Colour in the 17th and 18th centuries: Connexions between Science, Arts, and Technology

TU Berlin, 28–30 June 2012

List of Abstracts by author, in alphabetical order.

AUDREY ADAMCZAK (Paris)

A dry coloured powdery medium: the art of making pastel and the artistic and technical literature in France Ancien Régime

My intention is to consider early modern pastellists’ use of coloured medium in relation with the contemporary literature devoted to dry powder sticks. In the seventeenth century works of art executed with pastels become numerous and a wide range of artists utilize them to produce pastel drawings and paintings in a full variety of colors and tones (Vouet, Lebrun, Nanteuil, Vivien, etc). At the same time texts and writings related to pastel are published by theorists like Abraham Bosse and Roger de Piles, or later Paul Romain Chaperon, to indicate only a few. For the most part pastel literature refers to the dry coloured powdery artist's material, the fabricated stick or tool into which the material is formed, and the work of art executed with the stick. But it also refers to the artistic practice that gives rise to an innovative aesthetic approach, pastel painting.

My paper will discuss about pastel treatises as primary sources in the practice of pastel painting and about their guidance/influence in the artists’ training (for a long period hand- crafted sticks were made on an ad hoc basis, often by artists themselves). Which was the impact of that technical literature in the diffusion of the friable coloured medium knowledge (its constituents like natural finely ground powered pigments of widely variable physical properties, the methods of its production, etc.)? Which was its incidence on the unprecedented flourish of richly coloured pastel painting practice in the late seventeenth and eighteenth centuries France? As many questions I undertake to argue during the Technische Universität Berlin conference.

Biographical note

Audrey Adamczak is a specialist of graphic arts who received her Ph.D. in art history from the Sorbonne University in Paris. Her domain of expertise includes old master drawing and print with a focus on pastel drawing/painting in the late baroque Europe. As post-doctoral researcher Audrey Adamczak was granted by several worldwide scholarly institutions like Harvard University, Princeton University and the Frick Collection in New York, and she was recipient of the Francis Haskell memorial Fund in London. Senior lecturer in Paris University, she is the author of Robert Nanteuil, ca. 1623-1678 (Paris, Arthena, 2011), a definitive monograph on one of the pioneering portrait painters in pastel to the court of the Sun King.
In the seventeenth century, one of the most common places for someone to have encountered a sustained treatment of colour is the scholastic natural philosophy textbook, yet it is not uncommon for historians of science and historians of art to mischaracterize scholastic theories of colour and vision. Scholastic treatments included discussions of the proper sensibles in general, the distinction between light, illumination, and colour, the relationship between colour, light, and transparency, the origin of colour, the colours of the rainbow, and the relationship of colour to matter and the sensitive soul. Although the topics treated in these texts were rather typical, the conclusions reached could vary substantially. Thus, without some understanding of this tradition one cannot fully describe the changes that took place in colour theory—especially within natural philosophy—nor can one fully trace the interaction of different communities on issues of colour. In this paper I examine the discussions of colour in scholastic texts, with a particular focus on three works which were highly influential in the seventeenth century: Zabarella’s De rebus naturalibus libri XXX, Magirus’s Physiologiae peripateticae libri sex, and Sennert’s Epitome naturalis scientiae (they were first published in 1590, 1597, and 1618 respectively). These three works were all extremely popular during the first half of the seventeenth century—with many editions of each published throughout the continent and in England—and they were still widely read into the second. (Magirus’s work, for example, was Netwon’s natural philosophy textbook at Cambridge, and Sennert’s was translated into English by Nicholas Culpeper in 1660.) There are many similarities between these three works, including that they all subscribe to a scheme of colour generation in which the colour contraries (black and white) arise from the elements through condensation: earth is naturally dense, black and opaque, while the other three elements—as well as, most importantly, the celestial aether—are naturally transparent, but become white through a process of condensation. There are also many differences, including their positions on the relationship between colour and matter, the difference between real and apparent colour, the role of illumination in making colour visible, and the significance of the rainbow in understanding colour generation and colour mixture. Although all three works can certainly be called Aristotelian, this label obscures more than it reveals; examining them in detail shows a much richer, more diverse, and dynamic tradition than is typically acknowledged.

Biographical Note

Tawrin Baker is a PhD candidate in the History and Philosophy of Science department at Indiana University, Bloomington. His dissertation focuses on the intersection of natural philosophy and anatomy in late-sixteenth and early-seventeenth century Padua concerning colour, vision, and the eye. He is currently a predoctoral research fellow at the Max Planck Institute for the History of Science, working with the group “Art and Knowledge in Pre-Modern Europe” headed by Sven Dupré. More information about his project can be found here: http://www.mpiwg-berlin.mpg.de/en/research/projects/15_9_6FG_Dupre_Tawrin_Baker/index_html
Indigo: Not just a colour

Indigo, the world's only natural blue dye, has been in continuous use for over five thousand years. The most widely used of all dyes, and among the oldest and best-loved, it is found on archaeological textiles of all the great civilisations. Its unique manufacture and dye processes led to its use for both everyday and prestige textiles as well as for paint pigment, and has bestowed upon it special symbolic and cultural meanings. Its story spans very many aspects of life, from geography, history, the sciences and industry to textiles, arts and mythologies. In the modern world indigo is the hallmark of denim jeans, the longest-running and most universal fashion item ever known.

This talk will summarise the scope of indigo's widespread and exotic history, with a focus on the 17th and 18th centuries when it became one of the world's great commodities, widely traded and in huge demand.

Trade in indigo dyestuff, classed as a 'spice', had already come into its own in the Middle Ages when it was transported East-West along the Silk Roads by overland camel caravan and by sea, but from 1600 it became an increasingly important strand in the story of Empire and colonial expansion. In the East the European East India Companies competed fiercely for indigo supplies, while in the West European colonial powers expanded their control from the Caribbean to much of Central and South America and the Caribbean coasts of North America; indigo, a valuable and volatile colonial product, was produced there on plantations exploiting African slave labour. Recently recovered shipwreck indigo cargoes from this period will be highlighted in the talk.

Among many other colourful aspects of this important dye pigment, whose colour Newton selected to add to the spectrum, is its use by painters of the past since Antiquity, e.g. to create the intriguing 'Maya blue' of pre-Columbian America. The talk will span indigo's role in, for example, Japanese woodcuts, and paintings by Zoffany and the mysterious Italian painter of the late 17th century known as the 'Master of the Blue Jeans'.

Biographical Note

Jenny Balfour-Paul, writer, artist and traveller, is an Honorary Research Fellow at the University of Exeter, Fellow of The Royal Geographical Society and the Explorers Club, and partner in 'Silk Road Connect'- an educational initiative launched in New York by cellist Yo Yo Ma's Silk Road Project. She has been publishing, lecturing, exhibiting and broadcasting on indigo and related subjects for well over twenty years, was consultant curator for the Whitworth Art Gallery's 2007 exhibition 'Indigo: A Blue to Dye For' and consultant for the 2011 American documentary film Blue Alchemy: Stories of Indigo. British Museum Press re-issued her classic Indigo: Egyptian Mummies to Blue Jeans last year. Her forthcoming book relates her adventures by land and by sea with a Victorian traveller.

