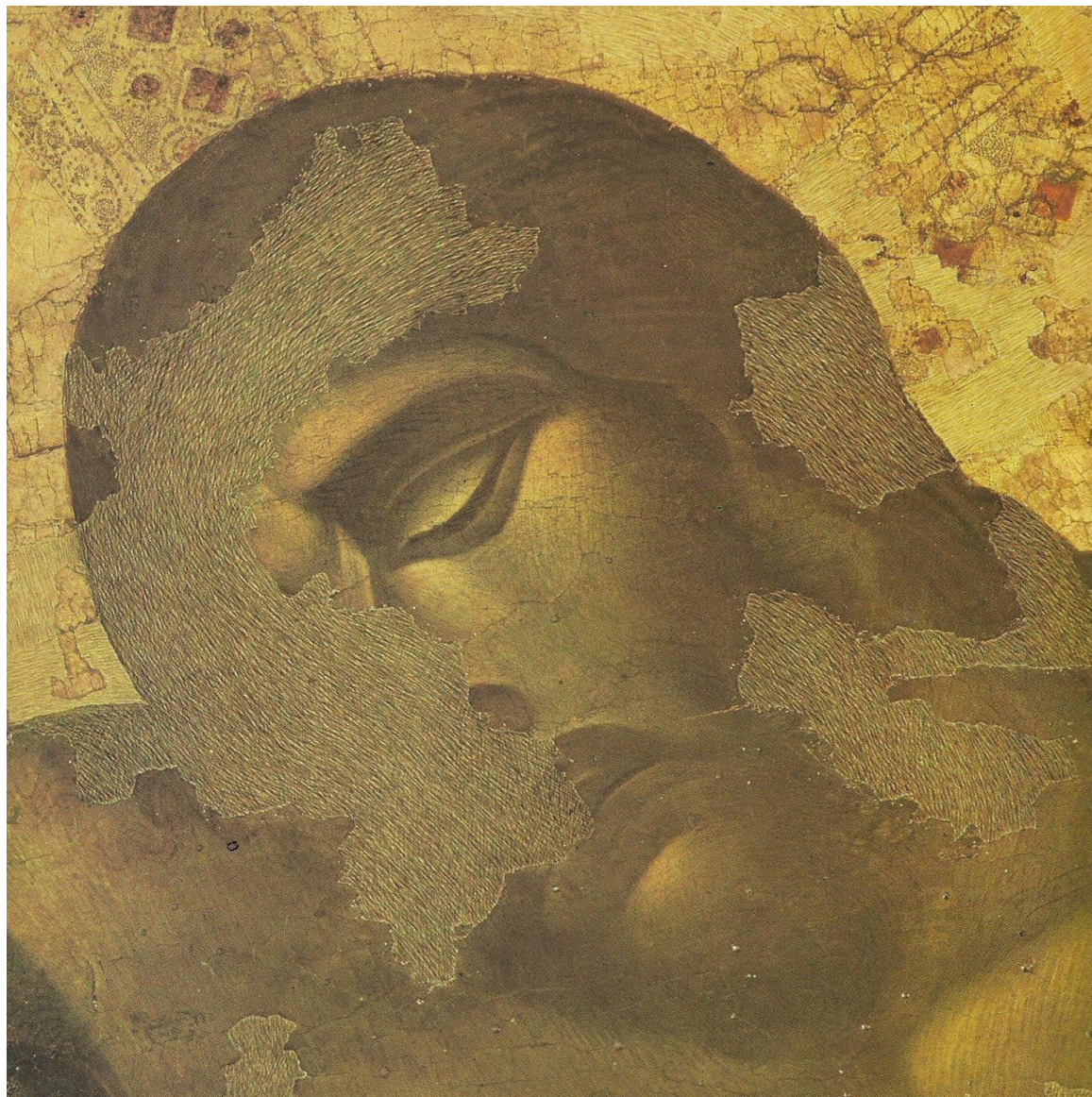


Figure 30: Detail, Figure 2.



Figure 31: Detail, Figure 2.

