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Meaning in Materials: Netherlandish Art, 1400-1800

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Works of art are material and materials have meaning. They determine form, style, and effect and are often chosen intentionally by artists to convey artistic ideas and reinforce expressive effects. An artist's choice of materials both limits and

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How materials make meaning

Ann-Sophie Lehmann

*Without matter art could not exist; without matter art
would be something it had never once desired to be.*

Henri Focillon

Recent volumes of the *Nederlands Kunsthistorisch Jaarboek* have focused on the representation of the artist and the relation between art and science, respectively, and materials and their role in creative production have implicitly been addressed in many of the contributions.¹ The present volume takes a step further and explicitly addresses materials as active components in the conception, production and interpretation of artworks, in order to foreground the relation between materials and meaning — a large yet considerably understudied subject in art history. The volume's title, *Meaning in materials*, has been chosen to highlight the specific nature of artistic materials, which never occur in the single abstract as 'material' or 'materiality' but as 'many kinds of actual matters or substances — numerous, complex, visible, weighty'.² With just these four adjectives, Henri Focillon, who was among the first to address materials from an art theoretical perspective, compellingly conveyed the immense relevance of materials in art. Materials' visual and haptic qualities, for instance, guide the choice of subject matter, personal and period style as well as aesthetic perception. Their physical properties afford the development of tools and technologies for and by artists who transform materials into depictions and representations. Their value make them political actors as they embody power and splendor, while a lack of value may turn them into symbols of sobriety in theological disputes.

This impact, however, can rarely be pinned down by determining the distinct meaning of a material in a work of art, like determining the iconography of a certain motif. On only a few occasions is the meaning of a material clearly defined, for instance when a sculpture is carved from a piece of wood that is held to have magic qualities or when the use of precious materials is reserved for a special person.³ Most of the time, material meaning is more diffuse and has to be inferred from the ways in which specific material properties inform artistic process, as Michael Baxandall has shown in his classic study on sixteenth-century German limewood sculpture.⁴ Limewood, he writes, was a wood that 'favored carving' due to its elasticity and uniform cell structure, daring sculptors to create more sophisticated shapes than they could carve in oak. The same structure that afforded elasticity and smoothness, however, also made the wood prone to shrinkage when aging, causing it to split. Sculptors therefore became 'chiromancers' as they learned to anticipate

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*Glass bottle, between 1500 and 1700,
11.8 x 9.3 cm, Amsterdam, Rijksmuseum
(© Rijksmuseum photo-service).*

the qualities and dangers that lay hidden *within* the wood.⁵ So while limewood did not necessitate specific iconographies, the material was fundamentally connected to the way sculptures acquired form and expression and actively heightened artists' skills.

Likewise, it would be impossible to define the meaning of a particular stroke of lead-tin yellow in a painting by Jan van Eyck. That lead-tin yellow did make meaning in early Netherlandish paintings, however, can be gathered from its multifaceted history as a manufactured pigment: in combination with linseed oil it forms a thick, opaque paint, the relief structure of which was excellently suited to depicting golden threads in brocade fabric as well as highlights on metal surfaces. The use of lead-tin yellow for these motifs has led researchers to assume that early Netherlandish painters added proteinaceous media to the oil in order to create an emulsion for this particular purpose, which they did not, but the assumption brought to light a lot of information about the behavior of the pigment.⁶ Lead-tin yellow can also be studied through textual sources, such as recipes and art theoretical writings. It is well known that Leon Battista Alberti thought paint to be suited better for depicting golden objects realistically than gold leaf because the latter reflects light unevenly and because the use of paint displays more artistic skill.⁷ While this comment seems to fit Van Eyck's practice, closer inspection shows that he did not replace traditional techniques with the newer medium, but combined gold leaf and oil paint, pairing optical and material realism to achieve staggering results.⁸ In combination with oil paint, gold leaf continued to be used for the representation of blond hair, textiles and fire, refuting the notion of the purity of oil painting in the early modern period. Particularly striking examples are the candle flames in Jan Cornelisz. Vermeyen's painting *The marriage at Cana* (fig. 1).

Meaning, limewood and lead-tin yellow illustrate, is not a definite attribute of materials but is enclosed within them. To get at this meaning, technical analysis is invaluable. In the laboratory, however, materials are typically isolated — literally extracted from their historical context. In order to reveal the meaning *in* materials and the multifarious relations they establish between making, representation and interpretation, materials have to be studied in their historical and theoretical dimensions as well. James Elkins has — somewhat provokingly — doubted if materials can be approached in such a manner, because their very materiality, he argues, literally stalls the flow of intellectual thought.⁹ Elkins's rhetoric is reminiscent of the classical opposition between matter and idea, which is responsible for the lack of art historical studies on materials and is addressed in more detail in the next paragraph. Other disciplines are less doubtful. The anthropologist Timothy Ingold, for instance, has made a fervent plea for studying materials — however, he argues, this can only be fruitful if we put our flow of thought second and let the materials take the lead, following them, like artists and artisans followed them in the making of their artifacts:

