

Chapter 2

THE COLORS OF MONOCHROME SCULPTURE

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The analogy between color and enlivenment has a long prehistory, and it became a popular motif in creation narratives in the early modern period. In the preface to his *Lives*, Giorgio Vasari tells us that God shaped the first humans from earth because he wanted to demonstrate his mastery in the most imperfect material; he then imbued his raw creation with “the most lively color of flesh” (“colore vivacissimo di carne”).¹ Anton Francesco Doni summarizes the story in a telling sequence: “Adam was created and made flesh with varied colors” (“fu fatto Adamo e incarnato con quei variati colori”).² Francisco de Holanda calls man God’s “animated painting.”³ Part of this creation is, of course, sculptural in nature, but the “liveliness of the eyes, the tone of the skin, the redness of hair [!], and the animation are effects of the power of colors.”⁴ Also in the sixteenth century, Paolo Pino based his hierarchical ordering of painting and sculpture on the identification of color with life, which explains the higher rank of painting.⁵ Enlivenment is *the* decisive criterion of the boundaries that arose, along lines of color, between early modern sculpture and painting. In the later fourteenth and early fifteenth century, oil techniques, first experimentally developed in the north for polychroming sculptures, especially for flesh tones, were gradually withdrawn from statues and reserved for the production of living bodies in painting. As Ann-Sophie Lehmann puts it, “it was as if oil painting was pried from sculpture, in order to awaken life in panel painting.”⁶

Around 1490, Leonardo da Vinci categorically excluded color from sculpture, arguing that sculpture did not have as much intellectual complexity as painting – it required “meno discorso” – because it did not possess “any color” (“del colore

nulla").⁷ Soon after this, Pomponius Gauricus, in his 1504 treatise on sculpture, omitted color except for a brief mention in the context of his discussion of physiognomic complexion and bronze alloys (to which I will return).⁸ Nearly fifty years later, Vasari, in his elaborate introductions to the various arts, says nothing about polychrome marble or metal sculpture. Instead, he describes the German artist Veit Stoss's unpainted wood sculpture of San Rocco as an exceptional work, particularly in its *carnosità* (fleshiness), the central quality of the *terza maniera* that is usually lacking in works from the fifteenth century like Stoss's. Implicitly, for Vasari, wood sculpture longs for the vivifying layers of polychromy.⁹ In Benedetto Varchi's questionnaire published in 1549, the relation between sculpture and polychromy has also been cut;¹⁰ and Vincenzo Borghini calls a sculptor who adds colors to his statues a *goffo*, a clumsy artist without refinement.¹¹

Elsewhere I have argued that early modern monochrome sculpture had been invented by painters (with Giotto as the most important precursor), not only to ensure that the statues represented in their painted narratives would not be confused with living persons, but also in order to surpass sculptors with impossibly subtle, hovering, or moving painted sculptures.¹² In this situation, it is impressive to see how sculpture took on the challenge and managed to turn the tables. In other words, starting around 1300, Italian sculptors accepted the constraint imposed on them by the painters and transformed a handicap into a triumph – revealing themselves, in the process, as the true *magistri lapidum viventium*. This goes far beyond the reverence for antiquity, whose polychrome sculptures had lost their colors over time.¹³ Nor do other motivations for working in monochrome, such as easing suspicions of idolatry, the greater durability of unpainted surfaces, or the criterion of material truth (as opposed to the deceptive makeup of color), fully capture what was at stake here;

although, to be sure, there is proof for all these arguments in contemporary sources, as I will discuss later.¹⁴

The separation of color and sculpture in central and northern Italian Renaissance art was a complicated process with fascinating transitions and formal experiments. Mono-, bi-, and polychrome surfaces coexisted already in ivory and alabaster statuettes of the thirteenth and fourteenth centuries. The reliefs of Nicola Pisano's pulpits showed an intensely dark-blue ground behind the mono- or di-chromatic marble figures.¹⁵ On Arnolfo di Cambio's tomb monument for Cardinal de Bray, at the church of San Domenico in Orvieto, only minor traces of green color on the textiles and the dark pupils of the acolytes have been verified; except for this, the tomb must have appeared, in its original state, largely monochrome.¹⁶ Toward the end of the fifteenth century, the breakthrough of monochrome stone, bronze, limewood, and oak sculpture was largely a question of scale.¹⁷ It became increasingly common, especially for smaller objects, to leave surfaces, especially of more precious materials, relatively untouched by color. Criticizing the female obsession with makeup in his *Libri della famiglia* (1433–40), Leon Battista Alberti has a speaker in the book's dialogue explicitly refer to sculpture. According to the aged Giannozzo, a silver statuette with hands of ivory would lose its value after the deliberate "taking away and adding" of colors.¹⁸

As Roberto Manni and others have argued, at about the same time, in 1434, Donatello apparently transformed the gray sandstone *Cavalcanti Annunciation* (Santa Croce, Florence) into a fictitious white marble monument by whitewashing its surfaces, which were accentuated by subtle gilding.¹⁹ Especially in his infinitely subtle *rilievi schiacciati*, Donatello largely renounced color (e.g., Fig. 85). His sculptural treatment of eyes gives us another clue concerning his inclinations toward monochromy. In his *St. George* (1415–17; Fig. 43), but also in the later bronze heads of his



Figure 43 Donatello, *St. George* (detail), 1415–17, marble, Museo Nazionale del Bargello, Florence. Photo: Gabinetto Fotografico delle Gallerie degli Uffizi, Florence



Figure 44 Luca della Robbia, *Madonna with Child* (*Madonna della Mela*), ca. 1442–60, glazed terracotta, Museo Nazionale del Bargello, Florence. Photo: Gabinetto Fotografico delle Gallerie degli Uffizi, Florence

Cantoria (ca. 1439), Donatello chiseled out the smooth surface of the eye in order to create the optical illusion of a dark pupil.²⁰ Long after Donatello's advance, the addition of pigments in order to indicate a gaze remained a last line of defense for polychromy, as one can see, for instance, in the radiant white, glazed terracotta reliefs of the Della Robbia workshop, otherwise important predecessors of monochrome marble sculpture (Fig. 44).²¹

As already mentioned, several reasons provide the background for the rise of monochrome sculpture between the fourteenth and the early sixteenth centuries: first, the revival of antiquity, especially after the discovery of famous Hellenistic life-size statues, beginning in the late Quattrocento, in and around Rome; and, second, the traditional fear of idolatry. Ever since St. Epiphanius, in the fourth century CE,

polychromy featured as the main trigger for the worshipping of statues.²² Third, another argument, popular in the sixteenth century, juxtaposed the "truth" of sculpture to the "deceit" of applied colors; Benvenuto Cellini ridicules polychromed sculpture consistently as a "deception of farmers" (*"una inganna contadini"*).²³ And fourth, the durability of hard materials provided a striking argument against the "weak nature" (*"debile natura"*) of colors, as Anton Francesco Doni put it, especially on statues displayed outdoors.²⁴

But there is a fifth reason for the rise of monochrome marble and bronze sculpture: the particular *difficoltà* of representing life in the unpainted materials of sculpture. Monochromy had to face a particularly complex, although appealing, artistic challenge, namely the representation of the living without the aid of colors. For this challenge, the paradigmatic role of Dante's *Commedia* cannot be overestimated. The marble reliefs witnessed by Dante at the foot of Mount Purgatory, fashioned by God, are monochrome (*"from dazzling white marble"*); at the same time, they demonstrate the unsurpassed capacity of God, in his role as sculptor, to make living bodies appear alive and the dead completely dead.²⁵