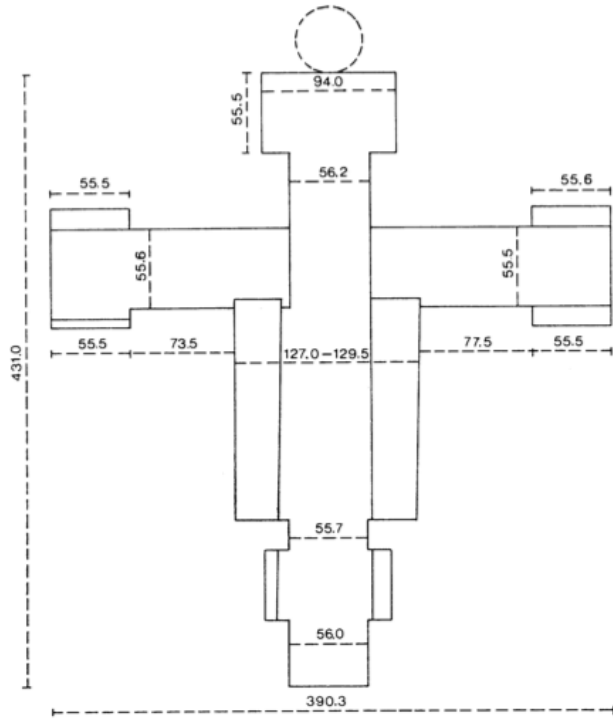


Figure 32: *Santa Croce Crucifix*, dimensions in centimeters.

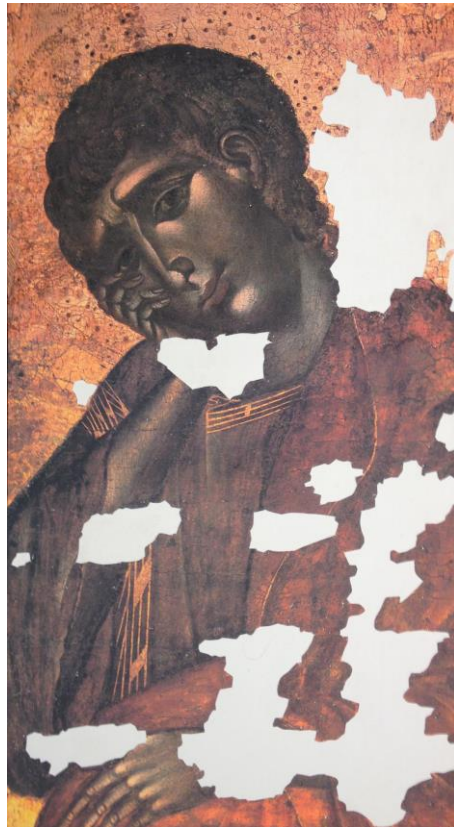


Figure 33: St. John after panel preparation.



Figure 34: Detail of St. John's robe from the practice panel.