Bruno Belhoste (Paris)

Dyeing at the Gobelins in Eighteenth Century: the Challenge of Quémizet

The Gobelins factory of Paris executed tapestries for the royal residences. Under the direction of the painter Le Brun, this factory developed greatly during the reign of Louis XIV. A dye house was established and new techniques introduced from the Netherlands, especially for the famous scarlet dyeing. But, in eighteenth century, the Gobelins factory...
faced a difficult challenge. Tastes had changed in painting. Painters who prepared tapestry cartoons, like Oudry, Boucher or Van Loo enlarged their range of hues and favored a palette of light colors, especially for flesh tint. They also demanded that the tapestries were more faithfull to their cartoons. In response to this request, the dyers of Gobelins produced a variety of shades, but at the very expense of color fastness. As a result, colors faded and became dull and discordant after a few years. The manufacturers tried to solve the problem by improving the dyeing process and hired a gifted dyer, Antoine Quémizet. Quémizet took up a systematic approach. He drew up a catalogue of 12000 colors and gave for each color the corresponding dyeing process. Moreover, he developed new techniques of dyeing based on chemical reasoning. But Quemizet failed to implement such innovations in the Gobelins factory despite the support of the chemist Macquer and, after his death, in 1779, the dyehouse fell into decline.

Finally, when the chemist Michel Chevreul took over the direction of the dyehouse in 1825, nothing was left of the Quemizet's catalogue.

In my presentation, I will analyze the debate about dyeing at the Gobelins and the life and works of Quémizet through the documents which has been left.

Biographical Note


CAROLE BLUMENFELD (Rome)

„Daring Harmonies of Colour“!
Colors for painting sold at market in Rome and Paris (1750-1815)

The proposal I am presenting is the continuation of research I carried on over the past year. At the Villa Medici, I have dedicated my project, “Aux sources d’une éloquence,” on the exchanges between fellows of the French Academy and Italian colormen. The study of the 18th century business of colors calls for a multi-faceted, multidisciplinary view of the society that was devoted to painting, contemplating, and discussing works of art. The search for the picturesque, as well as the desire and struggle for authenticity – for a proximity with “the idea of nature” which constitutes one of the 18th century’s major centers of thought – depended on this work with colors.

How did the 18th-century palette become an issue beyond the scope of artists? How were the changes in the use of artists’ colors affected by the continuing evolution of political, economic and social movements that transformed late 18th and early 19th century Europe? How did the late 18th-century colormen have an impact on the artistic social interactions?

A couple of decades before the invention of the color tubes, artists’ colors were in fact a topic of real debate between artists, color makers, color dealers, scientists, and also philosophers. From the beginning of the 18th century to the beginning of the 19th, Paris appeared to be opened to foreigners and new discoveries; this provided the opportunity to improve the color market. In opposite, “La Roma dell’illuminismo,” was giving the
impression of an old laboratory for producing color expertise, trying to keep its secrets, one of its last resources, at a time when the city wasn’t no longer the capital of the art world. The comparison between the Parisian and the Roman color markets could help understand their uniqueness, but also the evolution of artists’ practices through their relation with color dealers. In Berlin, I would like to clarify the specific nature of the business of the “colloraro” and the “marchand de couleurs” using some informative examples. Reviewing biographies of Parisian or Roman key figures is an essential step in order to follow the evolution of their client networks, and the variety of material available. Based on numerous pieces of archives, it seems relevant to indicate how colormen were trained, how they obtained the opportunity to run a shop, or how they were involved in the European market. Discussions with chemists were of great help at a time when the men of the Enlightenment intended to explain positively all facets of the color industry. Indeed, I would like to offer an outline of the attraction that colormen of the late 18th century presented for scientists. It is absolutely impossible to avoid the impact of these exchanges on the status of colors. The question of materiality was central.

The Berlin conference will be the appropriate occasion to propose a broad interpretative overview of late 18th-century and early of 19th-century Parisian and Roman color market. This conference will also be an opportunity to interact with people focused on similar subjects of research.

Biographical Note

Carole Blumenfeld obtained her PhD in 2011, with a thesis on Marguerite Gerard for which she received grants from the Institut National d’Histoire de l’art and the Napoleon Foundation. Her primary area of research and expertise is the genre painting in France from the end of the 18th century to the beginning of the 19th. Curently Fellow at the French Academy in Rome (Villa Medici) where she is working on Roman colormen, she has also curated several exhibitions including Marguerite Gérard, artiste en 1789 at Cognacq-Jay Museum in Paris (2009) and more recently Petits théâtres de l'intime. La peinture de genre entre Révolution et Restauration at the musée des Augustins of Toulouse (2011-2012).

ULRIKE BOSKAMP (Berlin)

Primary Colours in the 18th century: concepts and uses

Only after the late reception in France of Newton’s Opticks (1704), primary Colours were taken up by Newtonians and Anti-Newtonians as a new field of research, as a tool in colour theory, and as a major topic of academic dispute about colour. The introduction of primary colours, used in the Opticks as a means of defining and separating individual colours in the spectrum (and of producing an analogy with music), is generally diagnosed an incomprehensible error, and as the unnessecary introduction of a practical or artistic principle into the realm of physics. Be that as it may, the „mistake“ was extremely productive. After the Opticks and throughout the eighteenth century, primaries were part of French colour theories in the natural sciences as well as in natural history. In the arts, they were introduced and applied in colour printing, and they were used in painting in very particular and peculiar ways. Although regularly claimed to be the finding of painters or other colour practicioners at the beginning of the 17th century, they permeated into art literature very late.
The paper follows the fate of primary colours through the French 18th century, focusing on three entangled areas: on their appearance in physics and popular science, on their migration into the discourse on art, and on the way they were used in artistic practice.

Biographical Note

Ulrike Boskamp is an art historian. She is currently a research fellow at the Institute of Art History at Freie Universität Berlin, Germany, where she is working on a project about travelling draughtsmen, landscape drawing and visual espionage in Early Modern history („On the Border. Travelling Artists and Espionage Images“), in the context of the DFG Research Unit 1703 „Transcultural Negotiations in the Ambits of Art“. Her PhD on colour in art and physics in 18th century France, „Primärfarben und Farbharmonie. Farbe in der französischen Naturwissenschaft, Kunstd litteratur und Malerei des 18. Jahrhunderts“ was published in 2009. She has worked at Freie Universität, Berlin, and Deutsches Forum für Kunstgeschichte, Paris, in research and teaching.

DAVID BRAFMAN (Los Angeles)

The Putrid and the Pure: Color Theory of a Baroque Neapolitan Alchemist

Among the rare books at the Getty Research Institute is a manuscript signed and dated 21 November 1606 in Naples, by the otherwise unknown Claudio de’ Dominico Celentano di Valle Nove. The manuscript is untitled—save for the cryptic incipit “prima medicina nostra ex natura est composita” (our first medicine is composed from nature; p. 1)—and is filled with quotations, notes, and observations on the operations of alchemy, including experiments in producing color pigments, conducted in the author’s laboratory.

The book’s alchemical findings are illustrated, but not with the rough sketches one might expect from a scientist’s laboratory notebook. Instead, the book contains polished drawings, heightened with sophisticated hand-coloring, whose subjects range from allegorical depictions of alchemical reactions and apparatus, figural depictions of artisans engaged in preparing minerals, and visual records of laboratory results whose success is measured by the color produced.