Monochromy, therefore, does not necessarily forfeit the right to evoke living bodies. An old topos of praise in the discourse on love offers a basis for sculptural border crossings, namely the metonymies between alabaster, ivory, marble, and skin. In one of his epigrams, the ancient Roman poet Martial refers to a statue of Julia, the deified niece of Emperor Domitian, thus: "Who did not believe that you, Julia, had been shaped by the chisel of Phidias, or that you were born from the art of Pallas Athena herself? The white Lydian marble seems to answer in the speaking portrait, and a living splendor shines on your serene face."²⁶ Martial begins by saying Julia is as beautiful as a marble statue and ends by addressing a statue as Julia. Elsewhere, the

discourse on love draws close connections between the radiance, purity, and inaccessibility of women, and that of stone. By metonymy, the *coloris candidi* of white marble could also stand for the purity of the Christian soul.²⁷

Indeed, skin tones were first left unpainted on otherwise polychrome or two-toned ivory, alabaster, and marble statues because a mimetic equation between white skin and those white materials had long been established both in the context of religious discourses and in love poetry.²⁸ In other words, the metonymy between white marble and radiant skin allowed for mimetic equations in both directions. Following this line of thought, the materials of the sculptor could represent a huge variety of bodily complexions. While the marble-like white glazes of the Della Robbia reliefs could stand for the radiant white skin of Mary and her son, Benedetto Buglioni's statue of *St. Stephen* (Fig. 45), for instance, represents the darker skin of the protagonist in the brown color of terracotta.²⁹

Much more important than such mimetic correspondences, however, is stone's coloristic ambiguity, which finds its counterpart in the role of chromatic transitions in processes of animation and de-animation. Ovid's *Metamorphoses* offers a wealth of material reinforcing this connection. Before Pygmalion's monochromatic ivory awakens to life, the lovesick sculptor adorns it with colored fabrics and places it on a purple blanket.³⁰ Through the divine intervention of Venus, the statue is at last enlivened by becoming flesh; but its *ensoulment* is staged as the coloring of its surface. Pygmalion's tentative hand first experiences the warmth, then the softening, of the ivory, and finally the beating of the pulse. As the nameless statue attains consciousness under his kisses, her senses awaken and her face blushes: "the maiden/became perceptive and blushed" (*virgo/sensit et erubuit*).³¹

The dying of Narcissus, instead, appears as a rapid transition between intensification and loss



Figure 45 Benedetto Buglioni, *St. Stephen*, ca 1500–20, enameled terracotta, Victoria and Albert Museum, London. Photo: © Victoria and Albert Museum, London

of color. In Ovid's narrative about a beautiful hunter falling in love with his own mirror image in a pond, Narcissus begins to turn deadly pale at the very moment in which he realizes that his image is becoming more colorful than ever.³² As he mercilessly beats his breast with his "marble-white" hands, he notices the reddening of the image in the mirror: "The glowing beauties of his breast he spies, / And with a new redoubled passion dies."³³ He melts like wax in the sun – "the

color is already gone, the white, mixed with red" ("et neque iam color est mixto candore rubori").³⁴ Classical poetry constantly links the enlivenment of statues not with their positive colors, or polychromy, but with processes of *transition*, especially the intensification and fading of colors. Following this line of thought, the colors and "impurities" of stone and metal provide an element of ambiguity – an experimental field of enhanced aesthetic sensitivity.

Let us pause here and ask: why are stones colored in the first place? The natural historian Theophrastus, a follower of Aristotle, gives a clear answer in his influential treatise *De lapidibus*: colors arise through the solidification of moist and soft stone, a solidification that is brought into effect by heat.³⁵ Elena di Venosa has shown how such ideas were passed down from Pliny and Albertus Magnus, both widely read in the Quattrocento,³⁶ to, for instance, the physician and natural philosopher Camillo Leonardi of Pesaro, who published his *Speculum lapidum* in 1502.³⁷ Stones that have been acted upon by heat (*calor*), or that can absorb an especially high amount of it, are white. This again underscores the unique position of marble, as Michael Cole has demonstrated.³⁸ In the human body too, the life-sustaining substances of breast milk and semen experience a *dealbatio* – a whitening – through "innate heat."³⁹ Avicenna and later authors believed that the human embryo at the beginning is as white as milk.⁴⁰ Marble and bodies thus partake in the same life principle – *calor* – whose effect can be observed in the whiteness of their substances.

Since antiquity, a huge variety of differently colored stones was used to represent mimetically the colorful surfaces of different animals, a practice that continued well into the Renaissance.⁴¹ As importantly, though, sculptors experimented with chromatic transitions and subtle deviations from the monochrome. One could put these under the rubric of "impurities" and try to work out their narrative potential on either side of the

sculptural epidermis. In the ancient example of the *Cnidian Venus* of Praxiteles, a young man who fell in love with the cult statue had himself locked in her temple, attempted to copulate with her, left his mark on her thigh, went mad, and drowned himself in Venus's element, the ocean. Already in antiquity, the infamous *macula* on the back, or side, of the *Cnidian Venus* offered grounds for interpreting the stain as a form of organic remnant and therefore as an example of the erotic power of sculpture (*agalmatophilia*).⁴² In this rhetorical perspective, even if sculpture remains "colorless," stains and impurities can reference something that happened to the statue and so demand narrative explanation. In the seventeenth century, a statue, now in the Palazzo Spada in Rome, was still identified with Pompey because of a red stain on its left leg supposedly caused by the blood of Julius Caesar, who, as the story goes, had been killed near the statue.⁴³

Those "impurities" of stone – *maculae* (stains) or, in Italian, *vene* (veins) – and more or less subtle discoloration are elements of disruption that have the power not only to disturb the audience, but also to "enliven" statues from within and from without through contextual association. It goes without saying that the fragile conditions of surfaces and the contingency of transformations in the course of time have to be taken into serious consideration.⁴⁴ Still, the frequency of "impurities," especially in Italy, is evident, and it may even be seen as a marker of topographical identity, since *vene* feature prominently in white marble from Carrara.⁴⁵

In the thirteenth century, sculptors integrated flaws or impurities into their works. Shortly after the completion of Nicola and Giovanni Pisano's famous Fontana Maggiore (1278) in Perugia, Arnolfo di Cambio was summoned from Rome to Perugia, where he executed a much smaller marble fountain *in pedis platee* (lower down the piazza), today Corso Vannucci.⁴⁶ The spectacular remnants of this fountain, which had been dismantled for unknown reasons already around

Figure 46 Arnolfo di Cambio, *Fountain of the Thirsty* (detail of old woman drinking from a fountain), ca. 1280, marble, Galleria Nazionale dell'Umbria, Perugia. Photo: Reproduced with the permission of the Ministero per i Beni e le Attività Culturali/Archivi Alinari, Firenze



1300, are important precursors for the “impure” monochrome sculptures of the fifteenth century, and they anticipate Giotto’s imaginary monochrome reliefs in the Scrovegni Chapel by only a few years. All of the reconstructions of the fountain are based on the assumption that scribes with enormous open books sat beneath or above crouching or reclining figures who, as if weak and thirsty, gestured directly toward the factual flow of water. Text, as materialized by heavy books, probably juridical digests, is directly juxtaposed with the contingency of the aging, sick, weak, or decrepit bodies of the aforementioned thirsty. The distance between writing and fallen human nature is bridged, however, by the material overflow of water, which interacts directly with the thirsty, the marble representatives of the poor, in a sort of tactile continuum. One particularly striking figure that has survived, a drinking woman, is thereby transformed from an image in stone into a revived body: an older sister of Pygmalion’s statue, as it were (Fig. 46). This is arguably one of the first monochrome public statues after antiquity.⁴⁷ Her prominent marble

veins indicate the diagonal direction of the actual flow of water, visually across, and virtually within, the body of stone. In its performative context – as a marble statue exposed to the course of running water – the representation of the thirsty woman is fictitiously animated by the artist’s ability to enliven the dead.