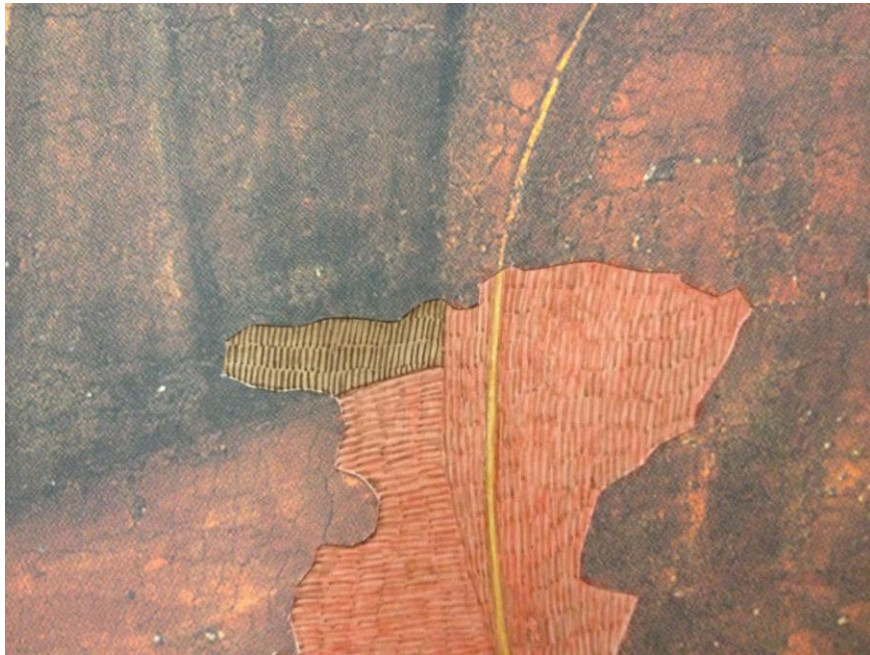


Figure 35: Detail of St. John's robe from the finished work.

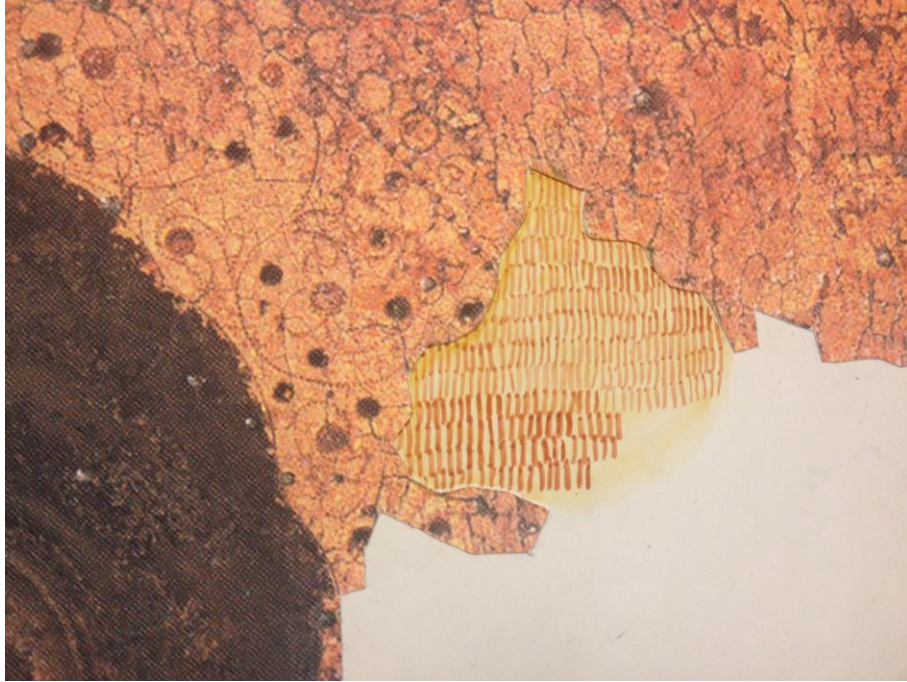


Figure 36: Detail of the gilded background from practice panel.



Figure 37: Detail of the gilded background from the finished work.