In his alchemical lab work, Celentano is clearly preoccupied with color. The manuscript is peppered with recipes for synthesizing paint pigments such as vermillion, lead white, and the verdigris family of copper ‘rusts.’ His introduction also makes it clear that color production is one of his prime alchemical aims: “Quid est lapis philosophorum?” “est mercurius rubeus.” (What is the philosopher’s stone? It is red mercury; p. 4). Of course, it was already common knowledge by the end of the fourteenth century that “red mercury,” or vermillion paint pigment, was made and sold by alchemists, as noted in Cennino de’ Cennini’s Libro d’Arte. Formulas for its alchemical synthesis can be found in such twelfth-century color recipe books as that of Theophilus.

Celentano, however, transforms the traditional alchemical stages of nigredo (blackening/putrefaction), albedo (whitening/purification), and rubedo (reddening/regeneration) into a unified theory of color and matter: “O benedicta materia, post putrefactionem apparere diversos colores, et postea albidinem” (O, Blessed Matter, after putrefaction various colors appear, and then white) In the alchemy of Celentano, color is the agent that bonds theory with practice. It is both the successful product of the experiment and the empirical measure of the experiment’s progress. It is also sound art instruction, according to the author: “Intellige nostrum modum, et eris bonus artifex” (Understand our method and you’ll be a good artist, p. 3).
For the seicento Neapolitan alchemist, the production of color is both useful artisanal knowledge and phenomenological proof of natural philosophy. Celentano’s theory of alchemical color and matter is firmly rooted in the contemporary culture of Naples. The wave of Italian natural science academies (accademia dei segreti, dei lincei; founded and guided in the city by Giovanni Battista della Porta) and Ferrante Imperato’s Historia naturale (Naples, 1599; the first book to illustrate a Wunderkammer) were equally preoccupied with the increasingly blurred distinction between naturalia and artificialia. Such works also noted the codependence of color and alchemy, as they framed their own conceptions of the relation between nature, science, truth, and the art of artifice during the early Neapolitan Baroque.

Biographical Note

David Brafman is Curator of Rare Books at the Getty Research Institute (GRI). His Ph.D. is in Classics and Arabic from Duke University. Current projects in planning are exhibitions and publications on Color-Theory and Practice from the Renaissance to the Present; Art of Alchemy from Antiquity to the Enlightenment; Facing East: The Western View of Islam; and Body and Soul: Greco-Arabic Physiognomy and the Sculpture of Antiquity.

Perceptions of Colours by Different Eyes

The historiography of early modern optics is dominated by a canon of names that stretches from Kepler and Descartes, via Huygens and Newton, to Euler, Young and Fresnel. As a result a long line of alternative approaches to light and vision have been relatively neglected. This goes in particular for numerous artists and connoisseurs that are not directly recognized as ‘scientists’. They did, however, do original optical research and developed ideas that tied in with artistic and manufactural practices more closely than the theories of light of the physico-mathematicians. On closer look, they appear to have shared a common approach to light and colour that does not fit the agenda of physical optics but was geared to esthetic and artisanal practices. This perceptual optics was of course as diverse as its students, but nevertheless seems to have constituted a line of theories of sight that concurred with the theories of light that dominates the history of early modern optics. In this paper I will discuss a few instances of perceptual optics, primarily Dutch cases of artists and connoisseurs that were concerned with the inquiry into light and colors. This runs from theories of art of someone like Samuel Hoogstraaten, the colour experiments of Lambert ten Kate, to the philosophy of a Frans Hemsterhuis. They provide a different early modern view on colours, that I will juxtapose with the physico-mathematical eye of Newton et al.

Biographical Note

Fokko Jan Dijksterhuis is associate professor in the history of science and technology at the University of Twente. He is currently working on an NWO funded VIDI-project The Uses of Mathematics in the Dutch Republic. The project aims at developing a cultural historical perspective on mathematization in early science and technology and is carried out with two doctoral students. He publishes on the history of the early modern mathematical sciences, returning regularly to his former specialization in the history of optics.
Color knowledge and color practice in English cosmetic treatises of the seventeenth century

The English verb "to paint" means both, painting with (oil) colors on panel and painting with cosmetics on the human face. Accordingly, English treatises on painting have discussed cosmetics since the late 16th century, like Richard Haydocke in his famous translation of Giovanni Paolo Lomazzos treatise on painting. Likewise, treatises on cosmetics analogized painting panels and painting faces. My paper will analyze how English cosmetic treatises of the 17th century dealt with color. Alongside practical color recipes and treatises on painting and cosmetic, it will discuss if these writings talked about colors in terms of artisan production or aesthetic theory.

The examination of white, red and black, the principal colors of topical female beauty, provides an analytical basis for the study of color in cosmetic treatises. However, my paper will focus on the question of the materials employed, i.e. the pigments described, their local or imported origin and the traditional or industrial nature of their production.

Biographical Note

Romana Filzmoser, studied history and art history in Salzburg and Berlin, 2011 doctor of philosophy in history of art, Humboldt-Universität zu Berlin; dissertation: „Hurenbilder. Phänomenologie eines Bildmotivs in der Druckgrafik des 17. und 18. Jahrhunderts – Images of Whores. Phenomenology of a theme in seventeenth- and eighteenth-century prints“; Theodor-Körner-Preis, Fellow at the International Research Center for Cultural Studies, Vienna, the Paul Mellon Centre for Studies in British Art, London und the Center for Literary and Cultural Research, Berlin; since 2007 assistant and since 2011 freelancer at the photo library of the Kunsthistorisches Institut in Florenz – Max-Planck-Institut, Florence, Italy

Fugitive and Variable: Color, Material Practice, and Aesthetic Contingency

My argument in this paper addresses the apparent and suggestive misunderstanding that recurs in several late eighteenth-century efforts to try to think about material color in terms of Newton’s arguments about color, color bodies, and optics. Those whose efforts I will consider include James Sowerby, Ann Bermingham, John Wilson, and Charles Obrien, but my argument will touch on the complexities of material color and its application for a few botanical illustrators, including Sowerby and Mrs Delany. My sense of this misunderstanding, as modern retrospectives would put it, is that it seeks to sustain and begin to theorize the advantages of fugitive and variable color. That such an argument runs against the current both of the Linnaean project—which refused to consider color on the grounds that its variability hampers species definition—is clear. That it may also defy Newtonian certitude, or upend it, for reasons that seem to contradict the rhetoric of these accounts is also part of my inquiry. What might be learned, I ask, from color theories that both take up the avowed stability of the Newtonian color spectrum and return, not once but repeatedly, to contrasting features of material colors and pigments.
In a wider philosophical sense, the attention to fugitive or changeable aspects of certain pigments and color sources which is so insistent in European efforts to think about India color production from the mid 1660’s forward, together with the discovery of more or less stable and strong color pigments in plants and minerals, makes a case for valuing what Linnaeus and Newton seem to discard: changeability and the role of bodies in the making of color. From another perspective, fugitive color gestures away from the increasing fixation on color as a racial index and justification for colonial power. For even as fugitive color becomes the apparent burden or marker of material and natural color, and so anything but absolute race theory begins to insist on fixed color and skin variations as an index of race. Although my principal research concern is not with race arguments that develop in the 18th century by way of sharper color distinctions for the faces of others, I am interested in how fugitive color operates scientifically and aesthetically inside a set of inquiries that valued stable, identifiable color. In the end, as Newton’s use of the term indigo for his color spectrum suggests, the path to fugitive, material color begins with Newton.

