

The Cult of Materials

Few topics in the history of sculpture have seen as much success in recent years as those relating to 'materials' and 'materiality'. Looking over the literature of the last two decades, in fact, it is easy to come away with the impression that the subject of the present volume, along with the conference that occasioned it, have entered the very centre of the field. And nowhere is this more true than in studies that focus on Renaissance objects. In recent years, Francesca Bewer, Frits Scholten, Thomas Raff, Norberto Gramaccini, and Edgar Lein, among others, have given us chapters on the significance of copper and bronze.¹ There is a substantial new literature on founders and the small library of recent catalogues not only on coins, medals, and figures, large and small, but also on bells, mortars, and holy water pails and fonts – topics nearly ignored before 1990, and where the interest is driven at least in part by a fascination with bronze *per se*.² Daniela di Castro, James Mundy and Suzanne Butters have written on the significance of porphyry; Joachim Strupp and Fabio Barry of other marbles and colored stones; John Paoletti of wood; Paola Venturelli, Martha McCrory, and Denise Allen of gems; Christine Goettler, Megan Holmes, and Jay Bernstein of wax.³ It is not even unheard of in recent years for monographic works on artists who worked in different media to be arranged by materials rather than by chronology – witness Charles Avery's 1987 book on Giambologna.⁴

When, in the late 1970s, the great Rudolf Wittkower put together a general introduction to sculpture as a medium, the result was a book on the sculptor's 'processes and principles'; when, in the early 1990s, Nicholas Penny published his take on a topic of similar scope, the book was *The Materials of Sculpture*.⁵ Penny explained in his introduction that he had considered organizing the book according to techniques, but rejected the idea, since 'modelling and casting were carried out in the same or similar

materials, and moulded work was often modelled as well.⁶ This implies that Wittkower's scheme had come to seem inadequate to the range of material Penny wished to cover, but the difference between the two books also emblemizes the distance the field as a whole has travelled. At least where the Renaissance is concerned, it is all but an expectation today that scholars of sculpture, and especially of the unpolychromed sculptures that make their materials so conspicuous, will ask about the meaning of the substances from which those objects were made. And this is not just true of the history of sculpture: such developments run parallel with, and may even be indebted to, the emergence of similar interests in the history of architecture, painting, and other media. Publications like the terrific London National Gallery volumes *Giotto to Dürer* (1991) and *Dürer to Veronese* (1999), which present matters of technique in newly accessible ways, encourage us to meditate on the physical object.⁷ Rebecca Zorach's essays and book on the visual embodiment of copia and excess in sixteenth-century France demonstrate that the very idea of materiality was a major Renaissance concern.⁸ The special issue of *Art History* that Graham Larkin and Lisa Pon published on 'the materiality of print in early modern Europe' make a similar case for works on paper.⁹ Then there is the new literature on color. Updating Theodor Hetzer's classic *Tizian: Geschichte seiner Farbe* (Titian: A History of his Colours) is Daniela Bohde's 2002 book *Haut, Fleisch und Farbe: Körperlichkeit und Materialität in den Gemälden Tizians* (Skin, Flesh and Colour: Corporeality and Materiality in Titian's Paintings).¹⁰ And Paul Hills's *Venetian Colour*, also from 2002, concretized its subject with a subtitle – *Marble, Mosaic, Painting and Glass* – which immediately signalled the ways that a history of materials would let his account of the city's art move comparatively from one medium to another.¹¹

Among the earliest writers to consider the significance of colored stones was Georges Didi-Huberman, whose remarkable 1986 article and 1990 book on Fra Angelico set up their arguments with the claim that 'there is nothing "abstract" in Fra Angelico's paintings: on the contrary, everything is excessively *material*' (emphasis his).¹² A primary focus of Didi-Huberman's studies was Angelico's creation of fictive marbles out of blotches of paint that threatened always to materialize, establishing their relationship to the thing they represent, in various respects, as one of

'dissemblance'. The author intended his book at least in part as a polemic against some dominant trends in Renaissance art history – he took a stance, notably, against Michael Baxandall's use of Angelico as a touchstone in formulating a humanistically inflected language that could characterize a period aesthetic – but one of Didi-Huberman's most lasting contributions was his recognition that a deep historical and even devotional literature attached to the actual stuff out of which Renaissance painting, sculpture and architecture alike were made.