A striking example of the clever use of flaws can be seen in Luca della Robbia’s *Cantoria* (1431–8), where a diagonal vein in the marble block determines the shape of a long fold in the drapery of a young singer (Fig. 47).⁴⁸ Amanda Lillie has shown that the marble veins in Donatello’s *rilievi schiacciati* are sometimes echoed by the composition of figures and the shapes of landscapes.⁴⁹ The brilliant incorporation of these flaws by Italian sculptors provides an almost ironic contrast to the topos of unwanted *vene* that happen to surface during the making of statues, as, for instance, in the case of Michelangelo’s *Bacchus* (Fig. 256).⁵⁰ Well beyond the Quattrocento, these flaws had the power to motivate further dynamic elaborations within the dominant framework of enlivenment; for



Figure 47 Luca della Robbia, *Cantoria* (detail of putti playing tambourines), 1431–8, marble, Museo dell’Opera del Duomo, Florence. Photo: Reproduced with the permission of the Opera di Santa Maria del Fiore/Alinari Archives, Florence; Raffaello Bencini

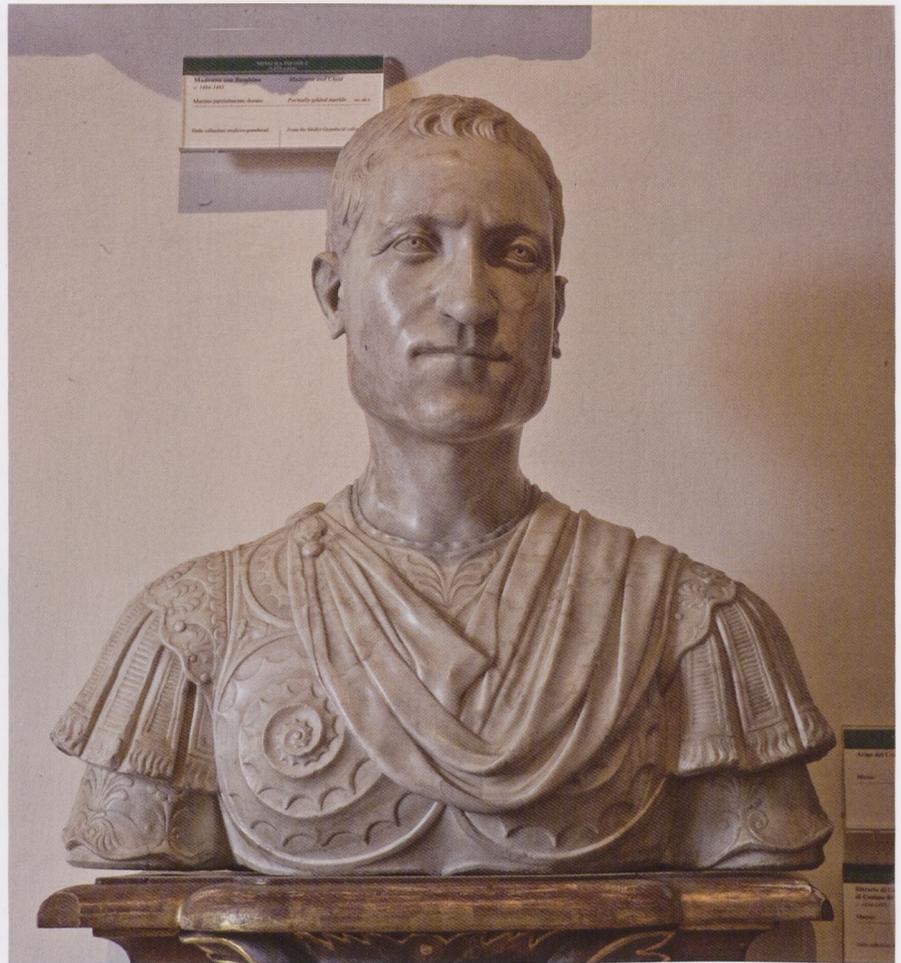
instance, some interpreted the *pelì* (fine lines or hairline cracks) in Gian Lorenzo Bernini’s bust of Charles I as impurities that would disappear once the king had converted to Catholicism.⁵¹

In Mino da Fiesole’s marble bust of Giovanni di Cosimo de’ Medici, the impurities of stone

could stand for a five o’clock shadow (Fig. 48).⁵²

More complex are the spots and marks on Mino’s bust of the Florentine banker Dietisalvi Neroni, now in the Louvre (Fig. 49). Signed and dated 1464, the bust was executed at the peak of Dietisalvi’s political career. After Cosimo the

Figure 48 Mino da Fiesole, portrait bust of Giovanni di Cosimo de' Medici, ca. 1455, marble, Museo Nazionale del Bargello, Florence. Photo: Gabinetto Fotografico delle Gallerie degli Uffizi, Florence



Elder's death in the same year, Dietisalvi became the main antagonist of Cosimo's oldest son, Piero, who exiled his enemy in 1466 after a coup d'état of the Medici Party.⁵³ Mino executed his portrait in particularly impure marble and with Roman, that is, Republican, costume, suggesting that Dietisalvi was self-consciously fashioning himself, through Mino's art, as a humble and ascetic defender of republican freedom, of the *utilitas publica* threatened by the Medici. The brown flaws on his marble bust appear to reveal a vein-like structure, especially on the forehead and neck, which seems to pulsate under the figure's skin. The smile and frown on his bust and the countless spots refer both to the optimism and the worries of this weather-beaten

politician (the "storms of fate" are explicitly mentioned on his tomb in Santa Maria Minerva, Rome).⁵⁴ But, turning to the averted part of his face, the spectator will notice a long and prominent vein in the marble running diagonally down from Nerone's left eye, almost like a stream of tears. Already six years before, Dietisalvi had expressed his sadness in a letter to Francesco Sforza, the ruler of Milan, bitterly lamenting the loss of republican spirit and liberty in his hometown after a previous coup by Cosimo the Elder. Sometimes, the more abstract quality of these flaws continues to radiate outside the body, as in some of Donatello's reliefs, where the veins of marble seem to echo the composition of forms and figures, or in Leone



Figure 49 Mino da Fiesole, portrait bust of Dietisalvi Neroni, 1464, marble, Musée du Louvre, Paris. Photo: © bpk/RMN – Grand Palais/Philippe Fuzeau

and Pompeo Leoni's reliefs of Charles V and Isabella (ca. 1555), where the artists, following Donatello's model, manipulate the material so it seems that a flash of lightning emanates from the emperor's forehead.⁵⁵