Biographical Note

Theresa M. Kelley is Marjorie and Lorin Tiefenthaler Professor and Chair of English at University of Wisconsin, Madison. She is the author of Wordsworth’s Revisionary Aesthetics (Cambridge University Press, 1988), Reinventing Allegory (Cambridge University Press, 1997), and Clandestine Marriage: Botany and Romantic Culture (Johns Hopkins University Press, forthcoming August 2012), and essays on romantic poetics, aesthetics, visual culture, and philosophy. Her current research projects concern botanical art and color theory around 1800 and romantic efforts to narrate futurity after the Reign of Terror.

ULRIKE KERN (Los Angeles)

Broken Colours: a key concept in seventeenth-century colour theory

The concept of broken colours was most relevant in early modern art theory. The idea of broken colours (corruptio colorum) was derived from antiquity by the Dutch writer Franciscus Junius in his treatise on art of 1641. It refers to colour harmonies created by combinations of muted tones that were achieved either by mixtures of pigments or gradations of local colour. The importance of broken colours was promoted with the help of both aesthetic and scientific arguments, using optical knowledge available at the time.

The proposed paper will discuss historical and technical aspects of the concept of broken colours in seventeenth century art. It will be argued that writers of art theory created connections between different disciplines, periods and styles in order to establish aesthetics of broken colours as an essential feature of the art of colouring. The following questions will be addressed:

1) Where is the origin of broken colours? Charles Alphonse Dufresnoy, in his poem De arte graphica of 1668, attributed the idea to the Venetians of the sixteenth century, especially the circle around Titian, although no such concept existed in Italian art theory. By relating broken colours to reflections of colours, however, Dufresnoy could show that the Venetians must have had a notion of broken colours that derived from antiquity as Junuis had argued. The origination of broken colours in antiquity and Italian Renaissance art was important as an argument for their artistic validity in the seventeenth century.

2) What are broken colours? The concept of broken colours was linked to optical science with the explanation that they were caused by reflections of colours: reflected light
that transports the colour of the reflecting surface to a differently coloured surface, thereby
creating a mixture of colours. By relating the artistic concept to a natural light
phenomenon, the idea of broken colours and optical law were connected.

3) How are broken colours applied with paint? Concepts related to the idea of
broken colours, ‘friendly’ or ‘related colours’, were discussed in Dutch art theory of the
seventeenth century. These concepts describe the ways in which artists would use
gradations of similar hues to apply smooth connections of colours to their pictures. Ideas
of broken colours include a broad range of possible combinations of colour that extends
from the work of painters who used a restricted palette of hues such as Rembrandt, to
those who, like Rubens, employed contrasts of bright and subdued colours. By applying
the method of ‘breaking’ pigments painters were able to create colour harmonies and
contrasts, as well as the muted tone that was sought after in painting between the
sixteenth and the nineteenth centuries.

Biographical Note

Dipl., M.A., Dr. Phil.
Research fellow at the Getty Research Institute, Los Angeles with a project on colouring in
the art and art theory of the Netherlands of the seventeenth and eighteenth centuries.
PhD: ‘Light and shadow in Netherlandish art, 1600-1750: theory and practice’, Warburg
Institute, University of London (2010); MA, Dutch Golden Age, UCL; First degree in Fine
Arts and History of Art, Hochschule für Bildende Künste Braunschweig.
Publications and forthcoming publications in Oud Holland and conference volumes,
publication of the doctoral thesis forthcoming; contributions to exhibition catalogues and
the list of contributors to the Burlington Magazine; presentations of research and
organization of academic session at international conferences (HNA, AAH, ANKK).

HEINER KRELLIG (Berlin)

Algarotti, Newton, and the advantage of their theory of light for painterly practice

The argument of the paper proposed for your International Conference “Colour in the 17th
and 18th centuries” is a reflection based on contemporary source on the relationship
between the discovery of optical refraction and painterly practise in 18th century.
Francesco Algarotti was one of the most influential intellectuals in the age of the
enlightenment. His long friendship to king Frederic II, called the Great who was of the
same age as the Italian, and his, Algarotti’s, long stay’s at his round table at the castle of
Sansouci have linked his life closely Prussian history in the period of Frederic the Great.
His fame as a scientific writer was based on his treatise “Il Newtonianismo per le dame”,
first published in 1738, that was dedicated to the popularisation of Isaac Newton’s theory
of the colours and the refraction of light. Although Goethe later condemned his ideas in his
“Farbenlehre”, Algarotti, through the many re- editions and translations were published of
his treatise, gained international attention in the republic of letters.

The popularity of his publication and the fact that Algarotty, who also was a great
connoisseur and intermediator of the arts, later also published in the field of the theory of
the arts, may have been the reason that modern critics tended to connect the changing
from the early “Hell- Dunkelmalerei” to a brighter, Veronese-like colouring in the work of
the three most important artists in Venetian 18th century – Rosalba Cariera, Antonio
Canaletto and Giambattista Tiepolo – to these popularisations of Newton’s theory, even
though lacking of chronological congruency in all of the three cases. An exact reading of Algarotti’s treatise also does not give many reason for the assumption.

An unpublished 18th century manuscript, conserved in one of the Venetian archives, entitled “Nuova Teoria sopra la Mescolanza de Colori, Secondo li Principji dell’ Optica de Newton” and dedicated to the esplicatelly “alli giovani allievi di quest’ arte [of painting]” undertakes the afford to search the advantages of Newtons theory for the painter. The author of the manuscript that probably is based on a hitherto unidentified source, comes to the not very surprising result that this theory can be of almost no significance of painterly practise – a result that would have pleased Goethe in his view of Newton’s theory. And indeed, one more century should pass until, in the age of impressionism and post-impressionism the ideas of the refraction of light based on Newton’s theories should have their effect on painter’s practise.

Biographical Note

Studies of “Kunstwissenschaft”, m. a. and ph.-d. (Dr. phil.) with Prof. Wolfgang Wolters at „Technische Universität Berlin“, subject of doctoral thesis: „Menschen in der Stadt. Darstellungen städtischen Lebens auf venezianischen Veduten“.
Museum assistant (Wissenschaftliches Volontariat) and collaboration in various positions with the „Stiftung Preußische Schlösser und Gärten Berlin Brandenburg“.
Various scholarships at the „Centro Tedesco di studi Veneziani/Deutsches Studienzentrum in Venedig“, „DAAD“ and „Villa Vigoni“.
Research assistant for the „National Inventory Research Project“ based at „Glasgow University“. Lives and works, as an independent scholar, at Berlin and Venice, amongst others as a lecturer in the “GasthörerCard”-program of „Freie Universität Berlin“.
Recent Research projects on the collection of Fieldmarshall Matthias Johann von der Schulenburg at Berlin and Venice and on Francesco Algarotti and the artistic relations between the Prussian court and Venice in the age of Frederic II., in collaboration with the „Fondazione Giorgio Cini“, Venice and the “Musei Civici di Treviso”

SACHIKO KUSUKAWA (Cambridge)

The Colour Chart of Richard Waller, FRS, 1686

‘A standard of colours being yet a thing wanting in philosophy’, Richard Waller decided to publish a chart of colours in Philosophical Transaction (1686). He sought to define colour terms (Latin, Greek, English and French) by means of a mixture (in equal weights) of pigments for ‘simple colours’. In this paper, I will set this colour chart in the context of the early Royal Society’s extensive interest in colour: they were interested in pigments and dye-stuffs, sought to obtain information about colour recipes and graphic techniques from artists, and grappled with ways to dye marble or produce coloured glass. Such interests were consonant with the Society’s interest in the History of Trades (to which Evelyn’s survey of reproductive prints, Sculptura, also belongs). I am interested in understanding how this concern in the materiality of colour and colour-production was reflected in the ways in which investigations into nature were carried out at the Royal Society. Waller is a good case -study in this respect, since he was an accomplished draughtsman and drew many sketches for the Fellows of the Royal Society – several of his watercolours have survived in the Royal Society Archives and in the Royal College of Physicians. It means that it would be possible, given the appropriate spectroscopic methods, to examine how Waller applied his theory of colours and pigments to his own drawings. It would help us
understand the relationship between graphic practice and theory that underpinned the visual practices of early modern natural knowledge.

