



## Karoline Beltinger, Jilleen Nadolny, eds., *Painting in Tempera, C. 1900*

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as a compilation of oil paint recipes (Cecile Parmentier, ‘Pictoria, sculptoria et quae subaltenarum artium’: is the de Mayerne manuscript unified or heterogeneous? and the writings of Jesuit fathers (Corinna Gramatke, “The Jesuit contribution to written art technological sources in the 17th and 18th centuries”).

Because Cennini’s *Il Libro dell’arte* (as known through Thompson’s translation) is a text often cited in conservation literature, Broecke and Clarke’s paper is one paper that may find an audience outside of the ATSR community. It is a reminder that what is quoted as authentic Cennini is but an early 20th century version of Cennini — the product of a time when much less was understood than now about the materials and techniques that Cennini used, when English words used by Thompson such as “plastic” had generally understood meanings that are not their primary meanings today, and when a translator would “correct” the text in his translation.

Three papers deal with general issues: why art technological sources should be studied (William Whitney, “Back to basics what do we do with art technological sources once we have found them”); whether recipe books can be used to delineate artistic practice (Sylvie Neven, “Back to the text; artists’ recipe books as historical sources for research into art technology”); and the material aspects of forgeries (Jilleen Nadolny, “Recipes for deceit: documentary sources for the production of paintings forgeries from 1300–1900”). Nadolny’s contribution is particularly useful for its extensive appendix of literature sources relating to the production of forgeries of paintings.

The ordering of the papers in the volume is that of the published conference program with a few exceptions — the texts of a scheduled presentation by Karoline Beltinger (“Archival Sources on Swiss Easel Painting in the Late Nineteenth and Early Twentieth Century”), and a keynote speech by Stefanos Kroustallis (“Transformation and Transmission: Some Thoughts Regarding the Origins of the ‘Compositiones ad tingenda’ and ‘Mappae clavicula’ Art Technology Treatises”) are not included, while the final paper in the volume — by Isabel Keller and Christoph Krekel — was not listed in the symposium program. Also, Arie Wallert’s paper “A Seventeenth-Century Textile Dyers Manuscript on the Production of Painters’ Pigments,” listed in session three of the symposium, has become a poster presentation in the volume. The inclusion of the texts and some of the illustrations from the posters provides the reader with almost all of the material to which the conference attendee had access.

Perhaps in the end, that is the point of published conference proceedings — to replicate the experience of being at the meeting for those who were unable to attend. Someone who reads this volume from first paper through last poster will experience the same mix of more or less interesting papers and posters, meaningful and puzzling groupings of papers as the person who attended the conference.

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KAROLINE BELTINGER, JILLEEN NADOLNY, eds., *PAINTING IN TEMPERA*, C. 1900. London: Archetype Publications, 2016. 264 pages, hardcover, \$95. ISBN: 978-1-90949-244-8.

... the mode of work and thought and vision which tempera enforces is far more in harmony with the general tendencies of modern life ... than is the contemporary fashion of painting in oil. Charles J. Holmes (Foreword to *A Manual of Tempera Painting*, Maxwell Armfield, 1930:9).

There is no end to tempera recipes ... All kinds of substances are mixed together in ignorance of their behavior and effects, in the quiet hope that something useful will result. Max Doerner (*The Materials of the Artist*, trans. Eugen Neuhaus, 1934:212).

The late nineteenth and early twentieth centuries were a fertile period for experimentation in artists’ materials, and the revival of interest in tempera painting stands

out as one of its more curious episodes. Several motivating factors are commonly cited for the tempera movement: these include the translation into several languages of historical texts such as Cennino Cennini’s *Il libro dell’arte*; a renewed scholarly appreciation of antique, medieval, and early Renaissance painting; and a resurgence of craft traditions in reaction to a society increasingly dominated by industry and mass-production. Digging deeper into the period literature, however, reveals a far messier narrative, with commercial, spiritual, polemical, and often contradictory arguments and agendas that can be difficult to parse from a contemporary perspective.

