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# Preface and Acknowledgements

This publication is the fourth volume in the 'KUNST-material' series launched by the Swiss Institute for Art Research (SIK-ISEA) in 2007. The series is dedicated to the study and preservation of works of art and presents the results of research undertaken by the Art Technology Department at SIK-ISEA either independently or in collaboration with external disciplines, institutions and specialists. A fifth title in the series is currently in preparation.

The present volume is the result of close collaborations with co-organiser Art Analysis & Research, London as well as with our various contributors and their respective institutions. At the same time, it also continues and further substantiates the art-technological research activity on painting around 1900 first taken up by SIK-ISEA over a decade and a half ago, which has resulted in publications on the painting techniques of the Swiss painters Ferdinand Hodler (2007) and Cuno Amiet (2015).

## THE 'TEMPERA GROUP'

In 2010, with the aim of stimulating and coordinating research on the use of tempera around 1900, the editors of this book, supported by their respective institutions, convened an informal international working group. Today, the so-called 'Tempera Group' consists of around 15 researchers working variously in the fields of art conservation, art science, technical art history and art history. While some of the group's members are self-employed, others are staff members of the following institutions: Art Analysis & Research in London, Bern University of Applied Sciences, Doerner Institut in Munich, Fondazione Maimeri in Milan, Munich Academy of Fine Arts, Politecnico of Milan, SIK-ISEA in Zurich, Stiftung Moritzburg - Kunstmuseum des Landes Sachsen-Anhalt in Halle, Università Ca' Foscari in Venice and Università degli Studi in Udine. Since its

inaugural meeting in Vienna in 2010 (on the occasion of the 4th interim meeting of the Art Technological Source Research Working Group (ATSR) of ICOM-CC, hosted by the Akademie der Bildenden Künste), the Tempera Group gathered for further meetings in Lisbon (hosted by the conservation department of the New University of Lisbon), Munich (at the Doerner Institut) and Zurich (at SIK-ISEA). After many fruitful discussions, the decision was taken to embark on a publication project. This book is the result of that group effort.

## TEMPERA c. 1900

The 12 essays comprising this publication present the most recent research on the type of paint known as 'tempera' and its 'rediscovery' in the late 19th and early 20th century, a period that was, in Western European countries, especially active regarding the introduction of new paint formulations for artists. While the use of tempera paints by influential painters such as Pierre Puvis de Chavannes (1824–1898), Arnold Böcklin (1827–1901), Franz von Lenbach (1836–1904), Edvard Munch (1863–1944), Wassily Kandinsky (1866–1944), Cuno Amiet (1868–1961), Paula Modersohn-Becker (1876–1907), Giorgio de Chirico (1888–1978) and others has been acknowledged for some time, the extent and degree of the general popularity enjoyed by tempera paints during this period has only recently been recognised. The wide range of commercially produced brands of tempera that were simultaneously on the market and the highly varied nature of their binding media are revelatory: a product represented as 'tempera' might have contained any of the following materials (sometimes in complex combinations): resin, animal glue, plant gum, latex, wax, soap, milk, egg or even oil, in addition to synthetic modifiers. While the defining feature (in the overwhelming majority of cases) of temperas was that they were water-soluble, a small minority of products offered as temperas could only be diluted in oil or in a specially designed vehicle. These findings articulate the formerly unrecognised variety of composition in many works of this period and are highly significant in the context of their conservation.

The rise in popularity of temperas in the late 19th century was, in part, due to dissatisfaction with the prevalent technique of painting in oil-based systems, which had insufficient luminosity of colour, were felt to dry too slowly, cracked and wrinkled as they dried and grew dark as they aged. Paint manufacturers and artists alike looked for new solutions and one option was to turn to the practice of the past. Temperas, revered as the lost technique of the 'Old Masters', were seen by some as a failsafe means with which to address the problems at hand. The study and 'rediscovery' of ancient tempera systems took various forms: scholarship of the historical texts on painting, recently transcribed and annotated, such as the *Schedula diversarium artium* and Cennino Cennini's *Il libro dell'arte*, direct examination of the paintings of antiquity, the Middle Ages and the Renaissance, and the scientific analysis of these works by chemical means.

Although tempera was classified as a 'lost' technology by artists in the 19th century, this is not strictly correct. It is true that painters who defined themselves as masters of the 'fine arts' did not learn about tempera painting in the academy or in the studio and that young painters finished their schooling with a lesser familiarity of technological solutions than they would have had in earlier centuries. But although the use of tempera had faded from the repertoire of the academic painter as the profession of painting developed along increasingly specialised paths, the practical advantages of the tempera medium had ensured that it remained a living tradition in the areas of contemporary decorative and mural painting.

In addition to their historical imprimatur, a highly important criterion for 19th-century schools of thought, temperas also provided a myriad of more prosaic benefits to painters. A testimonial for the so-called 'Pereira tempera' paints, given in 1892 by the painter and professor at the Art Academy in Breslau, Carl Ernst Morgenstern (1847–1928), articulates one of their advantages. In his letter, which was probably addressed to the Stuttgart-based manufacturer of this tempera brand, Müller & Co., the painter declared, that 'the tones of Tempera

colors [*sic*] are incomparably superior to those of oil colors'. Referring to the practice of beginning a painting in tempera and finishing it in oil, he continued: 'I really cannot see any advantage in painting these warm and chaste Tempera tints over with clammy oil colors' (Pereira 1892g, p. 22). Many contemporary artists shared Morgenstern's liking for the purity of hue that could be achieved with tempera alone. But the reasons for its rise in popularity also included the search for more rational working processes in order to attain a wider variety of surface effects and types of finish, and for an extended set of tools with which to achieve a more individual means of artistic expression.