Nearly contemporary with Didi-Huberman's book were Philippe Morel's first studies of the Renaissance grotto and its sculptures.¹³ By contrast to Didi-Huberman, Morel dealt with the later sixteenth century and aimed to relativize the assumptions of the enlightened *scientific* perspectives with which we, guided by the revelations of real science, are sometimes tempted to approach Renaissance objects and monuments. Writing on secular rather than sacred creations, environments in which nature's own generative forces were the major theme, Morel demonstrated that the origins of stone, its formation in the earth, and the processes by which nature transformed it, were preoccupations of Renaissance artists, writers, and patrons alike.

The difference between these studies, and their distance from, say, Penny's only slightly later book, with its emphasis on the physical properties of materials and the techniques to which they lent themselves, is what makes the particular scholarly turn we are witnessing so intriguing. The literature on materials in general is beginning to look substantial enough to count as a sub-field of the discipline – something that was not obvious before 1985 – yet that literature remains strikingly heterogeneous. It is less an outgrowth of any single historical discourse than an unexpected point of convergence, and that convergence does not always constitute a real dialogue. Is it possible, then, to say anything general about why this field is now thriving, why these lines of research have become so seductive?

Following is an annotated list of seven premises that seem to underlie recent writings on the materiality of Renaissance art. They are speculative, and not all of them motivate all authors. My intention in sketching them is not so much to account historiographically for the kind of essays that the present volume features, but rather to foreground at least some

of the reasons why the topic of materiality has, in recent years, seemed so *timely*. It seems valuable to articulate these because they are frequently tacit in the literature itself. And it seems useful to present them together, in brief form, rather than dwelling on any individually, since the goals of individual essays are often plural and intertwined. Just as the literature itself is strikingly diverse, so are individual contributions often guided by more than one purpose.

The history of materials is a social history of art

If there is a single book that has informed every writer mentioned in this paper – in France and Germany, no less than in England and the United States – it is Michael Baxandall's 1972 *Painting and Experience*.¹⁴ That book, with its discussions of gold and ultramarine, attuned a generation of scholars to the importance of the substances painters applied to their surfaces, and it is difficult to think of another volume that has been so influential. Baxandall raised the issue of materiality in the context of what he called 'a primer in the *social history* of pictorial style'. Among his crucial sources for thinking about materials were the contracts that accompanied commissions: by demonstrating how patrons, in the course of the early Renaissance, began to value the hand of the painter more than the pigments out of which the painting was made, Baxandall sought to ground Renaissance painting in economics.

Much of the more recent literature on materials may seem to show the social history of art and the history of style parting ways. Writers on gold, jewels, and coloured marbles continue, not surprisingly, to emphasize their preciousness; the cost of things remains a major topic for the history of collecting, and scholars have increasingly turned their attention to the nature of the art market and even to the history of shopping. Still, reflections like Tom Nichols's, on the relationship between the low cost of Tintoretto's paintings and their similarly cheap *aesthetic*, remind us that scholars interested in the economics of painting can also attend to *facture*.¹⁵

The history of artists' materials appeals to 'scientific' sensibilities

Those who have written recently on the materiality of Renaissance sculpture in particular may recognize a greater debt to Baxandall's 1980 *The Limewood Sculptors of Renaissance Germany* than to *Painting and Experience*. That book demonstrated that materials have not only a price but also a cultural history, and that that history can be researched in texts, particularly those dealing with the investigation of the natural world. Baxandall himself looked especially to Renaissance medicine and alchemy, a literature that subsequent scholars have mined for the light it might shed not only on wood but also on materials like bronze and clay.¹⁶ Morel, in fact, referred to the grotto as nothing less than a 'theatricalization of alchemy', and alchemy also turns out to be the 'what' behind the title of James Elkins's 1998 book *What Painting is*. Historians interested in the intersection between art and science have explored a number of their common domains – meteorology, astrology, physics – but none have brought them back to materials as readily as this.

