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Art versus industry? An introduction

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In the winter of 2013 the British artist Jeremy Deller staged the first iteration of the touring exhibition *All That Is Solid Melts Into Air* at Manchester Art Gallery.[1] Advertised as 'a personal look at the impact of the Industrial Revolution on British popular culture', the exhibition displayed photographs of nineteenth-century miners and ironworkers, trade union banners, and paintings and etchings of factory interiors and dramatic industrialised landscapes. It positioned nineteenth-century industrialisation in conversation with twentieth-century industrial-promotional film, album covers and a soundtrack of musicians from former industrial heartlands, alongside images of contemporary workplaces such as the Amazon picking plant in Staffordshire, and Deller's graphic representations of, for example, text messages sent to workers on zero-hours contracts, and motivational acronyms displayed on the walls of call centres. It presented the Industrial Revolution as a brutal, dehumanising force, against which culture (past and present) only appears through struggle.[2]

All That Is Solid Melts Into Air reinforced the trope of an unassailable opposition between industrial and artistic production, an opposition embedded in the historiography associated with John Ruskin and William Morris. The exhibition could even be read as an illustration of Ruskin's seductive aphorism, 'industry without art is brutality', most often quoted without the preceding half of the sentence, 'life without industry is guilt'.[3] Deller's selection of artefacts from the nineteenth and twentieth centuries operated as a polemic against the factory, the archetypal site of the deskilling, brutalisation and alienation of an undifferentiated working class without complexity or nuance. It presented the achievements of those who were able to transcend industry through cultural production as anomalous and heroic creative responses. Art, according to this narrative, is intrinsically opposed to industry.

Deller's exhibition is one recent, prominent and emphatically public evocation of this apparently adversarial relationship, demonstrating its well-established position within British culture. As announced by the question mark in its title, however, this volume queries the opposition between art and industry. It disrupts and expands the construction and reconstruction of this persistent singular narrative of 'The Industrial Revolution' as something opposed and prohibitive to art, by investigating a more complex set of relations between art and industry, production and consumption, and education and display.

The concepts of art and industry as they are understood today emerged towards the end of the eighteenth century. Throughout the nineteenth century, both categories were in the process of definition. The term 'Industrial Revolution' (usually ascribed to the period 1750–1850), for example, was not widely used or understood as historically significant in Britain until the 1880s. Up until this point, 'industry' usually meant hard work, the opposite of idleness. Factories and mills, unquestionable sites of Victorian industry to our eyes, were most commonly referred to as sites of manufacture. The publication in 1884 of Arnold Toynbee's influential *Lectures on the industrial revolution of the eighteenth century in England* set up the association between industry and appalling new urban working conditions, a new workforce, new technologies such as the steam engine and machinery for working cotton, and mass production.[4] Art too was undergoing redefinitions in this period. The 'division of the arts', divorcing the 'fine arts' of painting and sculpture from supposedly less intellectual crafts, is usually attributed to the eighteenth and early nineteenth century; the foundation of the Royal Academy of Arts in 1768 in particular marked off fine art from the undertakings of the earlier Royal Society for the encouragement of Arts, Manufactures and Commerce, founded in 1754.[5] The divergent senses of the term 'art' used by these two eighteenth-century institutions – in one case to separate practices like painting and sculpture from other trades and in the other to connect them – both remained in use well into the nineteenth century, persistently complicating debates about art's relation to manufacture.[6]

'Art' and 'industry' are used in such varied ways across nineteenth-century culture, that an attempt to give a precise definition of each runs the risk of being misleading and reductive. Instead, the chapters in this volume, and particularly those in the first section, aim to show the range of meanings of these two terms in various nineteenth-century contexts. This is not a semantic study, but one which shows these keywords in motion as part of a broader interrogation of their relationship to each other. Here, abiding as much as possible by nineteenth-century terms, 'fine art' refers to painting and sculpture (though we are conscious of the problems of keeping these art forms distinct), while art-manufacture (a term commonly used in nineteenth-century discussions on art and industry, and accordingly

by several contributors to this volume) indicates – in the words of the 1855 catalogue of the Museum of Ornamental Art, 'all art which finds its material expression in objects of utility, or in works avowedly decorative'.[7] This museum was initially (1852–53) known as the Museum of Manufactures, its changing name testimony to the variety of ways of labelling art-manufacture in the nineteenth century. Industry is defined differently in each chapter; throughout, however, there is a sense that industry is related to new modes of manufacture, to mass production, consumption and communication and new networks of collaboration and exchange.