Biographical Note


KARIN LEONHARD (Berlin)

Painting the Rainbow – Colour in Nature versus Colour in Art.

The opinion that no mixed color in art might match the luminescent color mixtures in nature was once seminally expressed in Aristotle’s De Meteorologica. Alexander of Aphrodisias is more generous with words in his commentary where he expounds his belief “that the (...) colours of the rainbow <and that is all luminous colour> can neither be procured nor imitated by painters.” Such statements opened up the competition between nature and art and also became a driving force behind the development of e.g. still life painting as a genre, and as a home of color discourse.

Already in antiquity, it has been recognized that color is not necessarily the property of natural objects but also the result of some kind of optical mixing of several species of color that overlap each other, such as can be found as we read, for example, in the perception of ‘water, clouds and birds plumage’. It was the seventeenth century, however, that brought this issue to new levels of scrutiny. What do we think of the generation of ‘apparent’ colors? The iridescence of the rainbow or the colori cangeanti of silk fabrics or birds’ feathers cannot be explained without optical models of light, at some point also introducing the spectator and his specific viewpoint into the explanatory model.

In my presentation I would like to understand Baroque still life painting, at least from the 1650s onwards, as part of an investigation into the natural conditions of color change which is closely interrelated with questions of color mixture in art. In this way color in nature and color in art are as much connected as they are kept apart, because of the prevalence of natural over artificial color production during this time. In 1664, however, Boyle confirms that the painter’s pallet can reproduce all tones and hues seen in nature through a combination of these primaries. Pigment mixture may lack the luminosity of light, but, with the addition of black or white to make shades and tints, it can mirror any chromatic gradation, which means that the colors of art can be regarded as parallel to the colors of nature.

Biographical Note

Karin Leonhard, art historian. Doctoral thesis “Zur Interieurmalerei Jan Vermeers” (“The painted room. Jan Vermeer’s interior paintings”); since 2004 assistant professor at the institute for art history, KU Eichstätt-Ingolstadt, Germany; Postdoctoral Fellow at the Kunsthistorisches Institut in Florenz (Max-Planck-Institute); at present Senior Research Fellow in the Max Planck Research Group “Art and Knowledge in Pre-Modern Europe”, with a project on seventeenth-century colour theory and practice.
Major interests: Theories on space and perception in the Early Modern Period; history of science and history of art in seventeenth-century Netherlands and Britain; history and methods of art history/Bildwissenschaften; Baroque and Postmodernism

SARAH LOWENGARD (New York)

Analogies, Adaptations and Disorientations in the Mechanization of Color-Printing Processes ca. 1640 - 1795.

What role did similar or similar-seeming technologies play in the invention and popularity of novel goods during the early modern period?

In this presentation, I explore answers to this question derived from seventeenth- and eighteenth-century efforts to mechanize color-printing processes in the production of fine and decorative arts. I use examples of textile printing technologies as a basis to examine the broader idea of “color-printed” as a set of technological processes and aesthetic results (if not quite a unified system). I look at examples and counter examples in several collections of practices—textile printing, color-printed images and wallpaper production, with particular attention to efforts to cross the now-typical boundaries. Examples include J.C. Le Blon’s effort to transfer his color mezzotint process to tapestry weaving, John Baptist Jackson’s peripatetic career in printmaking, wallpaper and textile design, William Sherwin’s shifts between paper and textile printing, and later eighteenth-century efforts to mechanize the reproduction of paintings such as the systems devised by Matthew Boulton and Francis Eginton, and by Joseph Booth. And, because the heart of this study is about attaching specific colors in a specific shape to a specific substrate, I incorporate into my examination efforts to lodge practical explanations in chemistry, physics or both. Underlying my presentation is an assumption that examples from similar-seeming arts created powerful, if often misjudged, models for the development of novelties, and that these models incorporated contemporary desires for modernity.

IOANA MĂGUREANU (Bucharest)

Colour: From Damnation in the Scientific Discourse to Its Recovery in Art Theory

This research is part of my PhD Thesis, The Rivalry Between Art and Nature in Seventeenth Century Italian Art Theory, in which I investigated how, in an era often characterised as one of "fundamental crisis of certainty", art theorists have the audacity to assert the epistomological capacity of art, arguing the cognitive potential of art and offering a response to the scientific discourse about images. The profound changes that take place in the field of knowledge during the sixteenth and seventeenth centuries, on one hand, the affirmation of the importance of visual proof and, on the other hand, the growing suspicion towards the visual sphere in general and images in particular, all contribute to the process of rethinking of the epistemological status of the visual arts.

The discussions about colour, traditionally associated to deceit, show the conditions in which art can become – in the conception of the theorists discussed (Agucchi, Bellori, Passeri, Félibien, Poussin etc.) – a cognitive instrument. If in science colour could be rejected ab initio (though natural historians rarely completely exclude colour from their concerns), art theorists had to address the issue when discussing painting, defined in European thought as illusion and materially consisting of colour. Their solution was, in my opinion, determined by concerns they shared with scientists. Accordingly, colour came to be seen, from subjective perception, "natural", superficial, untrustworthy and irrational aspect of
painting, and not without relation to taxonomic concerns in natural history, part of the
conception of art as rational construct; it was systematised through recourse to the musical
theory of tones and liberated from the uncontrollable accidents of the natural world; having
reached a colour theory based on the principle of referentiality, not resemblance, colour,
verosimile, but not natural, could serve the cognitive process, in art as well as in science.
The place that in sixteenth century art theory was occupied by the debate between
disegno and colore was taken by the dichotomy between "natural" colour – colour in
service of the structure of the image (as it was for the art theorist Matteo Zaccolini or the
painter Domenichino, whose concepts Bellori inherited) and the efficacy of color. Thus,
colour is given, in the writings of Bellori, the same constructive role as drawing has,
contributing to the lisibility of form and space and to the capacity of painting to carry
information.

Biographical Note

Ioana Măgureanu has received her BA and, following an MA at the Courtauld Institute in
London, a second MA at the Department of History and Theory of Art of the National
University of Arts in Bucharest, where she then underwent her PhD studies and where she
now teaches courses and seminars in Renaissance and seventeenth century art history
and art theory. She recently defended her PhD Thesis, The Rivalry Between Art and
Nature in Seventeenth-Century Italian Art Theory, which received the highest qualification
(equivalent of "Summa cum laude"). Her main interest is art theory as visual epistemology,
focusing on Italy in the seventeenth century.

