

MICHELANGELO *e*
THE POPE'S CEILING

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PENGUIN BOOKS

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PAINTING IN THE WET

ON THIS DAY, May 10, 1508, I Michelangelo, sculptor, have received on account from our Holy Lord Pope Julius II five-hundred papal ducats toward the painting of the ceiling of the papal Sistine Chapel, on which I am beginning work today."¹

By the time Michelangelo wrote this note to himself, roughly a month had passed since his return to Rome. During that time, a contract for the painting of the vault had been drawn up by the pope's friend and confidant, Cardinal Alidosi, who was continuing to serve as an intermediary between the temperamental Julius and his equally temperamental sculptor. He had been in close contact with Michelangelo regarding the bronze statue, exchanging a number of letters with him and then overseeing the installation of the finished project on the porch of San Petronio.² Satisfied with the results achieved in Bologna, the pope therefore left to his trusted cardinal the task of arranging many of the details for this new and much larger commission.

The contract written by Cardinal Alidosi, now lost, stated that the sculptor (as Michelangelo usually took pains to describe himself) would be paid a total of 3,000 ducats for his work on the ceiling, triple the amount he was paid for casting the bronze statue in Bologna. Three thousand ducats was a generous amount—double the sum that Domenico Ghirlandaio had been paid to fresco the Tornabuoni Chapel in Santa Maria Novella. It was also thirty times as much as a qualified artisan, such as a goldsmith, could expect to earn in a single year.* However, it was still a good

*Michelangelo had paid the troublesome Lapo d'Antonio eight ducats per month, or the equivalent of a salary of ninety-six ducats per year, for assisting him with the bronze statue in Bologna.

deal less than Michelangelo had been offered to sculpt the tomb. Furthermore, he would need to use these funds to pay for his brushes, pigments, and other materials, including the rope and wood to build a scaffold. He would also be required to fund a team of assistants and outfit his house in the Piazza Rusticucci to accommodate them. All of these overheads would, of course, eat swiftly into his payments. For instance, of the 1,000 ducats allotted for the bronze statue of Julius, he was left at the end, after paying out for his materials, assistants, and lodgings, with a paltry profit of exactly 4½ ducats.³ And whereas the bronze statue had required fourteen months of work, it was clear that frescoing the vault of the Sistine Chapel would take much longer.

Michelangelo did not actually start painting by the middle of May. The execution of a fresco, especially one comprising 12,000 square feet, took a great deal of planning and forethought before the first stroke of paint could be applied. The art of fresco enjoyed such esteem precisely because it was so famously difficult to master. Its myriad obstacles are reflected in the Italian expression *stare fresco*, meaning “to be in a fix or a mess.” Many artists besides Leonardo da Vinci (who failed so spectacularly with *The Battle of Anghiari*) had found themselves in a fix when confronted with a wall or vault to paint. Giorgio Vasari, himself an experienced frescoist, claimed that most painters could succeed in tempera and oil, but only a few triumphed at fresco. It was, he contended, “the most manly, most certain, most resolute and durable of all the other methods.”⁴ One of his contemporaries, Giovanni Paolo Lomazzo, likewise saw fresco as a distinctly masculine pursuit, insisting that tempera painting, in comparison to fresco, was the domain of “effeminate young men.”⁵

The technique of painting on wet plaster was already known in Crete in the second millennium B.C.E., and centuries later the Etruscans, and then the Romans, used it to decorate walls and tombs. But the art of fresco assumed a particular currency in central Italy from the last half of the thirteenth century, when towns and cities like Florence were gripped by a building boom the likes of which had not been seen since the days of the Roman emperors.

In Florence alone, at least nine major churches were built or begun in the second half of the thirteenth century. If in northern Europe (which had just undergone its own building spree) the new Gothic cathedrals were brilliantly decorated with tapestries and stained-glass windows, frescoes became the order of the day in Italy. The hills around Florence and Siena possessed in abundance the necessary ingredients: limestone, marble, and sand, as well as the clays and minerals needed to make pigments. And like the Sangiovese grape, used in making Chianti, frescoes were well suited to the dry, scorching Tuscan summers.