This background provides rich material for the beautifully produced and generously illustrated book *Painting in Tempera, c. 1900*, which collects twelve essays by researchers from multiple institutions engaged in the study of various aspects of tempera painting. The

authors follow different threads in their areas of interest and expertise — art historical, conservation, scientific — providing a broad perspective on the phenomenon. The book focuses predominantly on developments in Germany and Italy, largely a reflection of the collaborative group of researchers represented, and while it is clearly necessary to define boundaries within such a sprawling topic, it is unfortunate that there was not more scope to address cross-fertilization of ideas with other countries — Britain and the United States in particular — where theories of tempera painting also had a great impact on artists' techniques and styles around this time. For example, the book *Milk and Eggs: The American Revival of Tempera Painting, 1930–1950* (Boyle, Brown, and Newman, 2002), which takes a similar approach of combining historical, technical, and scientific perspectives in relation to tempera painting techniques in America; and Mayer and Myers' work discussing Doerner's influence on American artists working with tempera (published in this journal, vol. 41, 2002), are not cited.

A conspicuous problem in tackling this subject, as noted in this volume and by previous authors, is the imprecise and shifting meanings of “tempera.” The term in its original and most general sense refers to a paint binder (in the sense of “tempering” or modifying). It was only later, and mainly because of its use in association with early Italian paintings, that it took on the specific meaning of the “egg tempera” binder typically used in such works. Around the turn of the twentieth century, however, driven by a culture of experimentation and commerce, the term became bloated with diverse associations, encompassing almost anything that was not pure oil and that contained some water: paint formulations described as tempera included materials as varied as plant gums and resins, animal glue, casein, wax, and soap; as well as egg and oil. This is a particular challenge for a book of this type, compiling essays from multiple contributors, since the reader is left in some doubt from one chapter to the next of exactly what is the author's intended meaning of “tempera” — except in cases where an explicit definition is provided. As a consequence, a semantic haze obscures some of the discussions in what is already a complex topic.

Despite these challenges, the meticulous research presented gives vivid and often unexpected insights into the tempera phenomenon and the ways in which it can be studied and understood. The first essay by Reinkowski-Häfner provides a framework for the chapters that follow with a thorough survey of opinions and interpretations of the evolving meaning of “tempera.” The author recounts the endeavors of artists, historians, restorers, and scientists to understand historical painting techniques through the study of treatises, the examination of paintings and attempts to replicate their appearance, and a good degree of speculation. An

account is given of strenuous efforts around 1900 by German scholars to impose a strict technical definition on tempera that appear rather quixotic, given the inherent mutability of the term. The episode highlights some of the personal and commercial agendas that came into play.

A section entitled “Propagation of tempera” collects four essays addressing various factors in the promotion and diversification of the technique. Perusini and Perusini discuss the influence of written sources, published primarily in Italy and France, with a focus on mural and decorative painting. The use of tempera by restorers is also considered, and emphasis is thus placed on the relative advantages of such paint formulations used in different contexts: for large- vs. small-scale works, or for painting vs. restoration. The theme of mural painting is continued in a second essay by Reinkowski-Häfner, which concerns the convergence of fresco and tempera techniques, the influence of easel painting methods on fresco, and vice-versa. Kinseher details the innovative work of Ernst Berger in the field of paint technology, including his advocacy of tempera, in a contribution that further illustrates the fierce opinions and professional jealousies that were intertwined with the debates about artists' materials. The Roman wall paintings at Pompeii, and contentious theories about their technique, were a prominent feature of the debates at this time, and are discussed again in the following essay by Travaglio in relation to wax-based painting methods. Travaglio describes techniques including “encaustic” — a term, like tempera, that carries considerable semantic baggage — and the development in Italy of “wax tempera” paints of diverse formulations.

A further four essays grouped under the heading “Types of tempera” highlight the extraordinary range of materials and technologies that were employed in the development and formulation of paints. Beltinger discusses paint systems produced by Pereira that were remarkably complex in both their composition and recommended methods of application, based on elaborate interpretations of the techniques of Jan van Eyck and other Old Master painters, with the belief that egg tempera underlayers were often combined with oil-based glazes (alarming, Pereira admitted to destroying paintings in the process of his “technical examinations”!). The essay includes an exhaustively sourced appendix listing an impressive number of artists known to have used Pereira's paints. Italian paints, including the well-known Maimeri brand, are examined by Baroni and coauthors, who have investigated their use by both restorers and artists such as Giorgio de Chirico. The discussion raises interesting questions relating to the conflict between traditional and avant-garde tendencies in art, and the connections between an artist's materials and painting style. Pohlmann