Olaf L. Müller (Krakow)

Border Spectra in the Atmospheric Colours of Japanese woodcuts How much
Newton and Goethe were known by Hokusai and Hiroshige?

In his earliest prismatic experiments (1666), the young Newton detected the two border
spectra (black-blue-cyan-white; white-yellow-red-black). Newton chose to ignore them in
his celebrated theory concerning light and colours (1672); this was stringent as he took
them to be composed phenomena. In 1676, they were launched by Father Lucas against
Newton, but in vain. In Goethe’s Beiträge zur Optik (1791/2), and in his Farbenlehre
(1808/10), they regained prominent attention.

To the human eye, their colours appear much cleaner than the colours of Newton’s
spectra – particularly in the case of yellow and cyan. This undeniable phenomenological
fact, however, has not added strength to Goethe’s attack on Newton’s theory.
Are, then, the border spectra perhaps prominent in the art of painting? No; at least not in
European art.

The surprise lies in the art of Japanese ukyo-e, created by Hokusai and Hiroshige:
Where they show the colours of the sky, they are often using the sequence blue-cyan-
white, arranged in parallel stripes. I find this remarkable, for it is a combination of colours
that looks exactly like one of the two border spectra. With that precise geometry, they do
not occur in nature, but only in quite specific prismatic experiments.
At that time, Japan was isolated from European influences. Were, then, the border spectra
detected for a second time? This is one of the questions which I want to raise in my talk. I’ll
end the talk with a few remarks on the aesthetical effects of those colours in ukyo-e
woodcuts.
Biographical Note

OM studied mathematics, philosophy, economics, and computer science in Göttingen (Germany); PhD in philosophy (Göttingen 1996); Professor of philosophy at Humboldt University Berlin (since 2003). He is writing on topics ranging from metaphysics (such as immortality) and the philosophy of language (Schlick, Quine, etc.) to moral and political philosophy (such as climatic change and pacifism). At present, he is completing a monography on Newton and Goethe.

ROBIN REHM (Basel)

„Beauty and perfection of the pure colours“. Anton Raphael Mengs and the Singularity of yellow, red, blue

In my contribution I will examine the art-theoretical and aesthetic significance of the colours yellow, red, blue in the painting treatise and the portraits by Anton Raphael Mengs. The artist, who grew up in Dresden, spent many years in Rome and Madrid since 1741. Throughout his life, he maintained close contact with innovative minds of the art world, such as the archeologist and art historian Johann Joachim Winckelmann, the painter Giovanni Battista Tiepolo as well as Pope Clemens XIII and Karl IV, king of Naples and Sicily. The argument starts with Mengs’ treatise Thoughts concerning Beauty and Taste in Painting (Gedanken über die Schönheit und den Geschmack in der Malerey) of 1762 and his classification of the colours yellow, red and blue as a perfect examples of the „beauty“ (Schönheit) and „perfection“ (Vollkommenheit). I will address three problems.

First I will discuss the special position Mengs assigned to yellow, red and blue. The artist believed, that these colours send out „uniform“ (einförmige) or „pure“ (reine) beams of light. Therefore, the three colours acquired the status of „first visibility“ (erste Sichtlichkeit). Mengs supported this assessment by the observation, that the three colours can be separated by a prism as pure genuine phenomena. To Mengs the „uniform“ and „pure“ characteristics of yellow, red and blue manifested itself especially in optical experiments. I will examine Mengs’ references to the optical experiments described in Isaac Newton’s Opticks of 1704 and consider in which way Mengs’ concepts of „uniformity“ (Einförmigkeit) and „purity“ (Reinheit) of the three colours had been stimulated by Newton's differentiation between „primary, homogeneous or uniform colours“ and „heterogeneous or compound colours“. Following this, the significance of yellow, red and blue in Mengs’ artistic work will be examined. Based on his painting treatise I will investigate his portrait of Winckelmann (about 1755) and his selfportrait (about 1775). Mengs’ used the three colours in the Inkarnat of the facial parts as well as in the colouring of the attributes and the background. In addition, I will compare the evidence to contemporary portraiture by François Boucher.

In the third part of my talk I will return to Mengs’ idea of the „uniformity“ and „purity“ of yellow, red and blue and consider how he joined the concepts of „uniformity“ and „purity“ with the aesthetic ideas of „beauty“ and „perfection“. In this discussion I will consult the writings of Johann Joachim Winckelmann and the Aesthetica of Alexander Gottlieb Baumgarten of 1750/58.

This research shall contribute to our understanding of the dynamic influence of Newton’s Opticks on art theory and aesthetics during the middle of the 18th century.
Biographical Note

Robin Rehm studied art history, classical archeology and theory of drama at the Free University Berlin. In 2001 he obtained his PhD from the Institute of Art History with a thesis on Das Bauhausgebäude in Dessau. Die ästhetischen Kategorien Zweck Form Inhalt. After a scholarship at the Centre Allemand d’Histoire l’Art in Paris he worked as lecturer at the Institute of Art History, University Zürich, followed by a habilitation scholarship at the same institution. He is currently Researcher at the Institute for Historic Building Research and Conservation, ETH Zürich. In 2011 he habilitated at the Institute of Art History, University Basel, on the subject: „Die Welt des Auges“. Kunst und Wissenschaft 1790-1930.

PETRA SCHUSTER (Berlin)

How Knowledge of Color Affected Value Judgments in Siglo de Oro Painting
Technique Innovation: Carducho’s Diálogos de la Pintura (1633) in Comparison to
Pacheco’s Arte de la Pintura (1649)

Knowledge of 17th century Spanish painter-theorists regarding paint application and color effects is the focus of this talk. I analyze Spanish art treatises of the Golden Age in order to think about how they reflect technical innovations of the Venetian school, whose vivid paintings with visible brushstrokes influenced Spanish painting.

This focus provides intriguing insights into the causes for changes in painting ideals: Apparently, treatise-writers valued techniques that they themselves had tried as painters. Based on this hypothesis, I examine Vicente Carducho’s Dialogos de la Pintura (1633) and Francisco Pacheco’s Arte de la Pintura (1649) as exemplarily of both painters’ practical experience with various techniques of paint application. I pay special attention to the popularity of visible brushstrokes, borrones. Visible brushstrokes may have been difficult for some Spanish viewers, painters and art theorist to appreciate, when they were only accustomed to “finished” paintings.

The painter-theorists’ practical experience (or the lack thereof) with the borrones-technique greatly affected the way the painter-theorists described the technique and how they arrived at value judgments.

An approach to Siglo de Oro Spanish art theory that considers the knowledge of color, those painter-theorists gained though their own practical experience, allows a better understanding of art theoretical judgments about the artistic practices of colorists like Titian.

Biographical Note

Petra Schuster studied Art History and History from 2003 to 2009 at the Freie Universität Berlin. As early as her Master’s degree thesis, titled “Velázquez’ Sage der Arachne und die Artes“, she researched the influence of innovative painting techniques in 17th century Spanish art theory.

Since December 2009 Schuster has been writing her dissertation in Art History about color in 17th century Spanish art literature at the Freie Universität Berlin.
**Newton's Theory of Color and Painters' Primaries**

With painters' adoption of color mixing in the early Renaissance, the Aristotelian idea that colors are generated from various mixtures of white and black was seriously questioned. White and black were now considered to be not true colors but only moderators of color. The search for a small number of primary colors from which all others could be generated by mixing was resolved at the beginning of the 17th century when the three painter's primaries, red, yellow, and blue, were independently proposed. When Newton developed his new theory of color in the 1660s, modern ideas about white and black and the painters' primaries were becoming widely adopted. Newton's new theory that sunlight is a mixture of innumerable simple, spectral colors was built on these new concepts of white and black and color mixing.