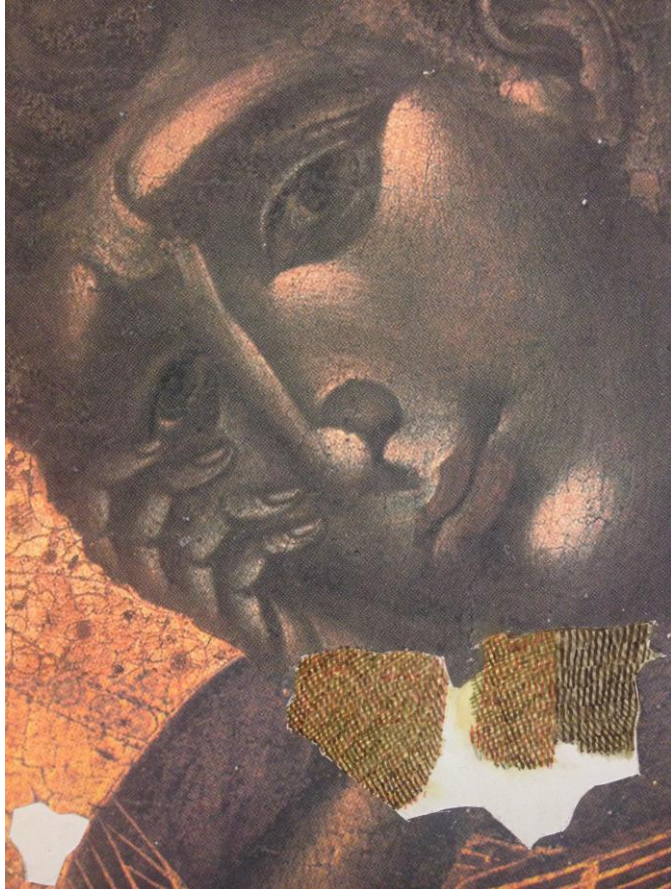


Figure 38: Detail of St. John from the practice panel.

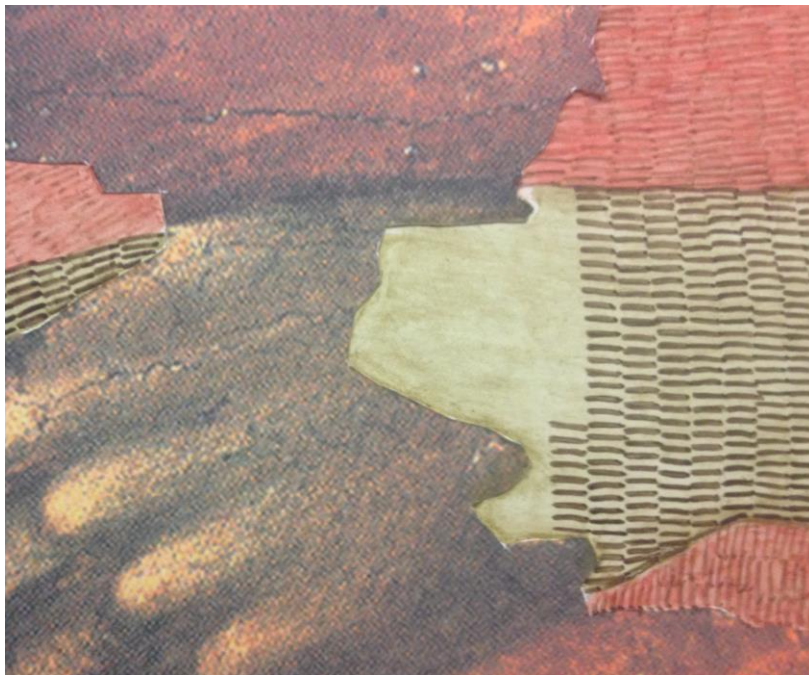


Figure 39: In-progress detail of St. John's flesh on the finished work.