The history of materials is a feminist history of art

As David Summers observed some two decades ago, a Renaissance tradition shaped by Aristotle commonly gendered the opposition form/material, male/female.¹⁷ To study materials – or still better, to study the way that traditional discourses on the arts have suppressed an acknowledgment of materiality (our word for which derives from the Latin *mater*, mother) – could seem to expose prejudices in the discipline. In 1992, Patricia Reilly published a widely read article on 'writing out colour in sixteenth-century art theory'.¹⁸ This followed on the heels of Jacqueline Lichtenstein's great 1989 book *La couleur éloquente* (The Eloquence of Colour), which

demonstrated how seventeenth-century French lovers of the coloured canvas drew on Italian Renaissance models to work against a Platonic metaphysics that equated painting, makeup, and sophistry.¹⁹ More recently, Rebecca Zorach, returning attention to the issue of style, has suggested that French suspicions of Italianate art were bound up with views on normative sexual behaviour.²⁰

Writing in this vein has frequently had meta-historical goals, tracing genealogies from Renaissance works to modern critical positions. Rubens has been a beneficiary, and Titian is enjoying a heyday that he has not seen since the time of Panofsky. Among the more lively questions in the most recent literature is how the stances taken by Lichtenstein and Reilly bear on media other than painting. Lichtenstein herself oriented the topic when she made a point of illustrating her objects exclusively through reproductive prints, on grounds that 'engraving ... does not alter with reproduction', and that engravers 'set themselves the challenge of creating with a burin an oratorical equivalent to the eloquence of colour'.²¹

The history of materials resists the linguistic turn

Art historians sometimes express discomfort at the idea that a painting or sculpture can be reduced to a signifier, or understood as a *text* – it appears to them that the scholars who look at art this way, the best of whom are often not art historians at all, are changing the subject, translating something foreign into a more familiar, workable language.²² Some writers have even pointed in the direction of a kind of post-iconographical art history. This might consist of a newly historical attention to formal properties, or it might move away from the idea of the painting or sculpture as an *image*: here we might return to the example of *What Painting is*, which, in treating paintings as transmutations of pigment ceased to regard them as pictures at all.²³ Elkins's book is unusual, for it is completely indifferent not only to the subject matter of art, but also to pictorial composition, even as it attempts to place material objects within a specific elite historical culture.

Today, we tell our students that they must grapple with something called 'the work itself' – by which we usually mean that they should visit museums and see things in the flesh, rather than writing from reproductions, which isolate objects from their physical context, disguise scale, flatten relief, and as often as not distort colour. Is it possible that the appeal of studying materials is that this ostensibly avoids seeing the artworks as a certain kind of sign? If so, the literature could well amount to a kind of territorialism, a sense that, even as our neighbours in the history, English, and philosophy departments write about *our* things, we still have a distinctive expertise.²⁴

There is also a certain wilful blindness to this move. For as soon as most scholars start thinking about the materiality of the work, they ask what different materials *mean*. Treating images as symbols may now seem retrogressive, but we remain interested in, say, the significance of travertine, or *pietra serena*, and if we wish for that significance to be historical we look to old texts. Giving an account of the 'materiality' of the painted or sculpted mark may even reproduce one part of the semiotician's enterprise: the pioneers of deconstructive reading were seriously interested in the materiality of the text, and their attention to materiality shaped some of the earliest art historical treatments of the topic.²⁵

Materiality is the modernity of Renaissance art

No one walking through a museum with a Renaissance to contemporary art collection can fail to remark that, whereas the artist's choice of materials might once have been almost natural – that is, conventional to the point that it was barely a choice at all – the materials employed since the time of Picasso and Duchamp, and the import of the choice itself, are unavoidable. Cardboard, plastic, felt, fat, fabricated steel – twentieth-century art makes its materials central to the work's effect or meaning. In her recent book *Das Material der Kunst*, Monika Wagner has gone so far as to suggest that the fetishism or thingness of much twentieth-century art seems to

resist formal analysis, and to demand a different manner of critical thinking.²⁶ Even without wishing to take a position on that claim, we might ask whether this art, and the literature devoted to it, has not made Renaissance historians more aware, by example or by contrast, of the difference in the sixteenth-century artwork's own corporeality.

