

**Painting with Fire: Sir Joshua Reynolds, Photography, and the Temporally Evolving Chemical Object.** By MATTHEW C. HUNTER. Pp. 304, illus., index. University of Chicago Press: Chicago. 2019. £37 (cloth). ISBN: 978-0-22-639025-3.

The chemical instability of Sir Joshua Reynolds's paintings has puzzled commentators and conservators for a long time. Reynolds's own contemporaries were divided over the merits of his techniques. Where sympathisers saw his flaking, fading, and cracking artworks as deliberately challenging the stability of pigments, critics dismissed them as failed experiments – the disastrous consequences of his poor understanding of chemistry. To make matters worse, these narratives soon crossed paths with later, and still persisting, characterisations of Reynolds – the first president of the Royal Academy of Arts and a dominating figure in British painting for over four decades – as a consummate conservative in matters of politics and social order as well as in art.

In *Painting with Fire*, Matthew Hunter embarks on the ambitious task of disturbing this received image. He elegantly and persuasively takes the reader on a journey that stretches backwards from Reynolds, to the early days of the Royal Society, and forwards, to the controversies that characterised the early history of photography. "Some patience is needed," Hunter warns his readers, "for these components to catalyse; the fireworks at the end make it worth the trouble" (p. 50). But the author is being overly modest here, for the book is indeed interspersed with fireworks all the way through.

Along with providing a radical reinterpretation of Reynolds's artistic practice, the highlight of the book is its ground-breaking historiographical contribution: the concept of "temporally evolving chemical objects." A well-established tradition in history of art has argued for the temporality of artefacts. Indeed, in his seminal *The Limewood Sculptors of Renaissance Germany* (1980), Michael Baxandall coined the expression "slow motion mobiles" to account for how sculptors manipulated and responded to the changing properties of limewood under different conditions of humidity. "Temporally evolving" in Hunter's sense carries on Baxandall's legacy: in emphasising that "the making matters," Hunter reconstructs a distinctive "Reynoldsian chemistry," (p.12) where chemical change is deliberately built into the activity of painting, and the consequences of which shaped the chemo-mechanical experiments of Reynolds' followers through the nineteenth century.

But Hunter's chemical twist on temporally evolving objects goes even further – in a direction that will particularly enthuse the readers of *Ambix*. For Hunter shows that Reynolds's experiments, at the dawn of the Industrial Age and at the culmination of the British Enlightenment, are in fact the enduring legacy of that chymistry – the combination of pre-Enlightenment experimental practices across medicine, metallurgy, natural philosophy, and chrysopoeia – so admirably revived and elucidated by historians of science William R. Newman and Lawrence Principe (whose works are cited throughout the book). Thus, chapter one contextualises Reynolds's statement (dissected in chapter two) that the painter "will pick up from dunghills what by a nice chymistry ... shall be converted into pure gold" (cited on p. 71). Indeed, Hunter makes a compelling case that the Royal Society, in its early experimental days, served as the cradle of temporally evolving chemical objects. He illustrates this argument by placing artificial phosphorus and other "self-shining" substances at the centre of pre-Enlightenment chymical experimentalism. A temporally evolving chemical object *par excellence*, phosphorus becomes the springboard for an investigation of broader experimentalist conceptions of time and change, culminating in a fascinating dissection of Robert Hooke's account of the physiology of memory and the ontology of time in his lectures on light (1680–1682).

Chapter two forms the historical and conceptual hinge of the book. Here, Hunter traces Reynolds's understanding and use of various approaches to practical chemistry. The chapter unfolds from the milieu of Plymouth instrument-making in which Reynolds was trained, through the experiments with varnishes, dyes, and encaustic processes at the Society of Arts in the 1750s, and

the centrality of chemistry in the Society's distinctive combination of the industrial and fine arts. It culminates in Reynolds's public commitment to chemistry at the Royal Academy of Arts in the early 1770s. Through a compelling reading of Reynolds's paint recipes, recorded at the back of his ledger books together with his meticulous observations of the changes his paintings would undergo in time, Hunter makes the persuasive case that chemical transformation – rather than stability through faithful imitation – was the goal of Reynolds's practice. "Far from lamenting metal pigments' visible change in time," Hunter concludes, "Reynolds had made metals' accidental evolutions an integral component of artistic invention itself" (p.74).

While it is impossible to cover the breadth and depth of Hunter's research in a brief review, it would be remiss not to point out that the idea of the temporally evolving object opens a new vista on the historiography of photography. This contribution comes through in full force in the third and fourth chapters of the book. Hunter starts from the experiments, carried out through chemical means by British industrialists, to fix the very instability that Reynolds's model had brought right to the heart of British painting. Here readers of *Ambix* will be delighted to find out that these attempts were carried out by familiar figures (James Watt, Josiah Wedgwood, and his son Thomas) in familiar places (such as the Lunar Society of Birmingham). But Hunter's bolder move comes in chapter four, where these attempts are folded into what would be labelled as "proto-photography" in the subsequent literature. At the dawn of photography, earlier attempts at chemically fixing Reynolds's paintings were reclaimed as "proto-photographs," in a historical move that relocated the birth of photography to 1780s Birmingham. In a feat of historical, historiographical, and conceptual brilliance, Hunter here demonstrates that by removing Whiggish assumptions about photography as the organising *telos* of chemo-mechanical image-making, issues of priority fade in the background, leaving space for a richer understanding of the endeavours of (alleged) proto-photographers such as Thomas Wedgwood as a confrontation with time through objects and materials that were themselves evolving, and that carried Reynolds's chymical legacy into the nineteenth century.

There is much more to Hunter's book that will delight readers across disciplines. All art historians are masters of the art of *ekphrasis*, but in *Painting with Fire* Hunter takes this art to a glorious level. Lovers of images will relish in discovering unexpected details, and seeing them woven into a broader story of the chemical layers of the many illustrations beautifully reproduced in the book. The rhythm of Hunter's rich prose unfolds along the temporality of the very chemical objects that form the core of his investigation, gently guiding the reader through an experience that is as transformative as the chymistry that underpins – now we know! – Reynolds's iconic paintings.

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CHIARA AMBROSIO  
*University College London*