"Monochromatic" sculpture claims, as it were, to transform itself into living flesh – sometimes ostentatiously, but more often subtly and at the limits of perception. In Matteo Civitali's *Christ with a Flagellum*, the head, neck, and left shoulder of the tortured and weeping protagonist appear as if marked by bruises (Fig. 50).⁵⁶ A later example of the potential of impurities – veins, stains, and discolorations – to initiate narratives can be seen in Giovanni da Nola's *St. Jerome* at

Capodimonte in Naples (ca. 1530), where the vertical veins on the chest of the ascetic saint allow the sculptor to indicate bodily fluids like sweat or blood.⁵⁷

Such thematic associations are more common than one would expect. Their paradigms are the ancient statues of the flayed Marsyas made of colored marble. In the Quattrocento, one example was restored by Andrea del Verrocchio and probably another by Mino da Fiesole, the latter prominently displayed in the Palazzo Medici. Verrocchio's brother Tommaso called it a "gnudo rosso."⁵⁸ Red stone in particular could thus represent a living body with blood coursing through its veins, for instance, the Mantuan *Virgil*



Figure 50 Matteo Civitali, *Christ with a Flagellum*, ca. 1495–1501, marble, Museo Nazionale del Bargello, Florence. Photo: Gabinetto Fotografico delle Gallerie degli Uffizi, Florence / Roberto Palermo

(1230–40) made of the famous red marble of Verona⁵⁹; Pietro Mati's mosaic nymphs in agony in Buontalenti's *Grotta Grande* in Florence (1583–93)⁶⁰; or, with an allusive pun on the name of the sitter, in Antonio Calcagni's bust of Annibale Caro (1566–72), the Latin "caro" meaning "flesh" or "meat."⁶¹ But the veins of marble not only connect stones and bodies in a lexical sense ("vene"); they also hark back to a straightforward analogy that found poetic expression in Ovid's story of the deluge. The sole survivors, Deucalion and Pyrrha, throw stones behind their backs; the stones then turn into living human beings: "but what had been the veins in the stone, survived under the same name."⁶² Leon Battista Alberti refers to the concept of veins in marble as reminders of its origin as liquid before he discusses the treatment of stones in architecture.⁶³ The parallels between the *vene di marmo* and the blood vessels of living bodies went far beyond



Figure 51 Antonio Lombardo (attrib.), *Bust of a Male Youth*, ca. 1515, marble, Kunsthistorisches Museum, Vienna; Photo: KHM-Museumsverband

mere metaphorical transfers. They document the continuity between the various levels on the Aristotelian "natural ladder" (*scala naturae*) – especially between the realms of the inorganic and the organic. The continuity between stone, plant, and animal – the fact that "Nature does not make a jump" – becomes evident in the procreative powers of some specific rocks.⁶⁴ The "veins" of stone can thus display the blood vessels of the living body; they make visible that which runs beneath the surface. This can be seen, for instance, in Antonio Lombardo's powerfully veined bust in Vienna (1515; Fig. 51). It paraphrases the older son of the Laocoön group but now cleverly reverses the paradigm of the sculpture awakened to life.⁶⁵ The bust shows an agonized, dying youth, in whom it is not blood that flows, but rather the poison of the giant snakes, according to Virgil's *Aeneid*.⁶⁶

Since the fifteenth century, sculptors became fully aware of the aesthetic potential of unembellished stones, especially in the context of the

imitation of antique monochrome models. Sometimes, the colors of stones provided a witty pun on the name of the artist. Pier Maria Serbaldi da Pescia, a Tuscan medal sculptor and early specialist in porphyry, willingly adopted the name of his Genoese master, the gem cutter Giacomo Tagliacarne, the “meat cutter,” and produced busts like the purple-red *Polyhymnia* in Vienna, from around 1500, that appear to be soft, “meaty” flesh hewn in this particularly hard material. Around 1520, similarly, the name of the Venetian sculptor Simone Bianco mirrored his famous milk-white busts.⁶⁷

More importantly, for careful viewers, both the natural modulations in the stone’s color and the differentiated treatment or finishing of the surface could create something like an optical illusion. (And with this I am not talking about the ambient effects of candles or torches or changes in daylight.⁶⁸) Here, too, it was presumably painters who led the way. One thinks for example of the delicate coloristic nuances of Giotto’s Padua grisailles – the first large-scale “monochrome reliefs.”⁶⁹ They endow the fictive sculptures with an emergent colorfulness, a *desiderium*, so to speak, to become painting. Both painters and sculptors of the Renaissance were fascinated by the potentiality of the monochrome, and the latency of color on apparently colorless surfaces, a force emphasized by the dominant Aristotelian tradition that, as John Gage has shown, interpreted white and black as the origin of all colors.⁷⁰ Francisco de Holanda noted accordingly that every color shows “great force” but that white is the most “enlivened” of all the colors.⁷¹ In his late twelfth-century *Narratio de mirabilibus urbis Romae*, the English traveler Master Gregory tells of a fascinating yet unsettling experience. Enchanted by the apparent liveliness of a marble statue of Venus (possibly the *Capitoline Venus*, as Leonard Barkan proposes), Gregory recounts: “The image is made from Parian marble with such wonderful and

intricate skill that she seems more like a living creature than a statue; indeed, she seems to blush in her nakedness, a reddish tinge colouring her face, and it appears to those who take a close look that blood flows in her snowy complexion. Because of this wonderful image, and perhaps some magic spell that I am unaware of, I was drawn back three times to look at it despite the fact that it was two *stadia* from my inn.”⁷²

In Gregory’s report, we encounter some of the oldest formulas in the ekphrasis of statues. Yet even topoi can shape reception, modeling expectations of which artists themselves are aware. In the incredibly fine gradations of its surface, Donatello’s *Pazzi Madonna* appears to evoke the colors of skin, a delicate glowing and fading so convincing that it is hard to believe one’s own eyes – a counterpart to the fascinating “embodiment” that occurs when the figures are viewed closely from below, as Thomas Elsen has observed (Fig. 52).⁷³ More explicit still is the play upon the latent colors of the stone we find in the portrait medallions by Giovanni Antonio Amadeo and his equipe on the façade of the Certosa in Pavia (after 1492; Fig. 53).⁷⁴ The stone of the fictive ancient personages seems here to want to become “flesh.” Rather than coins, antique cameos provided an important paradigm not only for the mimetic similarities between lithic coloration and the representation of surfaces, but also for the transitions and ambiguities due to changing conditions of lighting.⁷⁵ Illuminated from behind, these semitransparent stones seem to emanate complex and glowing colors.

Literary sources since antiquity, with their descriptions of subtle color transitions, confirm the long tradition of a heightened sensitivity to color gradations in both sculpture and painting; one recalls, for instance, Vasari’s praise of the forty brown Franciscan robes painted by Lorenzo di Bicci, each of them with a unique color tone.⁷⁶ Similarly, the actual colors of monochrome stone sculpture can be delicately manipulated



Figure 52 Donatello, *Madonna and Child (Pazzi Madonna)*, ca. 1425–30, Skulpturensammlung und Museum für Byzantinische Kunst, Berlin. Photo: Staatliche Museen zu Berlin – Preußischer Kulturbesitz; Antje Voigt

and nuanced by experienced sculptors in order to create equivalents of color in the “monochrome,” as Gian Lorenzo Bernini much later stated.⁷⁷ For observers, these gradations and transitions appear as wavering, ever-changing perceptions further differentiated by light and spatial surroundings.