This leaves unanswered the question of why it should have been in the late 1980s that materials first really seemed to engage early modern studies. Did belated encounters with abstract expressionism, or with minimalism, lead scholars to appreciate the Renaissance work's 'objecthood' differently? Didi-Huberman writes:

If Angelico's surface is more likely to evoke one of Jackson Pollock's drippings than any narrative or perspectivist construction of the Italian Renaissance, this is because it tends to obscure every effect of a *mimesis* of aspect, or motif, in order to foreground in a violent way the *material* existence of the index, the pictorial trace.²⁷

Elkins's jarring juxtaposition of colour-plates similarly seems to equate the surface qualities of Renaissance and post-1945 paintings. And generally, the recent literature represents a generational shift from Wittkower, who confessed at the first paragraph of his Introduction to *Sculpture: Processes and Principles* that 'despite decades of training in reading art-historical prose, I have not often managed to get through a book on modern art from cover to cover.'²⁸

Restoration is the lure

The technologies available to assist and control the conservation and repair of objects have reached a remarkable level of sophistication. This has given the institution that houses historical objects new license with their preservation and even beautification in the hands of experts. It has also meant that what counts as the proper care of objects involves unprecedented expense. The environmental factors that threaten Renaissance paintings

and sculptures today have never been more severe; interventions, in many cases, are ever more pressing. Yet it is also the case that corporations with other aims have seen the advantages that collaborations with museums can offer, sponsoring some of the most expensive undertakings in exchange for control over the reproduction of images or simply for publicity.²⁹ The vast subventions these entities have been able to make available has only increased the rate at which spectacular restorations are undertaken. There can be little doubt that this, too, has affected our awareness of materials, as our attention is directed with increasing insistence to the surfaces the projects reveal, often presented in detail in lavish publications.

The whole business, of course, is not without controversy, and the public debates surrounding the most high-profile restorations only add attention to the materials at issue and to what it is that is happening to them. Equally novel is the public nature of restoration itself: what once took place in basement laboratories has become part of the display. Visitors had the impression that they were getting access to the technicians working on bronzes like the Marcus Aurelius and Cellini's *Perseus*, to give two examples from the late 1990s, and the paraphernalia accompanying the undertaking offered yet more opportunities for high-tech displays and corporate advertisement.

Our books write us

To treat the artwork as its material is – if not to restore its aura – at least to make it different from the disembodied light that constitutes the images we show in class, the study photos we post on websites for our students, or even the photos in books. To insist that the artwork is identical with the materials that substantiate it, and thus, in a sense, to insist that it can *not* be reproduced, is to regard it as a specific, concrete, and unique thing. Where that thing is made of noble materials like marble and bronze, organic ones like wood or mineral pigments, or even historically placeable ones like fired

clay, iron gall, or a watermarked sheet of paper, it may seem more worthy of study, more worthy of the museum, the antithesis of the gloss and dross of the world that surrounds us.

What, though, do we then make of the fact that it is often through reproductions, virtual versions of the artworks we study, that we become attentive to their materiality in the first place? Just how should we characterize the relationship between the illustrations available to us and the things on which we choose to write? The images in the books mentioned above are themselves, for the most part, images we could not have seen a few decades ago. That the texts of these books often seem to have little in common makes it all the more interesting that the books, as books, look so much alike (Plates 1.1–3).

We frequently repeat the mantra that reproductions distort the works they purport to represent, that slides and photos inadequately approximate what they stand in for. Yet the literature on materials would seem to indicate the opposite, presenting a case where the distortion discloses no less than it reveals. Our books and slides now let us see things differently, so that, when we are in our offices, away from the things on which we write – which, for most academics, is probably most of the time – we are confronted with a different version of our subject than our predecessors were. Could it be that studying the materiality of the artwork approaches the artwork in a way that is newly adequate to our current publication technologies? Could it be that the new materiality of the artwork is an effect of photography?