Apart from probing the past, the progress made in modern chemical knowledge and in paint manufacture was employed more directly as well. A distinctly progressive tendency in tempera studies, inspired by methods derived from the processes employed in contemporary photography, saw experimentation with different forms of materials for tempera systems. New products, such as chemically produced biocides, anti-foaming agents and other forms of modifiers were used to improve and refine the performance of mixtures of the traditional historical materials on which temperas were based.

## ABOUT THE CONTENTS OF THIS BOOK

The research presented in this volume is the result of interdisciplinary examinations of multiple types of materials and varying approaches to the subject, which is itself a difficult topic to define. As shown by Eva Reinkowski-Häfner ('Tempera: on the history of a technical term') as well as by other contributions in this volume, and by a paper published elsewhere (Dietemann *et al.* 2015), the term 'tempera' elusively shifts meaning depending on the context of its geochronological use, individual use by scholars and even the type of person using the term. While a painting may be designated as a work in tempera in the archives of its creator, a century after its date of creation, its manner of manufacture and physical history may render it nearly



impossible to identify it as such by means of scientific analysis due to the deterioration of minor organic components and limits of the analytical tools currently available. Thus, what an artist may originally have designated as a 'tempera' painting, an art historian may later perceive as an 'oil' painting (due, for example, to factors such as surface gloss, especially if varnished later) and a scientist may prove unable to classify it conclusively, one way or another.

This publication looks at diverse aspects of tempera paint and painting around 1900 as employed in the areas of present-day Germany and Italy; this is a matter of focus only and does not imply that interest in the use of temperas did not flourish in other parts of Europe. For example, the study of 19th-century art technology in France is hindered by the absence of surviving archives of manufacturers of art supplies, apart from those of Lefranc & Bourgeois (Lebreuche 2011, p. 21, n. 31), which (fortuitously for this study) appears to have been the only French company actively producing tempera products (see the contribution by Pohlmann *et al.*, in this volume). In England, the promotion of tempera painting seems to have been first and foremost a matter of personal interest; the Society of Painters in Tempera (later the Society of Mural Decorators and Painters in Tempera), founded in 1901 by Lady Christiana Herringham (1852–1929; well known for her edition of Cennini's *Libro dell'arte*), actively researched and published on the subject for many years.<sup>1</sup> This tradition of painters producing their own proprietary formulations for work on easel paintings, which were shared by means of artists' social networks, throughout Europe, deserves its own in-depth study as does their use in the larger European context.

Despite the complexity of the wider European context, or indeed precisely because of it, the focus taken by this book, on developments in Germany and Italy in the 19th and early 20th century, is a well-justified selection of case studies. The diverse manner in which the interest in and use of tempera paints flourished in the contrasting cultures of Germany and Italy – one with an industrial-scale, highly evolved paint manufacture industry,

the other with an unparalleled historical importance for the development of the art of tempera painting (as embodied in the work of the medieval and Renaissance Italian masters) – illustrates the art-technological complexity of this period. In general, in the 1800s, industry was less developed in Italy than in much of the North, resulting in a very different evolution of artisanal tempera paints, which were produced on a small scale and offered locally. In comparison, the manufacture of temperas was most prevalent in the region of present-day Germany, a fact stimulated by the presence of many factories for the production of artists' supplies as well as the existence of a number of active art academies and communities of researchers involved with paint technology (as in the case of Munich).

In Part 1 'Introduction', Eva Reinkowski-Häfner examines the development of the meaning of the term 'tempera' between the 14th and 20th centuries, primarily in the context of historical texts and the German art literature. In Part 2 'Propagation of tempera', two papers by Giuseppina and Teresa Perusini and by Paola Travaglio present the results of their research on contemporary textual sources available to tempera painters in Italy and the Romance countries and their relevance to those painters' practice. Also in Part 2, Reinkowski-Häfner discusses the role of tempera in the development of German mural and easel painting in the 19th century, while Kathrin Kinseher looks at the life and work of the painter and scholar Ernst Berger (1857–1919), who was one of the protagonists of the lively debate that developed in Munich around the employment of tempera paints. In Part 3 'Types of tempera paint', three articles by Karoline Beltinger, Sandro Baroni *et al.* and Albrecht Pohlmann *et al.* explore a body of information extracted from published and archival material on historical brands of industrially produced tempera paints, while the fourth contribution by Albrecht Pohlmann focuses on the research undertaken around 1900 towards the development of photosensitive tempera paints that would become insoluble in water under the influence of light. In Part 4 'Tempera application techniques', Wibke Neugebauer presents a number of case studies of tempera

techniques employed around 1900, based on textual sources and on detailed art-technological investigations of paintings by Arnold Böcklin, Franz von Lenbach, Wassily Kandinsky, Julius Exter (1863–1939) and Otto Modersohn (1865–1843). In the fifth and final part, 'Tempera analysis', Ferreira *et al.* and Dietemann *et al.* articulate the various challenges that analysis of tempera binding media still presents today.

Clearly, this work is not all encompassing. However, we hope that it will provide a stimulus for further research while enabling more effective conservation, appreciation and recognition of surviving tempera paintings.

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<sup>1</sup> The publications of this group from 1901–1954, have been collected into four volumes. They are currently available online through the website of the Society of Tempera Painters, [www.eggtempera.com](http://www.eggtempera.com). Consulted 4 May 2016. See: <http://www.eggtempera.com/resources/publications/society-papers>.