Shortly after the turn of the century (and with reference to Pliny the Elder), Pomponius Gauricus recommended subtly varied alloys to allow the redness of living skin to shine through in the surface of bronze.⁷⁸ This recommendation became fully realized in sixteenth-century bronze statues. Leone and Pompeo Leoni’s life-size, full-



Figure 53 Giovanni Antonio Amadeo (and workshop), *A Roman Emperor (Marcianus)*, after 1492, marble, Certosa, Pavia.
Photo: Francesca Borgo

length bronze statue of the twenty-four-year-old Philip II in the Prado appears at first glance to be monochrome, but the delicate differentiation of the alloys and the surface reveal subtle transitions between darker and brighter areas.⁷⁹ The bare legs, for instance, probably an alloy of copper and zinc, seem to turn into warm, tanned skin, while the sandals, probably an alloy of copper and tin, remain much darker.⁸⁰

The Quattrocento sensitivity for apparent colors in the “monochrome” flourished in the sixteenth and seventeenth centuries; flesh seems to come alive. Leoni’s son Pompeo cast the famous life-size head of Philip II, now in Vienna, in pure silver and added colors. Claudia Kryzgersch has suggested that the head was a *modello* for the full-length effigy of Philip in the Capilla Real of the Escorial, and that it therefore must have been executed much later than previously believed, around 1580.⁸¹ The original funerary context and the comparably late date do not explain entirely the choice of the material, which emphasizes the king’s pale complexion. Silver also shimmers through the beard and especially through the hair of the bust, thereby producing a puzzling effect, as if the figure is not only coming alive, but also turning gray and aging right before the eyes of the beholders. A passage in Plutarch’s *Symposiaca* (book V, question 1), later quoted by Franciscus Junius, praises a sculptor who, for a bust of Jocasta, mixed bronze with silver, which lost its brilliance over time and began to show increasingly the colors of an aging person approaching death. The Aristotelian signs of life manifest themselves not only in growth, but also in privation. The enlivened bust changes its appearance according to a central feature of life: decline as a result of aging.⁸²

In his *Il Riposo* (1584), Raffaello Borghini recommended the careful and varied application of varnishes based on, for instance, lamp black, cinnamon, and urine in order to produce effects on marble surfaces “similar to antique” stones.⁸³ In the seventeenth century, Gian Lorenzo

Bernini mentioned the particular sculptural difficulty of evoking equivalents of color in monochrome stone. But Bernini also noted admiringly that even time itself effects a change in the surface of marble, which after nine or ten years begins to resemble flesh.⁸⁴ We still do not know whether the remainders of wax that can be found on some of his sculptures were the result of some later treatment, or if they reflect a scarcely documented tradition (Vitruvius and Pliny’s *ganosis*; Daniele Barbaro’s *causis*).⁸⁵ The careful handling of surfaces with pumice or polish, however, produces striking tonal differentiations of the sculptural epidermis. Quattrocento sculptors must have noticed that heavily polished surfaces of brown-gray or pink stones, for instance, possess a much deeper shade and more intense color than the rougher areas, for instance of hair and drapery finished with the file.⁸⁶ And, when irregular, oscillating colors appear in untreated material, still other wonders can be expected to happen to the sculptural body.

In his ekphrasis on Lysippus’s statue of Occasio, the goddess of chance, Callistratus writes: “And although she was of bronze, she blushed. And although she was by nature hard, she melted away softly . . .; and although she possessed no living perception, she gave reason to believe that feeling resided in her; she was actually motionless with both feet firmly on the ground; but though she stood still, it was quite obvious that she had the power to move quickly.”⁸⁷ In contrast to Pygmalion’s ivory statue, reddening or blushing here stands at the *beginning* of a spectacular sequence of *signa vitae*: the softness of the flesh, sensibility, and, finally, the capacity to move after the initial flush of the skin. The emergent colors of stone and bronze suggest sculptural bodies oscillating between life and death. Monochrome sculptures, I would argue, are paradigms for a complex play between latency and intensification: stone and metal in transition toward living flesh and vice versa; bodies both *in statu nascendi*, *in statu petrefaciendi*.⁸⁸

SELECT BIBLIOGRAPHY

- Barry, Fabio. "A Whiter Shade of Pale: Relative and Absolute White in Roman Sculpture and Architecture," in *Revival and Invention: Sculpture through Its Material Histories*, eds. Sébastien Clerbois and Martina Droth (Oxford: Peter Lang, 2010), pp. 31–62.
- Bonsanti, Giorgio. "Notes on Experience Made at the Opificio delle Pietre Dure in the Restoration of Polychrome Sculpture," in *Polychrome Skulptur in Europa: Technologie, Konservierung, Restaurierung*, eds. Ulrich Schiessl and Renate Kühnen (Dresden: Hochschule für Bildende Künste, 1999), pp. 63–8.
- Caglioti, Francesco. "Due 'restauratori' per le antichità dei primi Medici: Mino da Fiesole, Andrea del Verrocchio e il 'Marsia rosso' degli Uffizi. I," *Prospettiva* 72 (1993): 17–42.
- D'Elia, Una Roman. "How the Quattrocento Saw Ancient Sculpture in Color," *Source: Notes in the History of Art* 35 (2016): 216–26.
- Fehrenbach, Frank. "Coming Alive: Some Remarks on the Rise of 'Monochrome' Sculpture in the Renaissance," *Source: Notes in the History of Art* 30 (2011): 47–55.
- Lillie, Amanda. "Sculpting the Air: Donatello's Narratives of the Environment," in *Depth of Field: Relief Sculpture in Renaissance Italy*, eds. Donal Cooper and Marika Leino (Oxford: Peter Lang, 2007), pp. 97–124.
- Malgouyres, Philippe. "Coloured Stones, Sculpted Objects: Subjects for Sculpture," in *Revival and Invention: Sculpture through Its Material Histories*, eds. Sébastien Clerbois and Martina Droth (Oxford: Peter Lang, 2010), pp. 153–69.
- Osano, Shigetoshi. "Due 'Marsia' nel giardino di Via Larga. La ricezione del *decor* dell'antichità romana nella collezione medicea di sculture antiche," *Artibus et historiae* 17 (1996): 95–120.
- Reuterswärd, Patrik. "The Breakthrough of Monochrome Sculpture during the Renaissance," *Konsthistorisk tidskrift* 69 (2000): 125–49.
- Zuraw, Shelley. "The Medici Portraits of Mino da Fiesole," in *Piero de' Medici "Il Gottoso" (1416–1469): Kunst im Dienste der Mediceer*, eds. Andreas Beyer and Bruce Boucher (Berlin: Akademie Verlag, 1993), pp. 317–39.
- Bloch and Daniel M. Zolli for their countless important suggestions.
- 2 Anton Francesco Doni, *Disegno del Doni, partito in più ragionamenti* (Venice: Gabriel Giolito, 1549), p. 9v.
 - 3 Francisco de Holanda, *I trattati d'arte*, ed. Grazia Modroni (Livorno: Sillabe, 2003), p. 23.
 - 4 De Holanda, *I trattati d'arte*, p. 23.
 - 5 Paolo Pino, *Dialogo di pittura* (Venice: Paolo Gherardo, 1548), p. 25r.
 - 6 Ann-Sophie Lehmann, "Jan van Eyck und die Entdeckung der Leibfarbe," in *Weder Haut noch Fleisch: das Inkarnat in der Kunstgeschichte*, eds. Daniela Bohde and Mechthild Fend (Berlin: Gebr. Mann Verlag, 2007), p. 34.
 - 7 Leonardo da Vinci, *Libro di pittura. Codice Urbinato lat. 1270 nella Biblioteca Apostolica Vaticana*, ed. Carlo Pedretti, transcription Carlo Vecce, two vols. (Florence: Giunti, 1995), vol. 1, ch. 36.
 - 8 Pomponius Gauricus, *De sculptura*, eds. André Chastel and Robert Klein (Geneva: Droz, 1969), pp. 161, 163, and 221.
 - 9 Vasari, *Le vite*, vol. 1, pp. 109–10.
 - 10 Benedetto Varchi, *Due lezioni* (Florence: Lorenzo Torrentino, 1549).
 - 11 "e se qualche goffo ne l'arte usa i colori, esce della natura di quell'arte et i lor medesimi se ne ridono et appena gl'accettano fra loro"; Vincenzo Borghini, "Selva di notizie," in *Pittura e scultura nel Cinquecento*, ed. Paola Barocchi (Livorno: Sillabe, 1998), p. 115.
 - 12 Frank Fehrenbach, "Coming Alive: Some Remarks on the Rise of 'Monochrome' Sculpture in the Renaissance," *Source: Notes in the History of Art* 30 (2011): 47–55.
 - 13 Una d'Elia has recently argued that Italian Quattrocento artists were well aware that classical sculpture was not necessarily monochrome; see Una Roman D'Elia, "How the Quattrocento Saw Ancient Sculpture in Color," *Source: Notes in the History of Art* 35 (2016): 216–26.
 - 14 On the relationship between polychromed sculpture and cosmetics in fifteenth-century Florence, see Daniel M. Zolli, *Donatello's Promiscuous Technique* (Ph.D. dissertation, Harvard University, 2016), pp. 26–78.
 - 15 Cf. Joachim Poeschke, *Die Skulptur des Mittelalters in Italien*, two vols. (Munich: Hirmer, 2000), vol. 2, p. 64.
 - 16 See Carla Bertorello, "Cronistoria ed esiti del restauro delle superfici," *Arnolfo di Cambio. Il monumento del Cardinale Guillaume de Bray dopo il restauro*, special issue of *Bollettino d'Arte* (2009): 187–203, esp. p. 197. On contemporary monochromatic tendencies in royal tombs in France, see Julien Chapuis, "Policromía parcial en la escultura," in *Jan van Eyck: Grisallas*, ed. Till-Holger Borchert (Madrid: Museo Thyssen-Bornemisza, 2009), pp. 67–83.
 - 17 Patrik Reuterswärd, "The Breakthrough of Monochrome Sculpture during the Renaissance," *Konsthistorisk tidskrift* 69 (2000): 125–49.
 - 18 Leon Battista Alberti, *I libri della famiglia*, eds. Ruggiero Romano, Alberto Tenenti, and Francesco Furlan (Turin: Einaudi, 1994), p. 238.
 - 19 Roberto Manni, Andreina Andreoni, and Francesca Kumar, "Annunciazione Cavalcanti," *OPD Restauro* 7 (1995): 185–92.