The particular technique of fresco employed throughout the Renaissance was similar to that used by both the Etruscans and the Romans, having evolved around 1270, not in Florence but in the Roman workshop of a painter named Pietro dei Cerroni, nicknamed Cavallini (Little Horses). Cavallini enjoyed a lengthy and celebrated career in both fresco and mosaic, living to the grand age of one hundred even though, it was said, he never covered his head in winter. His style and technique influenced the first great exponent of fresco during the Renaissance, a Florentine named Giovanni Cenni di Pepi, who was known unflatteringly as Cimabue (Ox-Head) because of his ugliness. Hailed by Giorgio Vasari as "the first cause of the renovation of the art of painting,"⁶ Cimabue won fame in Florence with frescoes and other paintings that decorated several of the new churches, including Santa Trinita and Santa Maria Novella. Then, in about 1280, he traveled to Assisi to execute his masterpieces, fresco cycles in both the upper and lower churches of San Francesco.⁺

Cimabue was assisted, and eventually eclipsed, by a young painter, the son of a peasant, whom legend states he first met on the road between Florence and the nearby village of Vespignano:

⁺Cavallini himself might have worked in the upper church of San Francesco, about whose frescoes there are numerous unresolved questions of attribution. Some art historians credit him with two of the church's frescoes - *Isaac Blessing Jacob* and *Isaac and Esau* - therefore making him the so-called Isaac master. Vasari claims that Cimabue painted these particular frescoes, while other art historians point to Giotto.

Giotto di Bondone. After Cimabue's death, Giotto painted further frescoes in San Francesco and even moved into his master's house and workshop in the Borgo Allegri (Joyful Road) so named because the people in the neighborhood had reacted with a near-hysterical exuberance when one of Cimabue's paintings was borne in procession from his studio to be shown to the visiting King Charles of Anjou. Giotto schooled numerous pupils in the techniques learned from Cimabue. One of the most talented of these pupils, Puccio Capanna, learned the hard way that fresco was an occupation fit only for those made of the sternest stuff. Vasari reported that his life was cut short after he fell ill "by reason of labouring too much in fresco."⁷

The technique of fresco was as simple in conception as it was difficult in execution. The term *fresco*, meaning "fresh," comes from the fact that the painter always worked on fresh—that is, wet—plaster. This called for both good preparation and precise timing. A layer of plaster, known as the *intonaco*, was troweled to a thickness of about a half inch over another coat of dried plaster. *Intonaco*, a smooth paste made from lime and sand, provided a permeable surface for the pigments, first absorbing them and then sealing them in the masonry as it dried.

The design of the painting was transferred to this patch of wet plaster from the cartoon. Fixed to the wall or vault with small nails, the cartoon served as a template for a particular figure or scene. Its design would be transferred by one of two methods. The first, called *spolvero*, involved perforating the lines of drawing on the cartoon with thousands of little holes through which a charcoal powder would be sprinkled, or "pounced," by striking the cartoon with the pounce bag and thereby leaving on the plaster an outline that was then reinforced in paint. The second, much quicker, method required the artist to trace over the chalk lines on the cartoon with the point of a stylus, leaving marks on the fresh plaster beneath. Only then would he set to work with his paints and brushes.

The science behind fresco painting involved a series of simple chemical combinations. The *intonaco* was, chemically speaking, calci-

um hydroxide. The first step in making calcium hydroxide was to heat limestone or marble in a kiln—the practice responsible for the loss of so many of Rome’s ancient monuments. The fire drove off the stone’s carbonic acid and turned it into a white powder known as quicklime (calcium oxide), which then turned into calcium hydroxide when soaked, or “slaked,” in water. For the Renaissance painter, calcium hydroxide was the magical ingredient behind the art of fresco. Once it had been mixed with sand and applied to the wall, the series of chemical transformations gradually reversed themselves. First the water evaporated from the mixture; then the calcium oxide reacted with carbon dioxide in the atmosphere to form calcium carbonate, the main component of limestone and marble. Thus, in a short space of time the smooth paste spread across the wall by the plasterer’s float had turned back into stone, locking the colors in crystals of calcium carbonate. A frescoist therefore did not need to dilute his pigments with anything other than water. The various binding agents used in tempera painting—egg yolk, glue, gum tragacanth, and even sometimes earwax—were unnecessary for the simple reason that the pigments were set in the *intonaco*.

