Research Topics

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Art and Knowledge in Pre-Modern Europe

By Sven Dupré

Do artists produce knowledge? Current debates on the validity and significance of 'artistic research' and divided opinions at universities and art academies on the 'doctorate in the arts' show that the question is as pressing today as it was in the early modern period. In *Den Hof en Boomgaerd der Poesien* (1565) the Ghent painter and poet Lucas de Heere was in no doubt that knowledge brought him honor and virtue: "Although I do not have the riches of Croesus, / I have (I dare to say) something. / Namely knowledge, which is highly prized, / From which riches flow and honor is done, / Which ennobles me, this one can prove." But what kind of knowledge did early modern artists like De Heere consider as part of their remit? A new Max Planck Research Group investigates how early modern artists invented, appropriated, conceived, categorized, and transmitted knowledge.

The Max Planck Research Group "Art and Knowledge in Pre-Modern Europe" studies the transmission and circulation of knowledge in the early modern artist's studio. Apart from oral communication between master and apprentice, material objects of several types mediated the exchange of knowledge in the artist's workshop. Knowledge of artist's materials and their preparation and manipulation was also transmitted in collections of recipes, of which hundreds of little-known manuscripts exist in addition to the famous *Il libro dell'arte* of Cennino Cennini. Which of these recipes played a role in the processes of learning in the workshop? And which recipes were circulated outside the confines of the workshop among physicians, *liefhebbers* and patrons? Closely connected to the increasing intellectualization

of the artist's profession was the transmission of knowledge through books, drawings and objects brought together by artists as working collections. This project investigates how artists read the books in their libraries and how painters, from Mantegna to Rembrandt, collected and used antiquities, instruments and naturalia.

Art theorists in the early modern period accepted that artists possessed knowledge, but they disagreed about the nature of this knowledge. In fact, categorizations of knowledge were often mobilized in disputes on artistic excellence. Thus, the Florentine Giorgio Vasari famously (but falsely) attributed the invention of oil paint to the Flemish painter Jan van Eyck. As he was convinced of the superiority of Florentine art, Vasari hoped the attribution would reduce Netherlandish art to the inferior level of *technē*. Making a stand against this dichotomy of the mind and the hand the Northern art theorist Domenicus Lampsonius argued that the Netherlandish artist "has intelligence in his hand".

When Jan van der Straet depicted van Eyck's idealized workshop in his Florentine series of new inventions, the *Nova Reperta* (1584), he showed the complete process of painting, from raw materials to finished product, from the grinding of the pigments to the application of the paint to the panel. Using a similar methodological approach, the Max Planck Research Group "Art and Knowledge in Pre-Modern Europe" primarily deals with paintings and other visual depictions as processes. Knowledge of materials and how to manipulate them figure prominently among such processes in all of the arts in early modern Europe. Painters shared this material knowledge with other professionals, such as apothecaries, in whose shops in Antwerp and Venice they bought their pigments, and craftsmen, such as glass-makers and goldsmiths.

Vasari in the mid-sixteenth century and later Karel van Mander in his *Schilder-boeck* (1604), portrayed van Eyck as "a man who delighted in alchemy" whose experiments led to the creation of a binding medium that produced "strong colors which are lustrous without the need of varnish, and which could be blended infinitely better than tempera". The portrayal of the painter as an alchemist is not as far fetched as one might think as both occupations shared craft processes and materials. And in early seventeenth-century Antwerp artists' interest in alchemy went beyond the practical chemical operations involved in the production of pigments. Rubens referred to the Paracelsian *tria prima* of sulphur, salt and mercury (the basic elements of the universe and of Man) to prove the threefold nature and divinity of man. Less idiosyncratic than one might think, he was not alone in this: so did his master, Otto Van Veen in his enigmatic *Physicae et theologicae Conclusiones* (1621). The prominence of spiritual and cabbalistic elements in Rubens's writings on alchemy underscore the artist's ambitions to be a *pictor doctus*. The intellectual life of an artist increasingly included the worlds of learning and scholarship.

Between 1350 and 1750 the epistemic requirements made on artists changed drastically. The artist's workshop evolved from a centre of craft practices to a place where bodies of knowledge were shared and exchanged, including topics

"Color olivi." The engraving shows an idealized representation of the workshop of Jan van Eyck, to whom Stradanus, following Vasari, attributed the invention of oil paint. Jan van der Straet (Stradanus), Nova Reperta, 1584. Deutsches Museum, Bildstelle.

taught at universities and academies. Starting early in the Renaissance period artists, especially in Italy, voiced their ambitions for the *studium* of painting as a liberal art. Pomponius Gauricus argued that the ideal sculptor should be well read and skilled in arithmetic, music and geometry. Even more ambitiously Lorenzo Ghiberti listed grammar, geometry, arithmetic, astronomy, philosophy, history, medicine, anatomy, perspective and *disegno* among the fields of study required for painters and sculptors. The artist increasingly identified with the student of the liberal arts, the *artista*.

Artists became interested in diverse fields of knowledge ranging from the anatomy of the human body to the archeology of classical antiquities in Rome, but one area held pride of place: perspective. The artist's ability to construct a convincing illusion of three-dimensional space on the basis of geometry was a powerful weapon in the battle for a higher intellectual status for the profession. However, while the modern study of perspective has developed since Erwin Panofsky's *Die Perspektive als ‚symbolische Form'* (1927) into a discipline of its own, artists' appropriation of perspectiva, the science of optics with its roots in Antiquity, was not limited to the geometry of linear perspective. Painters were equally interested in the effects of reflected and refracted light on different types of textures,

surfaces and materials (or the four Aristotelian elements following the *Trattato dell'arte della pittura* of Giovanni Paolo Lomazzo). Taking as a starting point artists' reception and appropriation of Alhacen's *De aspectibus*, the treatise that shaped the science of optics from the eleventh century on, the project studies how artists transformed and implemented bodies of knowledge on light in the science of optics. The application of this optical knowledge depended upon the artist's choice of medium. Karel van Mander's claim that the 'invention' of oil paint allowed van Eyck to masterfully represent the effects of reflected and refracted light is thus transformed into the more fruitful investigation of the application of optical knowledge in other mediums, such as that of goldsmiths and glass painters.

Knowledge did not stay within the boundaries of the artist's workshop. Beyond the personal transmission of knowledge when patrons and scholars visited the artist's studio, the focus on the mediation of artist's knowledge also allows us to show that knowledge travelled outside the artist's workshop in other domains more familiar to historians of science, medicine and technology. The Max Planck Research Group "Art and Knowledge in Pre-Modern Europe" is writing an epistemic history of art that focuses on the mediation of the circulation of knowledge within and beyond the artist's workshop. When writing this history it is important to recognize that, especially in the early modern period, any redefinition in the relationship between knowledge and art shifted the boundaries between art and science – especially in the early modern period. Art was not, and is not, a stable ahistorical category.

The Max Planck Research Group "Art and Knowledge in Pre-Modern Europe" links the Max Planck Institute for the History of Science with the Institute for Art History at the Freie Universität Berlin. This interface is part of the cooperation in the history of knowledge between the Max Planck Institute for the History of Science and the three main universities in the German capital, the Freie Universität Berlin, the Humboldt-Universität zu Berlin, and the Technische Universität Berlin. Other collaboration partners include the Bibliotheca Hertziana (Max Planck Institute for Art History) in Rome, the Centre Alexandre Koyré in Paris, the Museum Kunstpalast in Düsseldorf, and the Institute for Art History in Bern.

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