NOTES

- 1 Giorgio Vasari, *Le vite de' più eccellenti pittori, scultori e architettori nelle redazioni del 1550 e 1568*, eds. Rosanna Bettarini and Paola Barocchi, eleven vols. (Florence: Sansoni, 1966–87), vol. 2, p. 4. I would like to thank Matthew Vollgraff for the emendation of my English text and Amy

- 20 See the catalog entry for these two busts in *Sculpture in the Age of Donatello: Renaissance Masterpieces from Florence Cathedral*, eds. Timothy Verdon and Daniel M. Zolli (London: D Giles, 2015), pp. 157–8.
- 21 Abigail Hykin, “Materials and Techniques,” in Marietta Cambareri, Abigail Hykin, and Courtney Leigh Harris, *Della Robbia: Sculpting with Color in Renaissance Florence* (Boston: Museum of Fine Arts, 2016), pp. 129–43, esp. pp. 138–41.
- 22 Michael Camille, *The Gothic Idol: Ideology and Image-Making in Medieval Art* (Cambridge: Cambridge University Press, 1989), p. 42.
- 23 Varchi, *Due lezioni*, p. 152.
- 24 Doni, *Disegno del Doni*, pp. 20v–21r.
- 25 Dante Alighieri, *La Divina Commedia* (Milan: Mondadori, 1991), pp. 388 and 405 (Purgatorio 10.31, 10.94–6 [on divine authorship of the reliefs], and 12.67). Cf. Norman E. Land, “The Living and the Dead. From Dante to Vasari,” *Source: Notes in the History of Art* 14 (1995): 27–9.
- 26 Martial, *Epigramme*, eds. Paul Barié and Winfried Schindler (Berlin: Akademie Verlag, 2013), p. 392 (6.13).
- 27 See, for example, Rabanus Maurus, “De universo,” in *Patrologia Latina*, ed. Jacques-Paul Migne, 221 vols. (Paris: J.-P. Migne, 1844–55 and 1862–5), vol. 111, cols. 463D–464B (17.5).
- 28 For this argument, I strongly recommend Fabio Barry, “A Whiter Shade of Pale: Relative and Absolute White in Roman Sculpture and Architecture,” in *Revival and Invention: Sculpture through Its Material Histories*, eds. Sébastien Clerbois and Martina Droth (Oxford: Peter Lang, 2010), pp. 31–62, especially for his sharp criticism of the loud colors suggested by many partisans of the polychromy of classical sculpture.
- 29 David Bindman has analyzed the racial stereotypes behind these conventions in *Warm Flesh, Cold Marble: Canova, Thorvaldsen and Their Critics* (New Haven, CT: Yale University Press, 2014). The gender stereotype, however, seems to be linked to sexual dimorphism – that is, a lighter skin tone in the female part of any given human population; see Lorena Madrigal and William Kelly, “Human Skin-Color Sexual Dimorphism: A Test of the Sexual Selection Hypothesis,” *American Journal of Physical Anthropology* 132 (2007): 470–82.
- 30 Ovid, *Metamorphosen*, ed. Erich Rösch (Munich and Zurich: Artemis, 1990), pp. 370–2 (10.243–94); see also Victor Stoi-chita, *The Pygmalion Effect: From Ovid to Hitchcock* (Chicago: University of Chicago Press, 2008), pp. 7–20.
- 31 Ovid, *Metamorphosen*, p. 372 (10.292–3).
- 32 Ovid, *Metamorphosen*, pp. 104–12 (3.339–510).
- 33 Ovid, *Ovid’s Metamorphoses in Fifteen Books*, multiple translators (London: J. Tonson, 1717), p. 92. N.B.: I have removed the capitalization used in this edition.
- 34 Ovid, *Metamorphosen*, p. 112 (3.491).
- 35 Theophrastus, *De lapidibus*, ed. D. E. Eichholz (Oxford: Clarendon Press, 1965), ch. 54.
- 36 For the reception of Pliny, see Sarah Blake McHam, *Pliny and the Artistic Culture of the Italian Renaissance: The Legacy of the Natural History* (New Haven, CT: Yale University Press, 2013).
- 37 Elena Di Venosa, *Die deutschen Steinbücher des Mittelalters: magische und medizinische Einblicke in die Welt der Steine* (Göppingen: Kümmerle Verlag, 2005); see also Theophrastus, *De lapidibus*, chs. 61–9. And see Karin Leonhard, “Bunte Steine. Zur Rolle der Farbe in mittelalterlichen und frühneuzeitlichen Lapidarien,” in *Steinformen. Materialität, Qualität, Imitation*, eds. Isabella Augart, Maurice Saß, and Iris Wenderholm (Berlin: De Gruyter, 2018), pp. 155–78.
- 38 Michael W. Cole, *Cellini and the Principles of Sculpture* (Cambridge: Cambridge University Press, 2002), pp. 104–6.
- 39 For a common view, see Francesco Sansovino, *L’edificio del corpo humano* (Venice: Comin da Trino di Monferrato, 1550), p. 31r.
- 40 See the introduction to *Aegidii Romani opera omnia, II.13. De formatione humani corporis in utero*, ed. Romana Martorelli Vico (Florence: Sismel, 2008), with reference to Avicenna, *Canon medicinae* 3; and *De animalibus* 9.
- 41 Cf. Philippe Malgouyres, “Coloured Stones, Sculpted Objects: Subjects for Sculpture,” in *Revival and Invention*, pp. 153–69.
- 42 Cf. Doni, *Disegno del Doni*, p. 11r.
- 43 Cf. Mary Beard, “Picturing the Roman Triumph: Putting the *Fasti capitolini* in Context,” *Apollo* 158 (2003): 23–8, esp. p. 26.
- 44 Giorgio Bonsanti, “Notes on Experience Made at the Opificio delle Pietre Dure in the Restoration of Polychrome Sculpture,” in *Polychrome Skulptur in Europa: Technologie, Konservierung, Restaurierung*, eds. Ulrich Schiessl and Renate Kühnen (Dresden: Hochschule für Bildende Künste, 1999), pp. 63–8. On color changes over time on the bronze sculptures at Orsanmichele, see Loretta Dolcini, “Aspetti tecnici e critici nel restauro dei bronzi monumentali all’aperto,” in *Die Christus-Thomas-Gruppe von Andrea del Verrocchio*, eds. Herbert Beck, Maraike Büchling, and Edgar Lein (Frankfurt: Henrich Publikationen, 1996), pp. 11–16.
- 45 Bindman, *Warm Flesh, Cold Marble*, pp. 127–8.
- 46 Gustavo Cuccini, *Arnolfo di Cambio e la fontana di Perugia “pedis platee”* (Perugia: Guerra, 1989).
- 47 See Barbara Brillarelli, “Schede di restauro delle sculture provenienti dalla fontana Pedis Platee di Arnolfo di Cambio,” in *Arnolfo di Cambio. Una rinascita nell’Umbria medievale*, eds. Vittoria Garibaldi and Bruno Toscano (Cinisello Balsamo: Silvana Editoriale, 2005), pp. 216–17.
- 48 I would like to thank Daniel Zolli for this observation.
- 49 Amanda Lillie, “Sculpting the Air: Donatello’s Narratives of the Environment,” in *Depth of Field: Relief Sculpture in Renaissance Italy*, eds. Donal Cooper and Marika Leino (Oxford: Peter Lang, 2007), pp. 97–124, esp. p. 109.
- 50 Camille, *The Gothic Idol*, p. 34 (on St. Bonaventure’s metaphor of the blemish in stone).
- 51 Shawonipinesik Kinew, *The Vision in Stone: Melchiorre Cafà in the World, 1636–1667* (Ph.D. dissertation, Harvard University, 2016), p. 153 (with reference to the forthcoming dissertation by Andrea Bacciolo).
- 52 See Shelley Zuraw, “The Medici Portraits of Mino da Fiesole,” in *Piero de’ Medici “Il Gottoso” (1416–1469): Kunst im Dienste der Mediceer*, eds. Andreas Beyer and Bruce Boucher (Berlin: Akademie Verlag, 1993), pp. 317–39.