Industry can operate as shorthand for – or at least is often perceived to be inextricably bound up with – commercialism, capitalism, or economics altogether. All three of these broad categories have had problematic relationships with art when it is understood as a creative process distinct from the profit motive.[8] The nineteenth-century opposition between commerce and culture evident in authors such as Matthew Arnold has been reinforced in the twentieth century by research in cultural studies, anthropology and history on ideas and practices of consumption, often regarded as commerce's close relation. These studies have similarly tended to dwell on the difficulties of reconciling consumption with any sort of 'authentic' culture.[9]

The notion of an 'industrial culture' in nineteenth-century Britain seemed paradoxical in the wake of Raymond Williams's *Culture and society 1780–1950* (1958) and Martin Wiener's *English culture and the decline of the industrial spirit* (1981). Both suggest a seemingly non-negotiable opposition between 'culture' and 'industry'. They emphasise those writings of Ruskin, and later William Morris, which decry the crossover of art and mechanical or industrial production. Morris and the Arts and Crafts Movement in general offer potent – and well-known – period invectives on the deleterious impact of capitalism, mechanisation and the division of labour on art and creative life, and have often been taken by twentieth-century scholars as testimony to a general conflict between Victorian industry and art. Recent scholarship on the Arts and Crafts has provided a more nuanced and complex picture of the objects and ideas involved, looking beyond a homogeneous 'movement' to trace connections with earlier, overtly pro-industrial design reforming ideas and manufactures.[10] This volume guards against a selective and distorting emphasis on Arts and Crafts as only oppositional voices, and highlights period discussions of art and industry that the dominant vision of the Arts and Crafts Movement has overshadowed.

In *Manufacturing culture* (2003), Joseph Bizup looks beyond Ruskin and Morris to analyse the development of a 'pro-industrial rhetoric' among nineteenth-century critics, scientists and authors. *Art versus industry?* adds a visual arts perspective to Bizup's important work, building on and around Tim Barringer's investigation of the relationship between art and

labour in mid-Victorian culture in *Men at work* (2005). The wide-ranging essays contained in this volume uncover the complexities of nineteenth-century industrial culture, spanning histories of art and design, production and consumption, science and technology, gender, and imperialism.

Deller's exhibition clearly sets out its Marxist credentials in its quotation of the Communist Manifesto in its very title *All That Is Solid Melts Into Air*. A reassessment of the relationship between art and industry, however, is by no means an endorsement of unfettered capitalism or an explicit rejection of leftist critique. To a certain extent, the work of Karl Marx and Friedrich Engels underpins this volume, through their identification of the revolutionary potential of industry, the social changes that they attributed to industrial modes of production and its role in the formation of the industrial proletariat. Their critique of industrial production forms the intellectual background against which twentieth-century critics like Raymond Williams formulated the opposition of industry and culture. Yet essays here do not engage in any great detail with Marx, or Marxist art-criticism. This was by no means a prescribed editorial decision, but perhaps indicates a shift in contemporary scholarship engaging with art and industry, quite distinct from the narrative traced in Francis Klingender's *Art and the industrial revolution* (1947). This is an enormously significant publication, but one which adopts a Marxist historical scheme so dogmatically that, as Barringer points out, its vision of 'a unified triumphalist bourgeoisie' which 'torments a likewise unified heroic, and ultimately victorious proletariat' fails to acknowledge the complexity of either class, while the dominance of class as a category of analysis almost entirely obscures 'questions of gender, religion, and empire'.[11] *Art versus industry?* demonstrates the various allegiances of the art-industrial worker.

The volume concentrates primarily on Britain for several important reasons. Its British focus grows partly out of Marxist constructions of Britain as the 'classic soil' of the industrial revolution.[12] The volume's emphasis is not an endorsement of the idea that Britain *was* the unique or most important site of nineteenth-century industrial development, especially considering recent research in global history that suggests the generative roles played by China and India in early British industrialisation.[13] But it takes seriously the nineteenth-century *claims* that there was something particular about Britain and industry, and asks how the notion of this unique relationship inflected notions of an industrial art-culture.[14] And, as we explore below, the volume looks not just at the British Isles, but at art and industry in Britain's imperial networks, and at its dissemination in international exhibitions.

The peculiar British relationship with the Victorians post 1901 further intensifies the British art-industrial case. In British culture the Victorians appear as either (and sometimes both) cosy nostalgic forebears, or reprehensible others from which contemporary Britain has made terrific social

progress.[15] This tendency is, for example, evident throughout Deller's installation; the title of one section, 'The Shit Old Days', attempts to subvert any sort of nostalgia for the Victorian past. Art, to return to the other half of our couplet, is (at least in theory) not exclusively connected to any time or place. But for a long time, art historians and cultural critics found little artistic merit in Victorian Britain, especially compared to the supposedly avant-garde, proto-modernist movements across the Channel in France.[16] Nineteenth-century art and industry continue to seem natural opponents because British culture has habitually set up the Victorians as its other/same, identified the Victorians with industrialisation, and nineteenth-century industrialisation with largely negative connotations. The combination of a supposedly unique association with industry, and an often under-valued artistic cache makes Britain and its imperial networks fundamental locations for a re-evaluation of the relations between art and industry.