Although Newton formulated his theory of color in terms of color mixing and primary colors, his concept of a primary color was fundamentally different from the painters' as Robert Hooke and Christiaan Huygens objected after the publication of his theory in 1672. His primaries were the physically irreducible elements of light that was decomposed by refraction. Newton recognized this and abandoned the artists terms in 1673. Yet in the Opticks (1704) he partly reintroduced the painters' terms in an attempt to bridge the gap between his concept of innumerable, simple spectral colors and the three painters' primaries. In my talk I will examine Newton's relationship to the painters' primaries and the various elements of his attempted synthesis, such as his concept of color mixing, his color circle and its implications for complementary colors, and the musical division of the spectrum.

**Biographical Note**

Alan Shapiro is Professor Emeritus if the History of Science and Technology at the University of Minnesota. He has written widely on Newton and the history of optics. He edited The Optical Papers of Isaac Newton. Vol. 1. The Optical Lectures, 1670-1672 (1984), and is the author of Fits, Passions, and Paroxysms: Physics, Method, and Chemistry and Newton's Theories of Colored Bodies and Fits of Easy Reflection (1993).

**AD STIJNMAN (Amsterdam) AND ELIZABETH UPPER (London)**

**Early Modern Colour Printing, 1600–1700**

In the past century, academic consensus has held that the development of the understanding of colour had no affect on the history of graphic art. Scholars and collectors have prized early modern prints for being independent from colour, and vivid hand-painting was considered a later addition that concealed the true art of the early modern print. The study of the graphic art of the seventeenth century concentrated on printing in black and white and considered colour production as experimental. However, a growing body of new research reveals that an astonishing number of prints were actually printed in colour. This paper will unveil new research regarding the development and spread of colour printing across Europe during the seventeenth century.

Chiaroscuro woodcuts, which are printed in multiple colours, are well known from the sixteenth century but were also produced throughout the seventeenth and eighteenth centuries. Before (and after) Newton, hundreds of woodcut book illustrations were printed in red and black, and the monochrome colour printing of engravings seems continuous...
since the fifteenth century. Simultaneously, the printing of engravings in multiple colours
grew rapidly during the seventeenth century from isolated experiments throughout Europe
to the major wave of colour printing that started in Holland in the 1680s. However, large
numbers of these colourful prints in many techniques remain largely unknown due to the
lack of cataloguing standards.

Based on research from our PhD projects on the development of colour use and
knowledge in early modern printing, this paper will challenge fundamental assumptions
about the making and meaning of early colour prints, both relief and intaglio printing, in
book illustrations, bound print series and single-sheet prints. This previously
undocumented spread of colour knowledge, especially workshop practice, reshapes the
understanding about the early modern print and book markets.

This paper will present solutions to the methodological and descriptive problems of
studying colour in early prints, based on emerging research tools. These include novel
approaches to the standard terminology in order to describe colour prints and working
methods based on accessible and portable technologies for material analysis. These
emerging tools glean new kinds of information from colour prints, including evidence for its
emblematic, commercial and didactic functions.

Using these new strategies to summarise findings from hundreds of early colour
prints, we will argue for a better understanding of the diffusion of technical information
needed for colour printmaking. We will demonstrate that colour in printmaking was
commonplace, not rare, by referring to examples produced across all of Europe. We will
also show that, counter to common belief, early modern colour printers often had an
important role regarding the colours of the prints they issued. This discussion of the
making, meaning and re-interpretation of early modern printed colour opens a new chapter
in the history of graphic art.

Biographical Note

Ad Stijnman is a PhD candidate in History of Art, University of Amsterdam; presently
involved in projects for the New Hollstein Dutch & Flemish Series and for the Rijksmuseum
in Amsterdam.

He was involved in the Virtuelles Kupferstichkabinett (2007–2011), a joint online
database for the print collections of the Herzog Anton Ulrich-Museum, Braunschweig, and
the Herzog August Library (HAB), Wolfenbüttel. Organised the exhibition Lichtspiel und
Farbenpracht, Entwicklungen des Farbdrucks 1500–1800, of colour prints in the HAB in
developments of manual intaglio printmaking methods 1400–2000, with a section on
colour printing and is supervised by Jan Piet Filedt Kok (2012). Stijnman is the editor of the
volumes on the colour prints of Johannes Teyler for Hollstein (2014) and involved in a
project concerning the colour prints of Hercules Segers for exhibitions at the Rijksmuseum

Biographical Note Elizabeth Upper

Affiliation: PhD candidate in History of Art, King’s College, University of Cambridge, UK.
Her dissertation, ‘Printing Colour in the Age of Dürer: German “Chiaroscuro” Woodcuts,
1487–1572’, is supervised by Jean Michel Massing and supported by the Gerda Henkel
Stiftung. After earning an MA at the Courtauld Institute, supervised by Joseph Koerner, she
worked in the Photographic Collection of the Warburg Institute, London. Her forthcoming
publications include a study in Ludwig Senfl: Das Handbuch that links a book illustration
printed with seven colours (including gold) from 1520 to the court of Emperor Maximilian I. She teaches at the universities of Cambridge and Westminster.

Ad Stijnman and Elizabeth Upper co-convened the conference ‘Impressions of Colour: Rediscovering Colour in Early Modern Printmaking, 1400–1700’ at the Centre for Research in the Arts, Social Sciences and Humanities at the University of Cambridge, 8–9 December 2011, with the assistance of Emily Gray (Courtauld Institute of Art/British Museum).

CORINNE THÉPAUT-CABASSET (London)

Words of fashion: Words of colours in Parisian Textile trade in the 17th-18th century.

In the 1670’s Parisian Merchants in brocade silk start to invent new fashions through textiles innovation, and give new names for new fabrics and/or colours.

The proposal paper wishes to highlight the diversity and success of the vocabulary describing or naming colours in fashion (clothing, furniture and interior).

The dynamic of this terminology has to be studied through shops inventories and accounting books, and through the press of the time as the Mercure Galant who was reporting new fashions in the late 17th century and early 18th century.

Textiles and dresses contribute to a large part to the portrait painting; it reveals the distinction of the sitter, gender, age, social rank, etc.

Getting a vast number of new names for colours in fashion industry has an interest to be considered through portraits Painters treaties and theories in the 17th-18th century. Van Dyck, Tocqué, Vigée-Lebrun, focus and theorise on use and colours interpretation in portraits painting. Beyond Fashion, the painter’s analysis of colours value prevails.

Biographical Note

Corinne Thépaut-Cabasset is graduated from the EPHE-Paris Sorbonne, has a BA and MA in Art History and Modern History, University Paris4-Sorbonne.

Research associate for 12 years at the curatorial department at Versailles Palace, Corinne has been appointed in 2010 by the V&A for the HERA research project Fashioning the Early Modern: Creativity and Innovation in Europe, 1500-1800.