Materials are ineffable. They cannot be pinned down in terms of established concepts or categories. To describe any material is to pose a riddle, whose answer can be discovered only through observation and engagement with what is there. To know materials, we have to follow them (...) In the act of production, the artisan couples his own movements and gestures — indeed, his very life — with the becoming of his materials, joining with and following the forces and flows that bring his work to fruition.¹⁰

Rather than impediments to thinking, Ingold presents materials as vibrant intermediates between making and knowing. This line of argument echoes Focillon, who described artistic techniques 'as a whole poetry of action and as the means for the achievement of metamorphosis', which if carefully studied 'affords an entrance into the very heart of the problem, by presenting it to us in the same terms and from the same point of view as it is presented to the artist'. In other words, 'by viewing technique as process and in trying to reconstruct it as such' one may understand how



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Jan Cornelisz. Vermeyen, *The marriage at Cana*, detail, c. 1530–c. 1532, oil on panel, 66.5 × 85 cm, Amsterdam, Rijksmuseum (© Rijksmuseum photo-service).



Detail fig. 1

the transformation of materials into art occurs.¹¹ Less poetic in tone than Focillon and Ingold, the historians of science Ursula Klein and E.C. Spary put a similar stress on plurality, process and movement in their introduction to a recent collection of essays on materials in science:

The materials we are investigating were plural in nature, at once the stuff of ingenious labor, mundane consumption, and sustained inquiry into nature and art. They include raw materials, processed material substances, and, finished products made from raw materials (...) They circulated between workshops, laboratories, marketplaces, coffeehouses, salons, hospitals, dispensaries, studies, and lecture halls. Following their circulation and their different uses allows social distributions of past commodities to be analyzed together with the systems of knowledge, social distinctions and power that conferred value and meaning on them.¹²

With slight modifications, the same can be said for materials in art history. Just like scientists, artists were interested in manipulating nature and shared an interest in investigating and actively creating the properties, powers, qualities and meanings of materials in a variety of contexts.

The approaches from anthropology, art history, and history of science briefly assembled here all seem to agree that the best way to study materials is indeed to follow them along the various paths they make. At the same time, the reoccurring emphasis in the texts on materials' complex, dynamic, transformative and even ineffable nature suggests that following materials is not an easy task.

No simple matter

The notion that materials are active, complicated and challenging rather than inert, simple and straightforward contradicts the role they have traditionally been assigned in the field of art history. Based on the separation of the realm of ideas and matter in antique philosophy, art theoreticians of the Renaissance argued that materials had but little influence on the quality and meaning of works of art. The real 'work' of art, it was commonly assumed, took place in the mind of the artist, where ideas and concepts were formed, which then merely had to be imposed onto passive matter.¹³ Devised to emancipate the visual arts from the realm of craftsmanship, the installment of the superiority of *idea* and *disegno* came at the cost of hiding material procedures and technical skills from view and, consequently, from theoretical reflection. The concept of artistic creation that puts mind before matter has its roots in Aristotle's distinction between form (*morph*) and matter (*hylō*).¹⁴ Though initially conceived of as a balanced model that served to explain the basic structure of all things in the world — all physical objects need both material and form in order to exist — it quickly assumed a hierarchic structure in which form was regarded as superior to matter.¹⁵ This hierarchy was enforced by the Christian paradigm of creation that assumes the existence of an immaterial spirit prior to all things material and would inspire the topos of the artist as divine creator.

Hylomorphic thinking lies at the root of other hierarchical dualisms, such as the ranking of culture above nature, male above female, theory above practice, art above craft, vision above touch, *disegno* above *colore*, and it is also mirrored in the opposition of individual materials, such as marble and clay or fresco and oil paint. From Michelangelo's reported criticism of oil painting as a mere craft that represented the principles of *colore* and appealed mostly to women and effeminate men all the way to nineteenth-century aesthetics, which proclaimed that the best artwork was one that effaced its own materiality, the history of art is permeated with the superiority of the concept of *idea* and a contempt for matter.¹⁶ The discipline of art history still suffers the consequences of the 'mind above matter' paradigm as it offers ample theories about the aesthetics, style, iconography, perception, reception, collection and so on of artworks, but little about their making and materials.

Artists must have been aware that the unidirectional model of formation does not reflect actual practice, and there is ample evidence that knowledge about materials and their particular behaviors was paramount to the creation of good artworks. Mainly tacit in nature this knowledge constitutes an 'artisanal epistemology', as Pamela H. Smith has aptly termed it in her seminal study *The Body of the Artisan*.¹⁷ It is recorded and stored in the artworks themselves as well as in textual (manuals, recipes) and visual sources (images of making).¹⁸ On closer inspection, some art theoretical writings reveal their indebtedness to the artisanal epistemology. Dutch authors for instance did not solely conform to the separation between mind and matter but also promoted the 'knowledge of the hand', carefully endowing technical skill with intellectual properties.¹⁹ In tune with the hylomorphic paradigm, however, the knowledge of the hand was assigned to the practical, scientific domain of art history, somewhat paradoxically allocating the profound material knowledge of art historians a position in the margins of their own field. In the past decades, the scientific analysis of art has evolved from a *Hilfswissenschaft* into the independent field of technical art history with its own institutions, conferences and journals.²⁰ While this emancipation has helped to establish technique and materials as central subjects of research, the scientific apparatus that dominates technical art history has also increased the methodological distance towards more historical and especially theoretically oriented approaches.