Ingenious the technique may have been, but the potential for disaster dogged the painter’s every step. One major problem concerned the time available to paint the *intonaco*, which stayed wet, depending on the weather, for no more than twelve to twenty-four hours. Since after this period the plaster no longer absorbed the pigments, it was laid down only in an area that the frescoist could complete in a single day, known as a *giornata* (day’s work). The large surface of a wall or vault would therefore be divided into anything from a dozen to several hundred of these *giornate*, all varying widely in size and shape. Ghirlandaio, for example, divided the huge surface of the Tornabuoni Chapel into 250 of these units, meaning that a typical day saw him and his apprentices paint an area roughly four feet by five feet—the dimensions of a good-size canvas.

The frescoist was therefore forced to work against the clock to complete each *giornata* before the plaster hardened, a fact that made working in fresco radically different from painting on canvas or

panel, which, since they could be retouched, tolerated even the most lax and procrastinating artist. Titian, for example, tinkered endlessly with his canvases, making changes and corrections throughout his life, sometimes adding as many as forty separate coats of paint and glaze, the final layers of which he then smeared with his fingertips so the picture looked impulsive.

Michelangelo would have no such luxuries of time and retrospection in the Sistine Chapel. To speed their work, a number of frescoists adopted the habit of working with a brush in each hand, one charged with dark paint, the other with light. The quickest brushes in Italy supposedly belonged to Amico Aspertini, who began frescoing a chapel in the church of San Frediano in Lucca in 1507. The eccentric Aspertini painted with both hands at once, his pots of paint swinging from a belt at his waist. "He looked like the devil of San Maccario with all those flasks of his," chortled Vasari, "and when he worked with his spectacles on his nose, he would have made the very stones laugh."⁸

Nevertheless, it would take the speedy Aspertini more than two years to paint the walls of the chapel in San Frediano, which were considerably smaller than the vault of the Sistine Chapel. And Domenico Ghirlandaio, despite his large workshop, had spent almost five years on his frescoes in the Tornabuoni Chapel. As this chapel also had a smaller surface area than the Sistine Chapel, Michelangelo would have realized that his new commission could take many years to complete.



One of the first tasks facing Michelangelo was the removal of the plaster on which Piermatteo d'Amelia's damaged fresco had been painted. It was sometimes possible to paint one fresco over the top of another through a technique known as *martellinatura*, in which the surface of the old fresco was roughened with the pointed end of a

martello, or hammer, so that the plaster for the new fresco would adhere to that of the old, over which it was then painted. But this was not the method adopted with Piermatteo's fresco. The whole of his starry sky was to come crashing down to Earth.

Once Piermatteo's old fresco had been chiseled from the vault, an undercoat of fresh plaster, called the *arriccio*, would be spread over the entire ceiling to a thickness of roughly three-quarters of an inch, filling various gaps and irregularities such as the joints between the masonry blocks and creating a smooth surface over which, when the time finally came to paint, the *intonaco* could be spread. The process entailed both removing tons of old plaster from the chapel and carrying into it hundreds of bags of sand and lime to mix the *arriccio*.

The major task of hacking Piermatteo's fresco from the masonry and laying the *arriccio* for the new one was given by Michelangelo to a fellow Florentine, Piero Rosselli, the man who had defended him against the slurs of Bramante. A sculptor and architect in his own right, the thirty-four-year-old Rosselli was well qualified for the job. He was also a close friend of Michelangelo's, addressing him in his letters as *charísimo fratello*, or "dearest brother."⁹ Michelangelo paid him eighty-five ducats for his work, which kept him and his team of plasterers busy for at least three months, until the end of July.