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Notes

- 1 See Thomas Raff's prescient *Die Sprache der Materialien: Anleitung zu einer Ikonologie der Werkstoffe*, Munich: Deutscher Kunstverlag, 1994; Michael Cole, 'Cellini's Blood', *Art Bulletin* 81, 1999, pp. 216–35, revised and expanded as chapter two of, idem, *Cellini and the Principles of Sculpture*, New York NY: Cambridge University Press, 2002; idem, 'The Medici Mercury and the Breath of Bronze', in Petra Motture, ed., *Studies in the History of Art: Large Bronzes of the Renaissance*, Washington DC: National Gallery of Art, 2003, pp. 128–53; David Summers, 'Pandora's Crown: On Wonder, Imitation and Mechanism in Western Art', in Peter G. Platt, ed., *Wonders, Marvels, and Monsters in Early Modern Culture*, Newark NJ: University of Delaware Press, 1999, pp. 45–75; Francesca G. Bewer, 'The Sculpture of Adriaen de Vries: A Technical Study', in Debra Pincus, ed., *Studies in the History of Art: Small Bronzes in the Renaissance*, New Haven CT and London: Yale University Press, 2001, pp. 159–93; Francesca G. Bewer, 'Kunststück von gegossenem Metall: Adriaen de Vries's Bronze Technique', and Frits Scholten, 'Adriaen de Vries', in Frits Scholten, ed., *Adriaen de Vries, 1556–1626: Imperial Sculptor*, Zwolle: Waanders, 1998, pp. 64–77 and pp. 125–27, 187–89, 201–3, 206–9; Frits Scholten, 'Bronze: The Mythology of a Metal', in Martina Droth and Penelope Curtis, eds, *Bronze: The Power of Life and Death*, exh. cat., Leeds: Henry Moore Institute, 2005, pp. 20–35; Edgar Lein, *Ars aeraria: die Kunst des Bronzegießens und die Bedeutung von Bronze in der florentinischen Renaissance*, Mainz am Rhein: von Zabern, 2004; idem, 'Über den Naturabguss von Pflanzen und Tieren', in *Goldglanz und Silberstrahl: Begleitband zur Ausstellung im Germanischen Nationalmuseum*, Nuremberg: Verlag des Germanischen Nationalmuseums, 2007, pp. 205–15; and Norberto Gramaccini, 'Die Aura der Reproduzierbarkeit: zum Aufkommen der Bronzestatuetten und des Kupferstichs im 15. Jahrhundert', in Peter C. Bol, ed., *Das Modell in der bildenden Kunst des Mittelalters und der Neuzeit: Festschrift für Herbert Beck*, Petersberg: Imhof, 2006, pp. 57–64, as well as Gramaccini's influential earlier essay 'Zur Ikonologie der Bronze im Mittelalter', *Städel-Jahrbuch* 11, 1987, pp. 147–70.
- 2 This literature is far too large to acknowledge properly here, but highlights include Victoria Avery, 'The Production, Display and Reception of Bronze Heads and Busts in Renaissance Venice and Padua: Surrogate Antiques', in Jeannette Kohl, ed., *Kopf – Bild: die Büste im Mittelalter und Früher Neuzeit*, Munich: Deutscher Kunstverlag, 2007, pp. 75–112; Victoria Avery, "'Giovane di spirito et d'ingegno': New Light on the Life and Work of the Venetian Renaissance Bronze

- Caster Marcantonio di Niccolò di Conti (1576–1638), in Martin Gaier, ed., *Der unbestechliche Blick: Festschrift zu Ehren von Wolfgang Wolters zu seinem siebzigsten Geburtstag*, Trier: Porta-Alba-Verlag, 2005, pp. 437–63; the two CASVA volumes, *Small Bronzes of the Renaissance* and *Large Bronzes of the Renaissance* (as cited above), as well as Peta Motture, *Bells and Mortars and Related Utensils: Catalogue of Italian Bronzes in the Victoria and Albert Museum*, London: V&A Publications, 2000, and Jennifer Montagu, *Gold, Silver, and Bronze: Metal Sculpture of the Roman Baroque*, New Haven CT and London: Yale University Press, 1996.
- 3 On porphyry see Daniela di Castro, 'The Revival of the Working of Porphyry in Sixteenth-century Florence', *Apollo* 126, 1987, pp. 242–48; E. James Mundy, 'Porphyry and the "Posthumous" Fifteenth-Century Portrait', *Bruckmanns Pantheon* 46, 1988, pp. 37–43; and Suzanne B. Butters, *The Triumph of Vulcan: Sculptors' Tools, Porphyry, and the Prince in Ducal Florence*, 2 vols, Florence: Olschki, 1996. Other types of coloured stone have been studied by Joachim Strupp in 'The Colour of Money: Use, Cost and Aesthetic Appreciation of Marble in Venice ca. 1500', *Venezia Cinquecento* 3, 1993, pp. 7–32 and most notably by Fabio Barry in his monumental 2006 Columbia University dissertation, 'Painting in Stone: The Symbolic Identity of Coloured Marbles from Antiquity until the Age of Enlightenment'. On wood, the best essay is John T. Paoletti, 'Wooden Sculpture in Italy as Sacral Presence', *Artibus et historiae* 26, 1992, pp. 85–100. The literature on gems is much more substantial. Paola Venturelli has written numerous articles as well as several books, including *Gioielli e gioiellieri milanesi, storia, arte, moda (1450–1630)*, Cinisello Balsamo: Pizzi, 1996; and *Leonardo da Vinci e le arti preziose: Milano tra XV e XVI secolo*, Venice: Marsilio, 2002. Martha McCrory was, until her untimely death, the reigning American authority on the subject; her essays include 'The Symbolism of Stones: Engraved Gems at the Medici Grand-Ducal Court (1537–1609)', in Clifford M. Brown, ed., *Engraved Gems: Survivals and Revivals*, Hanover NH: University Press of New England, 1997, pp. 158–79; 'Medaglie, monete e gemme: etimologia e simbolismo nella cultura del tardo Rinascimento italiano', in Maurizio Buora, ed., *La tradizione classica nella medaglia d'arte dal Rinascimento al neoclassico*, Trieste: Editreg, 1999, pp. 39–52; and 'Scatole, stipi e specchi: presentazione e percezione delle gemme incise dal Rinascimento all'Ottocento', in Maurizio Buora, ed., *Le gemme incise nel Settecento e Ottocento: continuità della tradizione classica*, Rome: L'Erma di Bretschneider, 2006, pp. 61–79. The most interesting recent studies are by Denise Allen: 'Juwelen der Krone: eine Einführung in die Goldschmiedekunst am päpstlichen Hof von Julius II. bis Clemens VII', in Petra Kruse, ed., *Kunst und Kultur im Rom der Päpste*, vol. 1, Ostfildern-Ruit: Hatje, 1998, pp. 285–92, and 'Designed by the Dictates of Ceremony: Cellini's Cope-morse for Clement VII', in Renate L. Colella, ed., *Pratum Romanum: Richard Krautheimer zum*