Recently, and in tune with a wider material turn in the humanities²¹, attempts to reconcile these areas have become more numerous. In Germany for instance, the work of Monika Wagner, who more or less single-handedly carved out a niche for materials as research subjects, has inspired a growing number of art historical studies of materials, mostly focusing on nineteenth- and twentieth-century art.²² Medieval art history, which has always kept more in touch with the material side of art objects due to their — often very sensual — use in religious practices, is stimulating new approaches to investigating the meaning of materials.²³ With regard to the study of early modern art, and in the wake of large projects such as the Rembrandt Research Project, also the Netherlands

have established a research tradition that is open to the combination of technical and historical-theoretical approaches and has resulted in many fruitful collaborations between scientists, conservators and art historians.²⁴ Observing this trend, also palpable in many other European and Northern American Institutions, Erma Hermens sketches the future of technical art history as inclusive:

At its least imaginative, technical art history becomes a taxonomic act of deconstruction: a material text analyzed and fragmentized. However, at its most wide ranging it embraces every aspect of artistic production, from pigment trade and manufacturing to Rembrandt's idiosyncratic techniques and Duchamp's use of ready-mades.²⁵

Neighboring disciplines greatly support the changing attitude within the field. The history of science — increasingly interested in visual and material culture — is currently providing state-of-the-art research and has made important steps in the study of the historical ontology of individual materials, often in close dialogue with art history.²⁶ Likewise, archeology, which profoundly relies on the study of materials, is developing theoretical approaches to analyze materials and material engagement, which benefit art history.²⁷ As a result, the study of materials poses a productive challenge to art history's disciplinary borders as well as to traditional hierarchies between art and craft, as Christy Anderson, Ann Dunlop and Pamela H. Smith point out in the introduction to their recent volume *The Matter of Art*.²⁸ With a methodological framework underway that advocates a disciplinary crossover,²⁹ the contributions to this volume create a middle ground where the 'taxonomic act of deconstruction' on the one hand and the more generalizing musings from Focillon to Ingold on the other are expanded upon and historicized in concrete case-studies of a variety of materials in Netherlandish art.

While it could be argued that materials can only ever be understood in their very unique circumstances, a number of criteria keep returning in these investigations of materials, which are outlined in the following three paragraphs together with the contributions to this volume.

Material interactions

As Focillon pointed out, material never occurs in the singular. It is always in contact with other materials. A *Materialikonographie*, as has been proposed by Thomas Raff, may tend to isolate materials, while in many cases meaning is created through and during interaction.³⁰ Material interaction is prevalent in at least three phases: first during extraction, production and storage of materials; second in the process of making art; and lastly when materials have been stabilized in a finished work of art.

Natural materials, such as marble, alabaster, wood or clay are quarried, polished, purified and so on, processes that entail the use of other material substances and elements, such as metal, textiles, air, fire or water. Composite materials, such as textiles, glass, paper, porcelain, bronze, lacquer, ink, pastel or paint combine different material components,

which themselves have undergone various treatments. As such, artists' materials are part of the alchemical sciences, which should not be misunderstood as an occult tradition but should be acknowledged as the precursor to the science of chemistry.³¹ Once prepared, especially non-solid materials need to be contained. Shells, for instance, were used as dishes for water-based paint during the painting process, as we know from depictions of miniature painters and the incidentally preserved specimen (fig. 2).³² Sometimes, this containment served more than its obvious purpose because materials were also subject to material interaction during storage, and even in this merely intermediate phase could contribute to the meaning of works of art.

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Shell with red paint, c. 1590–1596,
found at Nova Zembla, 2.8 x 6.2 cm,
Amsterdam, Rijksmuseum, (© Rijksmuseum
photoservice).