- 53 See Margery A. Ganz, "Buon amici ma non per sempre": Agnolo Acciaiuoli, Dietisalvi Neroni, Luca Pitti, Niccolò Soderini and the Medici, 1430s to 1460," in *Italian Art, Society, and Politics: A Festschrift for Rab Hatfield*, eds. Barbara Deimling, Jonathan K. Nelson, and Gary M. Radke (Syracuse, NY: Syracuse University Press, 2008), pp. 72–82; Ingeborg Walter, "Freiheit für Florenz: Donatello's Judith und ein Grabmal in Santa Maria sopra Minerva in Rom," in *Bild/Geschichte: Festschrift für Horst Bredekamp*, eds. Philine Helas, Maren Polte, Claudia Rückert, and Bettina Uppenkamp (Berlin: De Gruyter, 2007), pp. 375–82.
- 54 On the physiognomic stereotypes prefigured in Roman portrait busts, see Luca Giuliani, *Bildnis und Botschaft: Hermeneutische Untersuchungen zur Bildniskunst der römischen Republik* (Frankfurt: Suhrkamp Verlag, 1986).
- 55 See Mechthild Neumann, *Pompeo Leoni – um 1530–1608. Ein italienischer Bildhauer am Hofe Philipps II von Spanien* (Ph.D. dissertation, University of Bonn, 1997), pp. 55–6.
- 56 Matteo Civitali e il suo tempo. Pittori, scultori e orafi a Lucca nel tardo Quattrocento (Cinisello Balsamo: Silvana Editoriale, 2004), p. 395 (cat. no. 3.20; Francesca Petrucci).
- 57 On the statue's attribution and provenance, see Riccardo Naldi, "Un contesto per il 'San Girolamo' di Giovanni da Nola nel Museo di Capodimonte," *Prospettiva* 106/107 (2002): 166–74. Even classicist sculptors around 1800, notoriously obsessed with pure, white Carrara marble, took the impurities of their blocks of stone subtly into account. In a letter from 1807, Berthel Thorvaldsen complained that he could not find flawless marble for a relief and referred to the unpredictability of the stone's hidden structure as "bad luck" (Cf. Bindman, *Warm Flesh, Cold Marble*, p. 127). Still, in the first version of his *Three Graces* (Copenhagen), executed under his supervision in 1817, the increasing purity of the bodies from bottom to top, from thighs to heads, seems to be an essential part of the erotic sublimation that became a well-known mark of distinction between Thorvaldsen and the "lascivious" Canova (Bindman, *Warm Flesh, Cold Marble*, p. 103).
- 58 Cf. Francis Ames-Lewis, *The Intellectual Life of the Early Renaissance Artist* (New Haven, CT: Yale University Press, 2002), p. 135; Francesco Caglioti, "Due 'restauratori' per le antichità dei primi Medici: Mino da Fiesole, Andrea del Verrocchio e il 'Marsia rosso' degli Uffizi. I," *Prospettiva* 72 (1993): 17–42; Shigetoshi Osano, "Due 'Marsia' nel giardino di Via Larga. La ricezione del *decor* dell'antichità romana nella collezione medicea di sculture antiche," *Artibus et historiae* 17 (1996): 95–120. I would like to thank Daniel Zolli for these references.
- 59 See Poeschke, *Die Skulptur des Mittelalters in Italien*, vol. 2, cat. no. 133.
- 60 See Jürgen Wiener, "Metamorphose, Mimesis, Material: Biblische und antike Schöpfungsmythen in der Grotta Grande in Florenz," in *Schöpfung. Varianten einer Weltsticht*, ed. Wilhelm G. Busse (Düsseldorf: Düsseldorf University Press, 2013), pp. 117–58.
- 61 John Pope-Hennessy, "Antonio Calcagni's Bust of Annibale Caro," in *Essays on Italian Sculpture* (London and New York: Phaidon Press, 1968), pp. 158–61.
- 62 Ovid, *Metamorphosen*, p. 26 (1.410).
- 63 Leon Battista Alberti, *De re aedificatoria*, ed. Giovanni Orlandi, two vols. (Milan: Il Polifilo, 1966), vol. 1, pp. 134–9 (2.8).
- 64 Pliny the Elder, *Naturalis Historia*, ed. Roderich König, thirty-seven vols. (Darmstadt: Wissenschaftliche Buchgesellschaft, 1992), vol. 36, pp. 104–6 (36.149–51) and vol. 37, pp. 106–12 (37.164–3).
- 65 On this bust, see Alessandra Sarchi, *Antonio Lombardo* (Venice: Istituto veneto di scienze, lettere e arti, 2008), pp. 274–5.
- 66 Virgil, *Aeneid*, ed. Johannes Götte (Düsseldorf and Zürich: Artemis und Winkler, 2000), p. 28 (2.213–21).
- 67 On Simone Bianco, see most recently Claudia Kryzgersch, "Simone Bianco: Venezianische Skulptur zwischen Antikenbegeisterung und Antikenfälschung," in *Fallstudien zu antiken Skulpturen und ihren Imitationen*, ed. Sascha Kansteiner (Berlin: De Gruyter, 2016), pp. 9–24. On the *intagliatore* Pier Maria Serbaldi da Pescia in the context of the rediscovery of porphyry sculpture in sixteenth-century Florence, see Suzanne B. Butters, *The Triumph of Vulcan: Sculptors' Tools, Porphyry, and the Prince in Ducal Florence*, two vols. (Florence: Olschki, 1996), vol. 1, pp. 334–5.
- 68 See the observations in Catherine Kupiec, *The Materiality of Luca della Robbia's Glazed Terracotta Sculptures* (Ph.D. dissertation, Rutgers University, 2016); and Chapter 3 in this book.
- 69 Philippe Cordez, "Les marbres de Giotto. Astrologie et naturalisme à la Chapelle Scrovegni," *Mitteilungen des kunsthistorischen Institutes in Florenz* 55 (2013): 9–25.
- 70 See John Gage, *Kulturgeschichte der Farbe: Von der Antike bis zur Gegenwart* (Leipzig: Seemann, 2001), p. 141 (with reference to Aristotle and Albertus Magnus).
- 71 De Holanda, *I trattati d'arte*, p. 79.
- 72 Quotation in Leonard Barkan, *Unearthing the Past: Archaeology and Aesthetics in the Making of Renaissance Culture* (New Haven, CT: Yale University Press, 1999), p. 46.
- 73 Thomas Elsen, *Untersuchungen zu Donatello's Reliefstil* (Ph.D. dissertation, University of Bonn, 1993), pp. 60–9.
- 74 See Andrew Burnett and Richard Schofield, "The Medallions of the *Basamento* of the Certosa di Pavia. Sources and Influence," *Arte lombarda* 120.2 (1997): 5–28.
- 75 Cf. Matthias Steinhart, "Gemmen: Zauber in edlem Stein," *Lapis* 35.12 (2010): 20–4; on the modulation of the natural colors of gemstones through heating, see p. 22.
- 76 "e a tutti variò il colore del bigio, che chi pendeva più in rossigno e tanè e chi in azzurrino e gialliccio, per ciascuno differente talmente ch'è cosa singulare." Vasari, *Le vite*, vol. 2, p. 317. On the new sensibility for monochrome *terra di Siena* and *terra verde* frescoes in Tre- and Quattrocento Tuscany, see Katharine Stahlbuhk, *Oltre il colore: Farbbeduzierte Wandmalerei zwischen Humilitas und Observanzformen* (Ph.D. dissertation, University of Hamburg, 2017).
- 77 See Domenico Bernini, *Vita del Cavalier Gio. Lorenzo Bernino* (Rome: Rocco Bernabò, 1713), p. 30. Cf. similar remarks by Nicholas Stone the Younger quoted in Charles Avery, *Bernini: Genius of the Baroque* (London: Bulfinch Press, 1997), p. 230.
- 78 "Aristonidas . . . ferrum et aes miscuit, ut eius rubigine per nitorem aeris relucente, rubor exprimeretur verecundiae."