Her research is focused on the description of fashion through the press of the time, fashion terminology, she is also working on Parisian merchants selling silk and fashionable goods in the 17th-18th century, she is also studying the international diplomatic network connected to fashionable goods circulation throughout Europe in early modern period. Her work will be an input to the European Galleries 1600-1800, V&A Museum future plan.
**Disegno versus colorito – science versus illusion?**

In the 17th century, while scientists examined the composite structure of light and philosophers reflected on the status of colour in relation to the qualities of the material body, artists at the Académie française disputed the value of colour. They claimed that disegno (dessin), the line, was to be considered as an expression of truth, whereas colour was a mere illusionary pleasure for the eye. Their arguments can be viewed in the light of an ambition to equal art with the other sciences which resulted in the disregard of colorito (coloris). Their position gained such prominence that despite its strong opposition by contemporary artists, in particular by Roger de Piles, it affected for centuries the treatment of and the reflection about colour and colorito even in art history.

**Biographical Note**

Dr. Matthias Vollmer is an adjunct professor at the Freie Universität Berlin European Studies Programme (FUBiS) and the Berlin European Studies Programme (FU-Best) and since 2008 also a lecturer at the Summer School Programme of the Courtauld Institute of Art, London. He studied History of Art, Philosophy, and Orientalism at the Freie Universität Berlin and holds a Ph.D. in Art history on medieval book illustration. Amongst others he has regularly taught interdisciplinary seminars on Renaissance art and thought, Dutch Art in the 17th century as well as on Modern Art. He currently researches the principles of visualisation in art and science, neuro-aesthetics and the development of colour theories from medieval times to the present.

**Coloring the Rococo: Intermedial Reproduction and the Invention of Color in Eighteenth-Century France**

**Biographical Note**

Susan M. Wager is a Ph.D. candidate in the Department of Art History and Archaeology at Columbia University, specializing in eighteenth- and nineteenth-century French visual culture. Her dissertation focuses on eighteenth-century reproductions after François Boucher in the mediums of engraved gems, porcelain, and tapestry. From Columbia she holds a B.A. in French & Romance Philology, and a M.A. and M.Phil. in Art History. Susan has received fellowships from the Council for European Studies and the American Society for Eighteenth-Century Studies, and has presented papers at UCLA, the Yale Center for British Art, and at the College Art Association Annual Conference.

**Practitioners' materials and optical theories Colour in Dutch 18th century natural philosophy**

This talk will discuss the role of colour theory in Dutch natural philosophy. In particular, it will analyse how Dutch natural philosophers included artisanal knowledge about colouring substances in their treatments of optics in natural philosophy and chemistry.
Dutch 18th century natural philosophy is broadly considered to be Newtonian. Willem Jacob 's Gravesande, Petrus van Musschenbroek, and to a somewhat lesser extent Herman Boerhaave were regarded as natural philosophers that promoted Newtonian philosophy in continental Europe and helped spreading a particularly empiricist interpretation of Newton's work. This interpretation emerged on a background which closely related practical sciences, natural philosophy and artisanal knowledge.

Leiden, a city that in the 17th century had rapidly grown to one of the 15 biggest European cities based on three industries: cloth making, painting and academia. The social background of Dutch Newtonianism was thus different from other natural philosophies in Europe. Van Musschenbroek was hailing from the instrument making family, 's Gravesande (and earlier Leiden philosophers) had collaborated with in the development of instruments of experimental philosophy. He also had revived the Dutch tradition of teaching practical mathematics for artisans at university, in which he laid a particular stress on the use of geometry in art. Van Musschenbroek and Boerhaave were not directly associated with artists, but stressed the close relation between experimental philosophy and artisanal practice. All three Leiden natural philosophers discussed the relation between the use of colours by practitioners – in painting or dyeing – and academic knowledge of light and colours.

The proposed talk will discuss three related points:

Discuss the social background of Dutch Newtonianism to show, how 'colour' was a common topic in the different epistemic practices present at Leiden. Clothmakers, painters and natural philosophers (of physical and chemical persuasion) were concerned with an understanding of the material causes of colouring effects.

Show how natural philosophers adapted Newtonian theory to accommodate the discussion of colour in an artisanal context. While both 's Gravesande and van Musschenbroek advocated the Newtonian theory of colours, they amended Newton's work by studies on the role of material substances – dye stuffs and pigments – in the creation of phenomena of light. They did not regard Newton's theory of colours as innate qualities of light as sufficient to explain optical phenomena, but stressed the need to understand at least some colouring effects as the result of an interaction of light with matter.

Explore the role that this work had in the context of natural philosophy throughout the 18th century. In discussing material substances, 's Gravesande and van Musschenbroek moved far into an area of knowledge that was chemical rather than physical. While this was not entirely uncommon in their work, e.g. in the discussion of the role of the element fire, going to fine details of colouring substances had the implication that the phenomenon colour needed to be analysed in terms of chemical powers of light as well as an understanding of its physical nature. A – still speculative – aspect of this research will be, in how far there is a connection between this integration of light chemistry and the role of chemical – i.e. colouring – effects of light in the debate on the nature of light at the end of the 18th century

Biographical Note

Gerhard Wiesenfeldt has studied physics, philosophy and history of science at the University of Hamburg. He has received a PhD in history of science for a study of early experimental philosophy at Leiden University. After a postdoctorate at the Max-Planck-Institute of the History of Science and an academic position at the University of Jena, he is now a lecturer in the program of History and Philosophy of Science at the University of Melbourne. His current research explores the relation between practitioners knowledge and natural philosophy in the Netherlands from the 16th to the 18th centuries.
“Color” is a peripheral topic in art history, taken up mostly by conservators and the occasional scholar interested in the evolution of pigments. In Ming China (1368-1644), however, the importance of color should not be overlooked given its highly regulated uses in the designation of rank and status among the imperial elite. Besides red and yellow, blue was the most prestigious color. This paper examines the color blue from the cultural standpoint, especially the hue which the Chinese called cui—kingfisher blue—a name related to the iridescent feathers of the kingfisher bird or cuiniao. A somewhat different shade of blue from those found on the famous blue-and-white porcelains, cui comes closer to turquoise and peacock blue. In addition to inlaid kingfisher-feather hairpins, crowns, and other items of bodily ornament, many decorative objects of the period such as architectural tiles, cloisonné, and pottery also incorporated this color. The vast application of kingfisher blue in the Ming dynasty can be explained in part by the advancement of craft techniques. But the meaning of the color itself, besides a general understanding of blue as a well-regarded ritual pigment, has not been adequately explored. Why was this color so fashionable in the Ming dynasty? How did it differ symbolically from other shades of blue? Used as a new color on Ottoman glazed tiles, kingfisher blue had an international dimension that merits additional investigation.

Biographical Note

Aida Yuen Wong (Ph.D. Columbia University) is Associate Professor in the Department of Fine Arts and Chair of East Asian Studies at Brandeis University. Her primary scholarship focuses on modern Asia, especially China and Japan, and questions of intercultural nationalism. In addition she has an interest in the crosscultural ties during other periods of Asian history, including the Ming Dynasty. Her recent publications include Parting the Mists: Discovering Japan and the Rise of National-Style Painting in Modern China (Honolulu: University of Hawai’i Press, 2006), Visualizing Beauty: Gender and Ideology in Modern East Asia (editor, 2012), and "What is a ‘Masterpiece’? Historiographical Anxieties and Classifications of Chinese Painting in the Modern Period," in Josh Yiu, ed., Writing Modern Chinese Art: Historiographical Explorations (Seattle: University of Seattle Press, 2009)