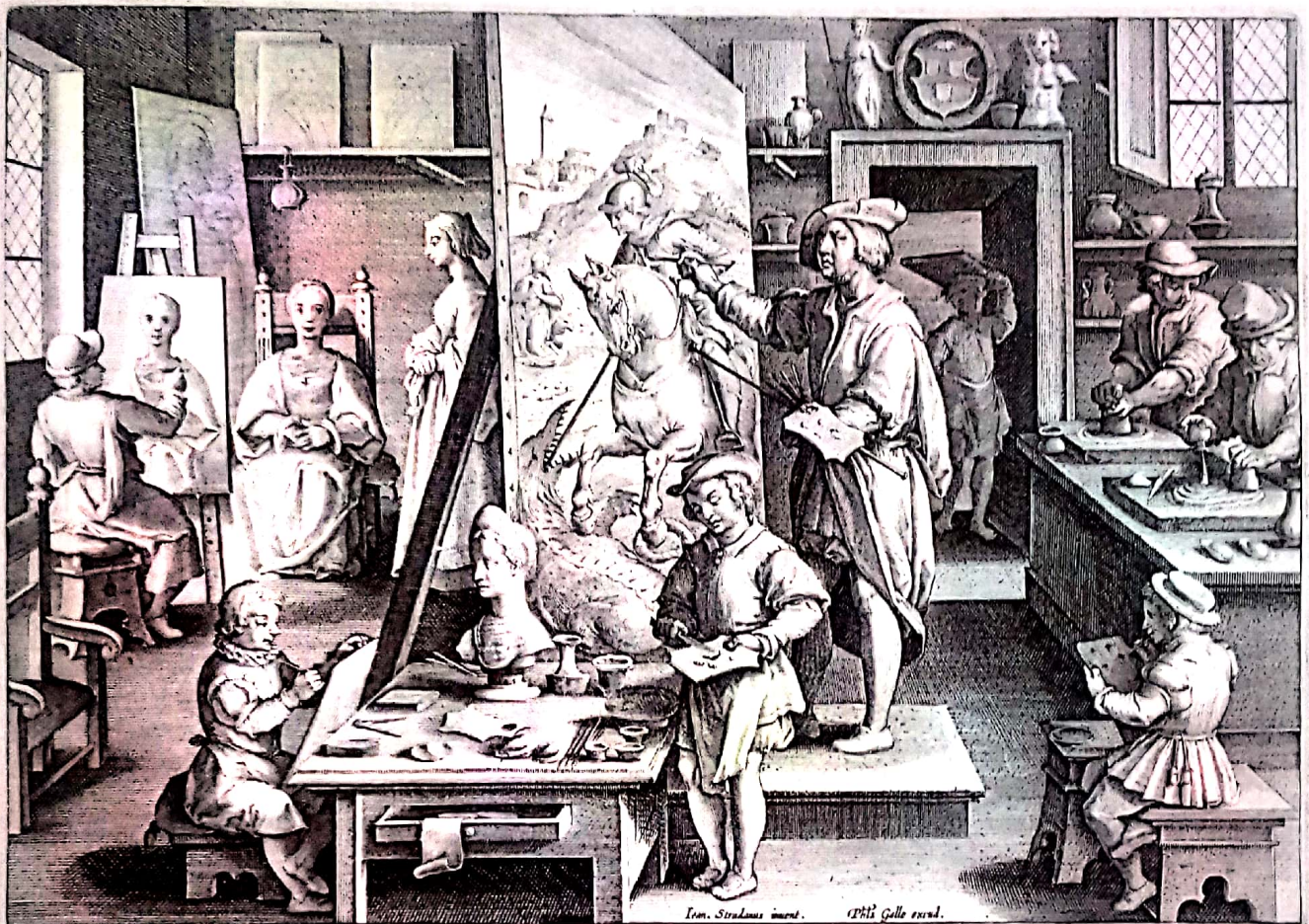


An interesting case specific to the history of Netherlandish art is the interaction between linseed oil and glass. Research has generally focused on the use and behavior of drying oils in the process of painting while the preparation of the medium has been less investigated.³³ Interestingly, the paintings themselves contain hints at this process. Appearing on windowsills for the first time in the *Annunciation* scene on the outer right panel of the Ghent Altarpiece (fig. 3), and then in depictions of St. Luke painting the Virgin and Hieronymus in his Study, are round glass bottles with long necks, filled with a transparent, yellowish fluid, the opening often covered with a piece of paper or cloth. In Stradanus's famous print of the *Nova Reperta* series that depicts the invention of oil painting in an imaginary Eyckian studio,³⁴ such a bottle hangs by a string next to a window while oil is poured from similar bottles onto the slab on which paint is mixed (fig. 4). By the seventeenth century, oil-filled bottles placed



3

Jan van Eyck, Detail of the Annunciation
on the outer wings of the Ghent Altarpiece,
after 1432, oil on panel, Ghent, St. Bavo
(© Lucasweb).



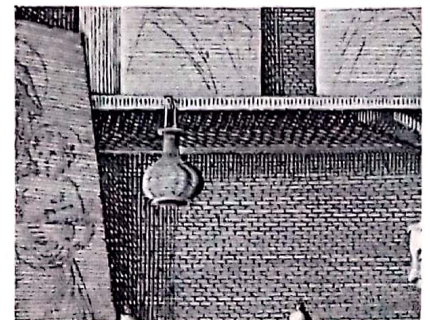
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COLOR OLIVI.
Colorem oliui commodum pictoribus, Inuenit insignis magister Eyckius.

in the vicinity of windows, had become a standard pictorial element in painters' self-portraits and studio scenes, such as Jan Steen's *Drawing Lessons* (fig. 5).³⁵ They illustrate what early sources corroborate about the preparatory process of oil: after having been cleaned, oil was best kept in the sunlight, which served the double purpose of bleaching and thickening, or pre-polymerization. Obviously, this could best be achieved by containing oil in a vessel that enclosed it as much as possible, keeping out dust while at the same time allowing for the maximum impact of light. Such a vessel was the glass bottle. Like linseed oil, which was a product of the flax industry, light-green glass vessels for domestic purposes were produced in Flanders from the late fourteenth century onwards (fig. 6).³⁶ The regional availability and successive combination of two transparent materials must be considered an important stepping stone towards the success of oil as painting medium, and it is most likely due to the peculiar interaction between sunlight, glass and oil that the bottles are depicted so frequently in early modern Netherlandish paintings. As a motif, they do not only show a material practice, but also display the qualities and capabilities of oil paint, which could capture the intricate reflections wrought by the light that fell through oil and glass.³⁷ Based on Abbot

4

Theodore Galle after Stradanus (Jan van der Straet), *Invention of oil painting*, from *Nova Reperta* (New inventions and discoveries of modern times), c. 1599–1603, engraving, London, British Museum (© British Museum).