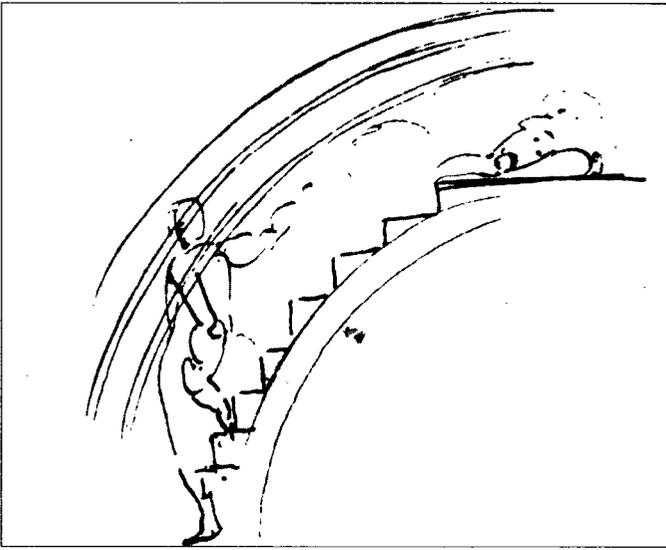
The destruction of Piermatteo's starry Heaven required an elevated platform that would allow Rosselli's men to work their way as quickly as possible from one end of the chapel to the other. This scaffold needed to span a width of forty-four feet and rise some sixty more above the floor, not to mention proceed down a chapel 130 feet in length. Michelangelo and his team would need a similar sort of staging if their paintbrushes were to reach every inch of the vault's surface. What worked for the plasterers would clearly work for the painters, and so it was logical for Michelangelo and his assistants to inherit Rosselli's scaffold. But first this structure needed to be designed and built. A good deal of the eighty-five ducats paid to Rosselli was therefore spent on timber.

Frescoes always called for staging of some sort. The usual solu-

tion, especially for walls, was to devise the kind of ground-supported wooden scaffold used by masons, complete with ladders, ramps, and platforms. Wooden structures of this type must have been built in the bays between the windows of the Sistine Chapel when Perugino, Ghirlandaio, and the others painted their frescoes on the walls. The ceiling of the Sistine Chapel presented much more of a problem. The scaffold would have to rise to a height of around sixty feet, yet somehow leave the aisles clear for the priests and pilgrims as they observed ceremonies beneath. For this reason alone, a ground-based scaffold—one whose supports would unavoidably block the aisles—was unworkable.

Assorted other practicalities also demanded attention. Any scaffold would have to be both robust and spacious enough to accommodate the teams of assistants and their equipment, including buckets of water, heavy bags of sand and lime, and the large cartoons that had to be unrolled and then transferred to the ceiling. Safety was an issue as well. The dizzy heights of the chapel meant that anyone who ascended the scaffold faced a serious occupational hazard. Fresco painting occasionally produced casualties, such as the fourteenth-century painter Barna da Siena, who was said to have fallen almost one hundred feet to his death while frescoing *The Life of Christ* in the Collegiata in San Gimignano.

The scaffolding of the Sistine Chapel clearly called for the talents of no ordinary *pontarolo*, as the scaffold maker was known. Piero Rosselli was equipped for the job, having made his name as an engineer as well as a sculptor and architect. Ten years earlier he had devised a system of pulleys and cranes to recover from the Arno a sunken block of marble that had been promised to Michelangelo. However, in the first instance the pope brought in Donato Bramante. If this development displeased Michelangelo, ushering into the project the unwelcome presence of his supposed enemy, ultimately he turned it to his advantage by humiliating Bramante when the architect failed to find a viable solution. Bramante had hit on the unusual idea of suspending wooden platforms from ropes anchored in the vault, which therefore needed to



Michelangelo's diagrammatic sketch for the scaffolding

be pierced with a series of holes. This plan may have addressed the problem of keeping the scaffolding clear of the floor, but it left Michelangelo with the greater predicament of how to fill in the unsightly holes once the ropes were removed. Bramante dismissed the problem, saying that "he would think of that afterwards, and that it could not be done otherwise."¹⁰

For Michelangelo, this improbable scheme was merely the latest example of the architect's bungling. After protesting to Julius that Bramante's plan could not work, Michelangelo was told by the pope to build the scaffold however he saw fit. And so, in the midst of his various other preparations, Michelangelo found himself tackling the problem of the scaffold's design.