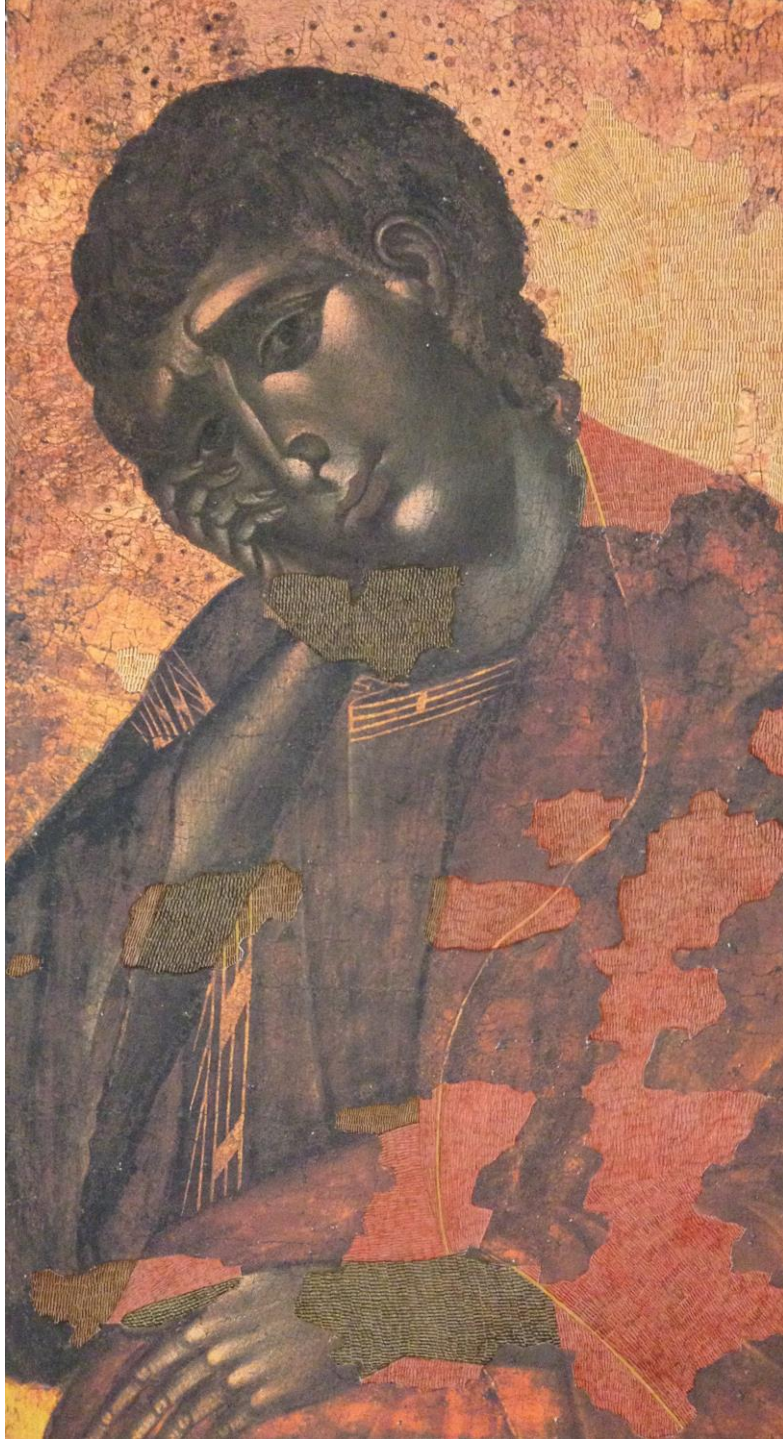


Figure 40: My new approach to the restoration of St. John from Cimabue's *Santa Croce Crucifix*, finished panel.



Figure 41: Side-by-side view of my finished panel of St. John (left) and the work as it appears today with color abstraction (right).



Figure 42: Detail of St. John's face from my finished panel (left) and the original in-painting by Baldini and Casazza (right).

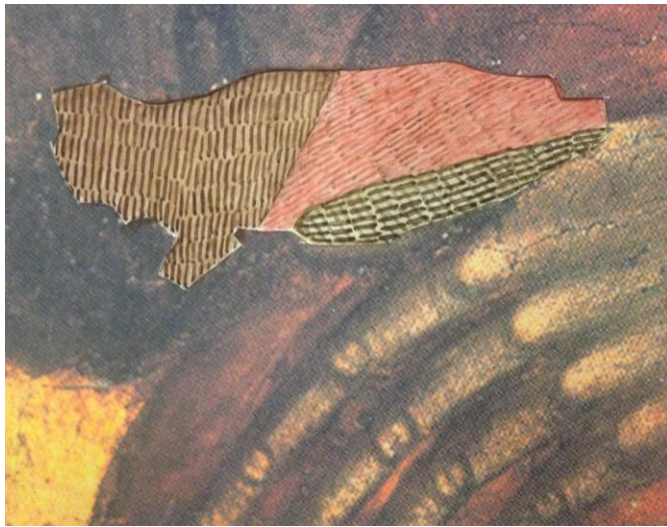


Figure 43: Detail of the color abstraction applied by Baldini and Casazza (top) juxtaposed with my own finished approach (bottom).

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