Detail fig 4



5

Jan Steen, *The Drawing Lesson*, c. 1665,
oil on panel, 49.2 x 41.2 cm (© The J. Paul
Getty Museum, Open Content Image)

Suger's well-known musings on light, Erwin Panofsky interpreted the transparent bottles and their contents in early Netherlandish paintings as Marian symbols for the Immaculate Conception, because the beam of light passes through the material unaltered; an interpretation so simple and elegant that it was never much questioned.³⁸ A material perspective on the motif suggests that the interaction between the three transparent substances also operates on different levels, literally reflecting the innovative powers of the new stuff of painting.³⁹

While storage is not to be ignored, the meaning in materials becomes most palpable during processes of art-making when form and subject matter develop through material interaction. In this phase, materials are temporarily or permanently combined with others. Marble and bronze undergo temporary material interactions; paintings are permanently fused layers of many different materials while other artworks are based on the reversible combination of materials: precious materials, such as stained glass for instance, would have been impossible to combine into large windows without the support of inconspicuous strips of lead that connect the individual glass panes. But also within the finished work of art, materials are still interacting, even in those which seem to exist in a pure or single form: the patina of bronze, the darkening of marbles, the cracking of wood, the yellowing of paper and the melting of wax or snow are all the result of material interactions. This universality of interaction is often forgotten and when the term 'multimedia' is used, which could rightfully be applied to all works of art, it generally refers to those which combine different materials purposefully and visibly so as to achieve a particular aesthetic effect or meaning, such as mosaics, inlays and enamels. Late medieval French reliquaries, recent research shows, are a telling example of such meaningful material combinations, for instance when the body of Christ carved from mother-of-pearl is contrasted with the dark red of translucent enamel to evoke 'heavenly matter'.⁴⁰ In the nineteenth and early twentieth century, such works were often delegated to the realm of the minor and applied arts and the combination of materials perceived as a primitive or exotic feature, or both.⁴¹

In an early Western description of Japanese crafts, for instance, Christopher Dresser remarked that

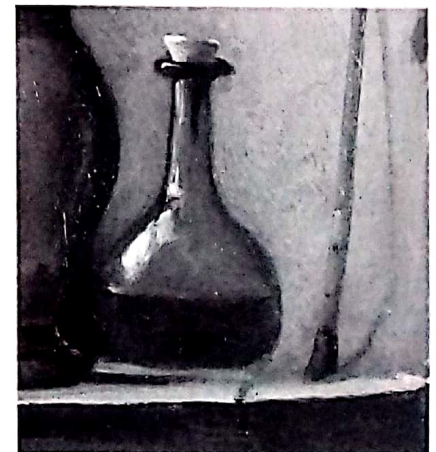
the Japanese differ from all other people in the extended use of material, and the mingling of a number of substances in one object (...) A pipe-case which I have just been inspecting is forged of ivory, and it is decorated with inlaid sprays of bamboo and birds; but its interest rests in the fact that colour is given to the sprays by the use of different kinds of materials. Thus we have leaves formed of tortoise-shell, of pearl, of gold, of oxydised silver, and of ivory dyed green, while the birds are formed of horn, through which coloured pigments are just visible. But each bird has a golden eye.⁴²

Focillon likewise described how 'Eastern masters' typically combine different natural materials and how to them nature 'is full of works of art, and art is full of natural curiosities'.⁴³



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Glass bottle, between 1500 and 1700,
11.8 x 9.3 cm, Amsterdam, Rijksmuseum
(© Rijksmuseum photo-service).



Detail fig. 5

Jan Steen, *The Drawing Lesson*, c. 1665

As shown in Nadia Baadja's contribution in this volume on Jan van Kessel's small oil paintings depicting *The four parts of the world*, the combination of different natural and composite materials cannot be reduced to a feature of Eastern craftsmanship but displays the appreciation of material in a global history of collecting. It emerged with the sixteenth-century tradition of the *Kunstammer*, and Kessel's paintings strove to imitate the multiplicity of materials wrought by art and nature in dialogue with other objects, such as the ebony frames in which the paintings were set and the ivory carvings in the vicinity of which they came to be hung. In fact, the paintings are not so different from the *Kunstammer* objects they depict, as they draw on multiple materials themselves, such as copper for support, pigments and oil in order to achieve a lifelike rendering of the represented materials, recreating material pluralism on a micro-scale. Michele Tomasi's article harks back to even earlier practices of material combination. He shows how the plurality of precious and rare materials such as gold, horn, bone and ivory for the interior decoration of the Chartreuse de Champmol together with the painted, carved and polychromed altarpieces purposefully structured social and devotional space, anticipating the notion of the *Gesamtkunstwerk*.