Though Michelangelo possessed far less experience as an engineer and builder than Bramante, he did have aspirations in this area. Not least of these was his proposal, hatched in the dark days of 1506, to build the huge bridge across the Bosphorus. Spanning the Sistine Chapel, by comparison, surely seemed a small matter. Fittingly, his design for the scaffold ultimately produced a sort of bridge, or rather a series of footbridges that spanned the chapel from the level of the windows.¹¹ Holes were drilled some fifteen inches deep into the masonry immediately over the uppermost

cornice, a few feet above the heads of the thirty-two frescoed popes. These holes were used to anchor short wooden brackets, rows of cantilevers known in the building trade as *sorgozzoni* (literally, “blows to the throat”). The brackets supported a number of stepped arches, built to the same profile as the ceiling, that served as linked bridges across the void, giving the painters and plasterers decks on which to work as well as access to every part of the ceiling. The scaffold extended only half the length of the chapel, or across the first three bays between the windows. Thus, when Rosselli’s men finished with the first half of the chapel they were required to dismantle the arches and construct them anew in the second—a process that Michelangelo would have to repeat when he came to paint.

A simple but resourceful solution to the problem, this scaffold also proved a more economical structure than Bramante’s. Condivi claims that, once the scaffold had been erected, Michelangelo found himself with a surplus of rope, not having required the enormous lengths purchased for Bramante’s suspended platforms. He therefore donated the superfluous material to the “poor carpenter” who had helped build the scaffolding.¹² The carpenter then promptly sold the rope and used the money as dowries for two of his daughters, thereby providing a fairy-tale ending to the legend of how Michelangelo trumped Bramante.



Since Michelangelo’s ingenious scaffold left the floor clear, it was business as usual in the Sistine Chapel during the summer of 1508, with Rosselli and his men hacking out the old plaster and spreading the new while religious ceremonies were celebrated below. Predictably, problems arose with this arrangement. Barely a month into the job, Rosselli’s workmen were chastised for their disruptive labors by Paride de’ Grassi, the new *magister caerimoni-*

arum (papal master of ceremonies). De' Grassi, a nobleman from Bologna, was a ubiquitous figure in the Sistine Chapel. He was the man in charge of preparing it for Mass and other ceremonies, making sure there were candlesticks on the altar, for example, and charcoal and incense in the thurible. He also supervised the officiating priests, watching to see that they consecrated and then elevated the Host in the accepted fashion.

Querulous and impatient, de' Grassi was a stickler for detail. He would complain if either the hair or the sermon of a priest was too long, or if a worshiper was sitting in the wrong place or a common problem—making too much noise. No one escaped his ruthless eye for detail, not even the pope, many of whose antics exasperated him, though the master of ceremonies was usually wise enough to keep his annoyances private.

On the evening of the tenth of June, de' Grassi ascended from his office below the chapel to discover that it was impossible to chant vespers for the vigil of the Pentecost on account of the dust stirred up by the workmen. "On the upper cornices," he wrote angrily in his diary, "construction was going on with the greatest dust, and when so ordered the workmen did not cease, about which the cardinals complained loudly. I myself argued with several workmen, and they did not cease. I went to the pope, who was almost disturbed with me because I did not warn them twice, and made a defense for the work. The pope then sent in succession two of his chamberlains, who ordered the work to stop, which was barely done."¹³

Piero Rosselli and his men must have been working very long hours if they managed to disturb vespers, which was always chanted at sunset. In the middle of June the sun would not have set before nine o'clock. And if Julius defended the plasterers, as de' Grassi resentfully observed, then he must have approved of such tactics—which may explain why Rosselli's men dared stand up to the cardinals and the master of ceremonies.

Time would certainly have been of the essence. The *arriccio* needed to dry completely before the *intonaco* could be laid, not least because the rotten-egg smell of wet *arriccio* was considered bad for

a painter's health, especially in a confined space. A period as long as several months, depending on the weather, therefore had to elapse between the laying of the *arriccio* and the start of work on the fresco itself. Rosselli was probably trying—at the behest of both Michelangelo and the pope—to apply the *arriccio* as swiftly as possible so that it might have the hot summer months in which to dry. Furthermore, Michelangelo would also have wanted to begin work, if possible, before winter. Painting was virtually impossible in the frigid temperatures brought to Italy by a winter wind, the *tramontana*, which blew south from the Alps. If the *intonaco* was too cold, or if it froze, the colors did not absorb properly and so flaked off.

If Rosselli did not have the vault ready for painting by October or November, Michelangelo's work would have had to wait until February. Impatient and anxious for results, the pope would not have looked favorably on such a delay. Thus, during the summer of 1508 Rosselli and his team worked well into the evenings, the din of their hammers and chisels drowning out the chanting of the choir a few yards below.