100. *Geburtstag*, Wiesbaden: Reichert, 1997, pp. 13–25. The interest in wax has been more recent. See Michael Cole, 'The *Figura sforzata*: Modeling, Power, and the Mannerist Body', *Art History* 24 (4), 2001, pp. 520–51; Christine Goettler, 'Immaterielle Körper – "Seelen in Wachs": Material, Mimesis und Memoria in der religiösen Kunst um 1600', in Jan Gerchow, ed., *Ebenbilder. Kopien von Körpern – Modelle des Menschen*, exh. cat., Essen: Ruhrlandmuseum, 2002; and Jay Bernstein, 'Wax, Brick, and Bread: Apotheoses of Matter and Meaning in Seventeenth-century Philosophy and Painting', in Dana Arnold, ed., *Art and Thought*, Malden MA: Blackwell, 2003, pp. 28–50.
- 4 Charles Avery, *Giambologna: The Complete Sculpture*, Oxford: Phaidon, 1987.
- 5 I refer to Rudolf Wittkower (with Margot Wittkower), *Sculpture: Processes and Principles*, London: Lane, 1977, and Nicholas Penny, *The Materials of Sculpture*, New Haven CT and London: Yale University Press, 1993.
- 6 Penny, *The Materials of Sculpture*, p. 4.
- 7 See Jill Dunkerton, *Giotto to Dürer: Early Renaissance Painting in the National Gallery*, New Haven CT and London: Yale University Press, 1991; and Jill Dunkerton, Susan Foister, and Nicholas Penny, *Dürer to Veronese: Sixteenth-century Painting in The National Gallery*, New Haven CT and London: Yale University Press, 1999.
- 8 See Rebecca Zorach, 'Everything Swims with Excess: Gold and its Fashioning in Early Modern France', in *Res: Anthropology and Aesthetics*, 2000, pp. 125–37; and idem, 'Desiring Things', *Art History* 17, 2001, pp. 195–212; and especially idem, *Blood, Milk, Ink, Gold: Abundance and Excess in the French Renaissance*, Chicago IL: University of Chicago Press, 2005.
- 9 See *Art History* 17, 2001.
- 10 See Theodor Hetzer, *Tizian: Geschichte seiner Farbe*, Frankfurt am Main: Klostermann, 1935, and Daniela Bohde, *Haut, Fleisch und Farbe: Körperlichkeit und Materialität in den Gemälden Tizians*, Emsdetten: Imorde, 2002.
- 11 Paul Hills, *Venetian Colour: Marble, Mosaic, Painting and Glass, 1250–1550*, New Haven CT and London: Yale University Press, 1999.
- 12 See Georges Didi-Huberman, 'La dissemblance des figures selon Fra Angelico', in *Mélanges de l'École Française de Rome / Moyen âge, temps modernes* 98, 1986, pp. 709–802; and idem *Fra Angelico: dissemblance et figuration*, Paris: Flammarion, 1990 (translated as *Fra Angelico: Dissemblance and Figuration*, Chicago IL: University of Chicago Press, 1995, here p. 4).
- 13 I refer to Morel, 'Osservazioni sugli automi nel loro rapporto con le grotte, alla fine del Rinascimento', in Cristina Acidini Luchinat, ed., *Arte delle grotte: per la conoscenza e la conservazione delle grotte artificiali*, Genoa: Sagep, 1987, pp. 59–64; and Morel, 'La théâtralisation de l'alchimie de la nature: les grottes artificielles et la culture scientifique à Florence à la fin du XVIe siècle', in *Symboles de la*