Material attributions

Just as materials are not alone on a material level, they are imbedded in a web of language on a cultural level, and it is through textual references in inventories, recipes, anecdotes, pamphlets and poems that their meaning-making becomes most obvious to us. Physical properties of materials and their various affordances — that is, the ways in which properties draw out and encourage or inhibit certain actions: fluid materials for instance afford the making of signs, while solid materials afford the making of three-dimensional shapes⁴⁴ — are relatively stable in nature. Attributes, on the other hand, arise from purposeful association and ideological intention and often imply a hierarchical ranking of materials. Dominant concepts of gender, religion and politics make for powerful yet unstable attributes because the way a material is perceived can vary over time and differ significantly from place to place. Thomas Ruff has described this phenomenon aptly as the semantic charging and de-charging of materials.⁴⁵ In the historiography of art history, the charging of material is most prevalent during the late nineteenth and early twentieth centuries, when in the wake of Gottfried Semper's writings about materials in architecture the notion of a *Materialgerechtigkeit* (truth to materials) was developed by the Arts and Crafts movement in England and the *Deutsche Werkbund* in Germany. Both movements are critical reactions against industrialization and mass production and advocate a pure and 'honest' use of materials, dismissing imitation and ornament as decadent and even morally corrupting.⁴⁶ The relation between materials and ideology, however, has a much older history and is central to five contributions to the present volume.

Two of these contributions, by Koenraad Jonckheere and Ralph Dekoninck respectively, show that religious criticism of materials in

counter-reformatory texts offers a hitherto unexplored perspective on iconoclastic and post-iconoclastic writings and practices in the Netherlands. During the counter-reformation, physicality as such was deemed problematic because it confirmed the idolatrous nature of religious imagery.⁴⁷ Jonckheere's in-depth analysis of the arguments by reformist and Catholic writers during the heydays of iconoclasm illustrates how both consciously divided meaning from material in the service of ideology, while the claim that stone and wood were merely dead substance was simultaneously employed by painters, who reappropriated the *paragone* for this religious context, showing that the illusionist art of painting was not partaking in idolatrous practices.

Dekoninck demonstrates how religious art came to be rematerialized in the late sixteenth and early seventeenth centuries when writers would still adhere to previous criticism of materiality as such, but foreground the adequacy of non-precious materials, such as wood and terracotta, that were considered humble and truthful substances for sculptures of the Virgin Mary. The writings were accompanied by actual practices, as Dekoninck demonstrates in discussing the veneration of wooden and clay statues of Mary in the Southern Netherlands. The practices include the attribution of healing qualities to stones and slivers of wood found in the vicinity of the statues; these fragments were sold to pilgrims to be eaten or prayed to in order to profit from their healing properties. The fusion of belief with actual substances, which the reformation had tried to eradicate, was too strong to be discarded.

Apart from religion, art theory is responsible for many powerful attributes to materials. Michelangelo's alleged attack on oil paint has already been mentioned and is a well-known example of material downgraded by gendering. The attribution of female qualities to materials has generally served to establish hierarchical structures, in which 'feminine' materials are held responsible for the lesser artistic effort (soft clay that is easier to shape than hard marble⁴⁸) or for the deception of the viewer (paint for instance is often likened to makeup).⁴⁹ In his contribution, Thijs Weststeijn demonstrates how dominant yet fluid such attributions are when he traces the afterlife of Michelangelo's remark in seventeenth-century Dutch art theory to show how oil painting was eventually endowed with male qualities by contrasting a smooth (effeminate) with a rough (manly) manner. The rough style continued to be identified as masculine throughout late-nineteenth-century French debates on post-impressionism that graphically compared paint to sperm⁵⁰ or in the self-fashioning of Dutch abstract painters as wild *schilderbeesten*.

Martha Moffitt Peacock, who sheds new light on the biography of Joanna Koerten and her intriguing and beautiful paper-cuttings, moves from the gendering of materials to the relations that are established between materials and the gender of the maker. Her article shows how not only paper but also the process of cutting is connoted as feminine. Just like in the case of oil paint, however, these categories appear to be very flexible as long as they operate within the dualism of male versus female:

through the likening of white paper to white marble and the action of cutting to carving, contemporary critics could install Koerten as a 'sculptor of paper' and therefore an artist equal to her male contemporaries.

Aleksandra Lipińska's comprehensive cultural history of alabaster in the Low Countries touches on the gendered qualities of the mineral gypsum, which are closely related to the materials' actual properties such as its softness to the touch and its semi-transparency. Citing numerous poetic references that celebrate women's alabaster-like bodies in Netherlandish texts, Lipińska shows how the material is imbued with an erotic character. At the same time, alabaster can symbolize the body of Christ in religious texts and practices, showing yet again the fluidity of attributes that could move in opposite directions, as long as the material afforded a relation to the context at hand. It would however be wrong to conclude that material attributes are entirely arbitrary. In order to stick — to literally make sense — they have to be connected in some way to actual material properties, arise from actions carried out with a material or stories (real or imagined) about the objects wrought from them. The relation between alabaster and the body of Christ, for instance, can also be explained by the material's supposed ability to embalm dead bodies, which made alabaster a preferred stone for tombs.⁵¹

Material comparisons

In addition to interactions between materials, which take place on a physical level, and the attribution of external qualities to materials, which are mostly but not entirely cultural, this last paragraph proposes comparisons as a third way in which materials make meaning.⁵² Just as attributions compare materials to qualities that lie outside of them (feminine, masculine, humbleness, corruptness), materials are constantly compared to one another and in doing so often transgress each other's boundaries on a metaphorical as well as physical level. Imitation may be called the most radical practice of comparison and offers insights into the geographical availability and the value given to materials.