- Gauricus, *De sculptura*, p. 221; cf. Pliny the Elder, *Naturalis Historia*, vol. 34, p. 98 (34.140). On the complex patina of Benvenuto Cellini's bronzes, see Francesca Bewer and Molly McNamara, "The Portrait Busts of Cosimo I & Bindo Altoviti from the Inside Out: Cellini's Practice of Bronze Casting," in *Marks of Identity: New Perspectives on Sixteenth-Century Italian Sculpture*, ed. Dimitrios Zikos (Boston: Periostope, 2012), pp. 62–81.
- 79 Cf. Neumann, *Pompeo Leoni – um 1530–1608*, pp. 68–9.
- 80 On bronze alloys in the workshop of the Leoni, see Neumann, *Pompeo Leoni – um 1530–1608*, p. 115.
- 81 Claudia Kryza-Gersch, "Pompeo Leoni's Portrait of Philip II in the Kunsthistorisches Museum in Vienna," in *Leone & Pompeo Leoni*, ed. Stephan F. Schröder (Turnhout: Brepols, 2012), pp. 99–107. The bust (i.e., shoulders and chest) in polychromed terracotta is a later addition, probably from the seventeenth century.
- 82 Franciscus Junius, "De pictura veterum," in *The Literature of Classical Art*, eds. Keith Aldrich, Philipp Fehl, and Raina Fehl, two vols. (Berkeley: University of California Press, 1991), vol. 1, p. 268 (3.4.5).
- 83 Raffaello Borghini, *Il Riposo* (Florence: Giorgio Marescotti, 1584), pp. 157–8.
- 84 "de couleur de chair"; Paul Fréart de Chantelou, *Journal de voyage du Cavalier Bernin en France*, ed. Milovan Stanic (Paris: Macula, 2001), p. 116 (August 12, 1665).
- 85 On Bernini and wax, see Kristina Herrmann Fiore, "Osservazioni sull'epidermide di 'Apollo e Dafne' del Bernini," *OPD Restauro* 8 (1996): 40–7, esp. p. 43. On Vitruvius and Pliny, cf. Bindman, *Warm Flesh, Cold Marble*, pp. 119–46 and Barry, "A Whiter Shade," p. 43.
- 86 On the rough surface of Donatello's *Cantoria* in relation to light, see Daniel M. Zolli, "Donatello's Visions: The Sculptor at Florence Cathedral," in *Sculpture in the Age of Donatello*, esp. p. 70.
- 87 *Philostratus the Elder, Imagines. Philostratus the Younger, Imagines. Callistratus, Descriptions*, trans. Arthur Fairbanks (Cambridge, MA: Harvard University Press, 1960), pp. 397–8. On Callistratos, see Michel Costantini, Françoise Graziani, and Stéphane Rolet, *Le défi de l'art. Philostrate, Callistrate et l'image sophistiquée* (Rennes: Presses Universitaires de Rennes, 2006).
- 88 For ascetic practices of deprivation as intensification of sensory experience, see Niklaus Largier, *Die Kunst des Begehrens. Über Dekadenz, Sinnlichkeit und Askese* (Munich: C. H. Beck, 2007).