- Renaissance*, Paris: Presses de l'école Normale Supérieure, vol. 3, 1990, pp. 153–84. His definitive book on the topic appeared as *Les grottes maniéristes en Italie au XVIIe siècle: théâtre et alchimie de la nature*, Paris: Macula, 1998.
- 14 Michael Baxandall, *Painting and Experience in Fifteenth Century Italy: A Primer in the Social History of Pictorial Style*, Oxford: Clarendon Press, 1972.
- 15 Tom Nichols, *Tintoretto: Tradition and Identity*, London: Reaktion, 2004.
- 16 Michael Baxandall, *The Limewood Sculptors of Renaissance Germany*, New Haven CT and London: Yale University Press, 1980. For the relevance of alchemy to sculptural materials other than wood, see William H. Newman, *Promethean Ambitions: Alchemy and the Quest to Perfect Nature*, Chicago IL: University of Chicago Press, 2004; and Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution*, Chicago IL: University of Chicago Press, 2004; as well as the literature by Cole and Scholten cited in n. 1.
- 17 David Summers, 'Form and Gender', *New Literary History* 24, 1993, pp. 384–411.
- 18 Patricia L. Reilly, 'The Taming of the Blue: Writing out Color in Italian Renaissance Theory', in Norma Broude, ed., *The Expanding Discourse: Feminism and Art History*, Boulder CO: Westview Press, 1992, pp. 86–99.
- 19 Jacqueline Lichtenstein, *La couleur éloquente: rhétorique et peinture à l'âge classique*, Paris: Flammarion, 1989, trans. by Emily McVarish as *The Eloquence of Color: Rhetoric and Painting in the French Classical Age*, Berkeley CA: University of California Press, 1993.
- 20 Rebecca Zorach, 'The Matter of Italy: Sodomy and the Scandal of Style in Sixteenth-Century France', *Journal of Medieval and Early Modern Studies* 28, 1998, pp. 581–609.
- 21 One of the remarkable decisions that author made, incidentally, was to include no photographs, but rather to illustrate everything she discussed with contemporary reproductive prints: the effect of this is that the illustrations themselves materialize in the ink and page of the book, as much as they refer to something absent.
- 22 Cf. David Summers, 'This is Not a Sign: Some Remarks on Art and Semiotics', *Art Criticism* 3, 1986, pp. 30–45.
- 23 James Elkins, *What Painting is: How to Think about Oil Painting, Using the Language of Alchemy*, New York NY: Routledge, 1999.
- 24 There is also, perhaps, a residual hope that art history might preserve its domain by becoming a *Wissenschaft*, that by staking out a vaguely scientific territory, our books will inch closer to the history of science section in the library, and we will seem to be doing something less frivolous than telling stories about pictures.

- 25 See especially Michael Fried, *Realism, Writing, Disfiguration: On Thomas Eakins and Stephen Crane*, Chicago IL: University of Chicago Press, 1987.
- 26 Monika Wagner, *Das Material der Kunst: eine andere Geschichte der Moderne*, Munich: Beck, 2001.
- 27 Didi-Huberman, *Fra Angelico*, p. 30.
- 28 Wittkower, *Sculpture*, p. 8.
- 29 The most publicly discussed case was the restoration of Michelangelo's frescoes in the Sistine Chapel, which Nippon Television financed in exchange for short-term exclusive rights over photographs. The outrage this caused in some quarters looked like a xenophobic reaction to the fact that the investors were foreign; the agreement was not dramatically different from those into which Italian banks and other private companies have often entered with museums.