For instance, the Kortrijk painter Pieter Vlerick, as Karel van Mander tells us in the *Lives*, successfully treated a pair of wooden doors with a gum-based paint of ochre and charcoal to make them appear to be made of a foreign, more exotic kind of wood.⁵³ In the life of Jan Gossaert, Van Mander tells a more elaborate tale of material imitation: always in need of money due to his notorious lifestyle, Gossaert sells a piece of white silk damask he has been given by Adolph of Burgundy to wear for the reception of Charles V. When the festivities draw near, Gossaert has a tabard cut out of paper and decorates it with flowers and ornaments to mimic the silk damask. During the festive procession, the emperor deems Gossaert's tabard more beautiful than the ones worn by the court's philosopher and poet in between whom the artist walks. Thus paper outfoxes precious textiles and the visual arts outshine poetry and philosophy.⁵⁴ The story's clever take on ekphrastic topoi of imitation and emulation becomes effective through a chain of material comparisons, as textile is replaced by paper and paper adorned with paint. There is an

important difference, however, between the imitation of exotic wood with treated local wood and the imitation of textile with paper. Though in the story the paper tabard still functions as a real garment, it ultimately serves to stress Gossaert's imitative skills in oil painting, the art that can represent *all* materials mimetically, but does not imitate them physically for material use. In other words, one cannot wear a tabard depicted in a painting. However, as Stephanie Schrader has pointed out, Gossaert's art of imitation also tied in with actual practices at the Burgundian court, where gold brocade was faked by having painters paint brocade ornaments on cheaper silk, a 'practical and cost-efficient way to display status'.⁵⁵

On both the visual and the material levels, imitation is a powerful motor for the development and refinement of materials and techniques, at times making the initially less valuable material acquire a new kind of



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Delft plaque, c. 1690–1725, tin-glazed earthenware, painted with enamels, London, Victoria & Albert Museum (© V&A).

value, that of artistic virtuoso, skill or scientific knowledge. The simulation of Chinese and Japanese lacquer in porcelain is a striking example of the latter in Netherlandish art. Porcelain itself was long imitated with clay, because the secret of porcelain-making was not discovered in Europe until the eighteenth century.⁵⁶ Inspired by the sheen and solidity of the exotic composite as well as the luxury status that imported lacquerware denoted⁵⁷, Delft pottery manufacturers engineered black glazes and recreated a typically black in typically white material that would be referred to as 'black Delft' (fig. 7). A formula for such a black glaze was published in 1679 by Johann Kunckel, who carried out experiments in glass-making in Berlin and included various state-of-the-art Dutch glazes in his treatise *Ars Vitrarya Experimentalis oder Vollkommene Glasmacher Kunst* because they could also be used for coloring glass.⁵⁸ The imitation of lacquer in porcelain thus affected the knowledge about the manufacture of colored glass; yet another material.

These brief examples all show that imitation and comparison emphasize different qualities of a material, such as color, texture, durability or geographical origin. This is certainly the case for alabaster, which exists in a constant comparison and even confusion with marble. Working through such comparisons that would position alabaster as 'marble of the north' and often served to lessen its overall value, the contributions by both Kim Woods and Aleksandra Lipińska carve out alabaster's unique features and reposition it firmly in the history of late-medieval and early-modern Netherlandish sculpture. Another, far more unusual artistic material that was compared to marble is snow. White and cold like marble, it is also flexible and transient very much unlike marble, as Frits Scholten writes in the last chapter of this volume. Taking the Antwerp snow sculptures of 1772 as a starting point, he illustrates the multiple semantic charging of snow as well as its relation to sculptors' interactions with more common malleable materials, such as wax and clay. Scholten also touches on the role of ephemeral materials in general and shows how snow sculptures bear a resemblance and direct relation to sugar sculptures — another white and generally short-lived material. Unlike sugar, which was reserved for sumptuous feasts of the nobility, snow had democratic and gaudy affordances: available to anyone when it snowed, people would shape drunken monks just as well as a Venus or Hercules. Snow, it appears, is an excellent substance to think about the meaning in sculptural materials at large.