considers the transfer of technology from photochemical processes used in photography to tempera paint systems: notably, the use of chemicals such as chromates and formaldehyde to convert water soluble media to insoluble films, a concept explored by paint chemists and developed commercially for the production of a brand of “tempera pastels.” Also included in this section is a tabulated summary, by Pohlmann and other authors, of the immense variety of industrially produced tempera paints. This invaluable and painstakingly compiled resource synthesizes information on the paints’ composition (deduced from the literature in most cases, although with a few references to confirmation by scientific analysis), dates of production, bibliographic and patent details, and artists known to have used the products.

The final three essays focus on case studies involving technical and scientific analysis of specific paintings by Arnold Böcklin, Franz von Stuck, Franz von Lenbach, Otto Modersohn, Wassily Kandinsky, and Cuno Amiet. Neugebauer employs microscopy, paint cross-sections, and replications to examine the diverse methods of application of tempera paints — layered, *alla prima*, alone or in combination with oil — by artists working in widely differing styles. It is clear that while some artists were emulating historical techniques (or at least as they understood them) others took a more experimental approach to achieve a wide range of visual effects. This observation underscores the important point that assumptions cannot be made about a painting’s materials based on its appearance, an idea further explored in the contributions by Diemann et al., and Ferreira et al., who use selected case studies to illustrate the application of scientific analysis to characterize tempera paint media. The authors stress the importance of using a multi-analytical approach to understand these unconventional paint formulations, and the particular challenges encountered: relating to alteration reactions and detection limits for individual components, as well as complex methods of application and manipulation by artists. The idea is reinforced that it is critical to interpret scientific data in light of corroborating information from documentary sources, historic reference materials and paint reconstructions, further emphasizing the value of the collaborative research effort that produced this book.

Several fascinating themes recur in the collected essays. One of these is the contradictory tendencies in the tempera movement: on the one hand there is the original impetus associated with the veneration of traditional painting techniques, as a reaction against industrialization and mass-production; and on the other, an integration of the movement with the desire for technological progress, resulting in a multitude of industrially produced “tempera” paints that exploited new

scientific knowledge and chemical ingredients (surfactants, biocides, curing agents, etc.) Second, a persistent refrain in the promotion of tempera paints was the aggressive disparagement of drying oils, which by this time had been the dominant paint medium for centuries. The criticism sometimes takes on a moralistic or sanctimonious tone — tempera paints are described as “chaste” and “pure,” and oils associated with notions of corruption and decay. While it is obviously true that different visual effects can be achieved using different paint media, the properties championed for tempera (such as luminosity and mattness) are not impossible to realize with oils (as ably demonstrated, for example, by the Impressionists), and the “impermanence” frequently attributed to oils is more likely a consequence of poor application than the medium itself. Several authors in this volume reasonably associate the backlash with a growing prevalence of poor painting practices and low quality or adulterated materials during this period, but it is also easy to read the vilified oils as a proxy for a more general distaste for “lazy” modern art among classically minded artists and critics nostalgic for the perceived rational and rigorous painting practices of earlier centuries. This presents another paradox, since tempera paints were later adopted by modernist and abstract painters such as Munch, Kandinsky, and de Chirico (and in America by Arthur Dove, Jackson Pollock, and others). These inconsistencies are clearly related to the social and cultural context in which the tempera “revival” occurred, an aspect that is touched upon in several essays but that would have benefited from greater emphasis to give the uninitiated reader a clearer historical framework.

The editors stress that this volume is not intended as an “all-encompassing” survey of the topic of tempera paints; rather it provides a snapshot of recent research in this significant and understudied area. The stated goal that the work will “provide a stimulus for further research” is given weight by the wealth of detailed information supplied not just in the essays themselves but also in the supporting tables, appendices, and bibliography. Furthermore, a great deal of information from German, Italian, and French technical sources is translated into English for the first time. It is hoped that this impressive enterprise will inspire continuing multidisciplinary study of tempera painting that will continue to give insights into the aesthetic and intellectual motivations and material choices of artists during this period, and lead to improved preservation and conservation strategies for their paintings.

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