The criteria proposed here to understand how materials make meaning — interaction, attribution and comparison — are not devised as fixed categories. These, so much has become clear, materials tend to evade. There are many other paths, which have not been explored here, on which materials can be followed through the tightly knit webs of meaning they weave in works of art. We hope that this yearbook can stimulate the exploration of such paths and the necessary combination of technical, historical and theoretical research to study material, 'this magnificent, this unequivocal bondage' of art, as Focillon put it.⁵⁹

Notes

- 1 *Nederlands Kunsthistorisch Jaarboek* 59, *Envisioning the artist in the early modern Netherlands*, and *Nederlands Kunst-historisch Jaarboek* 61, *Art & science in the early modern Netherlands*.
- 2 Focillon 1992, 96. Though credited with firmly establishing formalism in French art history, Focillon's ideas about materials are guided by a thoroughly historical approach to technology and materiality, which has been little recognized; see Briend & Thomine 2004 and Tomasi in this volume.
- 3 Raff 1994, 14–15 and 'Material als Reliquie', 67–72; Belozerskaya 2005, 56 ff.
- 4 Baxandall 1980, especially 27–49. Adamson 2007 discusses Baxandall's relevance for the study of materials, 75–78.
- 5 Baxandall 1980, 36.
- 6 Higgitt et al. 2003 demonstrated that the proteins that were found in the paint layers are not an original ingredient of the binding medium, but formed later due to a chemical reaction of lead with linseed oil. For more recent technological analysis see Spring et al. 2012.
- 7 Gage 1993, 119.
- 8 Duits 2008; Geelen 2012; Van Duijn 2013.
- 9 Elkins 2008.
- 10 Ingold 2012, 435.
- 11 Focillon 1992, 102–103.
- 12 Klein & Spary 2010, 2.
- 13 Raff 1994, 18–25, provides an excellent overview of the scoring of material in art theory. See Panofsky 1968 for the classical discussion of *idea* and Quiviger 2002 for a more concise account of the development of the dominance of *idea* above matter in Italian art theory.
- 14 Aristotle, *De Anima* ii 1, 412a20–1.
- 15 Ingold 2013.
- 16 Wagner 2001; Raff 1994, 24.
- 17 Smith 2004.
- 18 Lehmann 2012a.
- 19 Chapman & Woodall 2010, esp. 8–12.
- 20 Ainsworth 2005.
- 21 Houtman & Meyer 2012.
- 22 For example, Wagner 2001; Wagner et al. 2002; Wagner et al. 2005; Krüger 2007.
- 23 In general, see Kumler & Lakey 2012. For specific materials see for instance King 2013 on amber and Fricke 2012 on mother-of-pearl.
- 24 See, for example, Van de Wetering 1997; Eikema-Hommes 2004; Smith & Beentjes 2010; Westgeest et al. 2011; Bol 2011; Van Duijn 2013; Vandivere 2013.
- 25 Hermens 2012, 165.
- 26 See, for example, Klein & Lefèvre 2007; Dupré & Lüthy 2011; Mey et al. 2012.
- 27 See for example Conneller 2011; Hurcombe 2007.
- 28 Anderson et al. 2014.
- 29 For a discussion of different methodological and theoretical approaches to the study of materials in art history and media studies, see Lehmann 2012b; Lehmann 2014.
- 30 Raff 1994.
- 31 Klein & Lefèvre 2007, 17–18; Leonhard 2011; Principe 2013.
- 32 Jonge 1877, 20, cat. no. 69.
- 33 For a recent overview and significant reinterpretation of Vasari's myth of the invention of oil painting and its relation to actual practices, see Bol 2011.
- 34 Davis 2010.
- 35 Many examples in Kleinert 2006.
- 36 See Caluwé 2003 on archaeological findings in the Southern Netherlands, and Soetens 2001 and Loible 2012 on the history of bottles in the region.
- 37 Stumpel 2006.
- 38 See for instance Hall 1994, 113, and cat. Frankfurt & Berlin 2008. Kidson 1987 convincingly questioned Suger's authority as a 'light metaphysicist' — authority on which Panofsky built his argument.
- 39 Lehmann 2010.
- 40 Fricke 2012.
- 41 For the historiography and a re-evaluation of the so-called minor or luxury arts in antiquity, early modern and medieval art, see Lapatin 2003; Belozerskaya 2005, especially 13–46; Hourihane 2012.
- 42 Dresser 1994, 455.
- 43 Focillon 1992, 98.
- 44 The psychologist James Jerome Gibson developed the theory of affordances in the 1970s. For its relevance to art history, see Lehmann 2012b and Lehmann 2014.
- 45 Raff 1994, 15.
- 46 Rottau 2012; Adamson 2013; Volkers 2013.
- 47 Chapman & Woodall 2010, 11.
- 48 Wagner 1996; Vincentelli 2000.
- 49 Pichler 1999.
- 50 Krüger 2007.
- 51 Woods 2012.
- 52 This approach is based on Ruff 1994, 52–59.
- 53 '(...) en t'rouwe hout met bruyn Oker, oft roet, van Lijm-verwe aenstrijkende, maeckte metter steck hier in maelgien oft streken, als of het eenigh vreemt hout waer gheweest, t'welck vernist wesende seer wel stondt'. Van Mander 1969, fol. 251v.
- 54 The interpretation follows Schrader 2006, 29–32.
- 55 Schrader 2006, 33 and Duits 2008.
- 56 Rondot 1999; Cassidy-Geiger 2007.
- 57 Impey et al. 2004.
- 58 Aken-Fehmers 2004, 64–66. The treatise combines an annotated translation of Antonio Neri's glassmaking handbooks with Kunckel's own findings, including the recipes from the Netherlands he collected in situ; see 49–65. The treatise is available at <http://archive.org/stream/johanniskunckellookunc#page/no/mode/2up>.

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Detail fig. 5

Jan Steen, *The Drawing Lesson*, ca 1665