The art–industry divide: nineteenth-century representations

Chapters in Part I, 'The art/industry divide', provide a glimpse into some nineteenth-century representations of this emergent relationship, spanning lace, stained glass, medals and works usually today regarded as fine art, such as William Blake's drawings. The divergent voices and practitioners foregrounded here, from elderly Irish women and French and British glass painters, to more familiar thinkers on art and industry associated with the Arts and Crafts Movement, demonstrate the importance of rethinking the art/industry divide. If we continue to tell a story of nineteenth-century art and industry based only on the (mostly) anti-industrial writings of John Ruskin and William Morris, and mediated through twentieth-century anti-industrialist writers, we not only distort understandings of nineteenth-century creative production, we also lose the opportunity to hear the stories of nineteenth-century arts and crafts practitioners, many of whom hail from already marginalised groups: women, the elderly, the working and lower middle classes, the colonised.

In the nineteenth century, factory owners and workers, social reformers, painters, sculptors, lace makers, inventors of optical instruments, and students at newly formed design schools were all part of the conceptual formation and distinction of both art and industry. But at the same time, their ideas and practices blurred any such division between the two. In 1835 and 1836, for example, a House of Commons Select Committee on 'arts and their connexion with manufactures' was appointed, a pivotal moment in British design reform, education, and indeed in articulating the relationship between artistic and industrial pursuits. It set out 'to inquire into the best means of extending a knowledge of the Arts and of the Principles of Design among the People (especially the Manufacturing Population) of the Country', as well as into the 'Constitution, Management

and Effects of the Institutions connected with the Arts'. Art at the 1835/6 Select Committee encompassed both skilled labour in the production of fancy goods and the 'fine arts' of painting and sculpture. 'Art workmen' were defined as those engaged in the silk trade, ribbon manufacture, pottery, interior decor, and furniture.[17] The Select Committee positioned fine art as distinct from, but on a continuum with, art-manufacture. Its report was based on the belief that improving British design would lead to superior art-manufacture, and a stronger economy; art and industry were bound together in aspirations for national progress – a national progress consistently discussed and judged against French art-manufacture.[18]

By the end of the nineteenth century, fine art, crafts, art-manufacture and industries were united in another significant, and characteristically nineteenth-century, discourse; they were all the subjects of newly articulated histories. Histories of plastering, the industrial revolution, sculpture, woman's work, pottery, Christian painting, and cotton making acknowledge the significance of their subjects, and position them as fully emerged, identifiable categories.[19] The prestigious and influential periodical *Quarterly Review* described Fanny Bury Palliser, author of a *History of lace* (1865) as the 'Gibbon of the Decline and Fall of Lace', situating lace history writing alongside the venerated historiographical tradition of ancient Roman history; craft and industry were thus becoming part of high culture, not inimical to it. Here, Lara Kriegel's chapter looks beyond the art–industry binary to trace a history and a historiography of nineteenth-century attempts to revive lace making, whose decline was attributed to factors much wider than simply the mechanisation of production.

Lace was traditionally connected with women, both as producers and consumers, and Kriegel's lace texts, written largely by and for women, attempt to foster a common sisterhood through craft across centuries, age groups, class and national borders. The gendered nature of nineteenth-century art-industrial relations has played a foundational role in rethinking their purported antipathy.[20] New nineteenth-century art-industrial crossovers such as ceramics and textiles provided skilled and creative work opportunities for lower- and middle- class women. As Kyriaki Hadjiafxendi and Patricia Zakresi suggest, the emergence of female craft practitioners brought domestic crafts traditionally associated with women into the public (and historically construed as male) marketplace, challenging and confusing the art–industry binary.[21] Kriegel shows that lace texts offer a new, female nineteenth-century articulation of handicraft. They demonstrate the complexity and possibilities of craft in the nineteenth century – artistic, economic, personal and nostalgic. And as Glenn Adamson has argued, 'craft' was a moving target, only gathering specific recognition and construction as something distinct in the nineteenth century through contemporary debate – and indeed the writing of practice specific histories.[22] It could operate as art or industry, and sometimes both.

Fine artists as much as craft practitioners rejected the supposed division between fine arts and crafts well into the nineteenth century. The unity of art and craft was stressed by witnesses in the 1835/6 Select Committee as diverse as the architect and archaeologist Charles Cockerell and the vice president of the London Mechanics Institute Charles Toplis; in articles in the design reforming press; by mid-century sculptors like John Bell and Alfred Stevens, and later nineteenth-century academic painters like Lawrence Alma Tadema.[23] They called upon classical and Renaissance precedents for a continuum of art and craft, regularly citing Michelangelo's dictum that 'I know but of one art'.[24] And they welded this idea of unity and connectedness across artistic media and practices to new modes of industrial production. After designating that stove-grates (or indeed 'any other article of direct utility, in which exist qualities of art-beauty') could be 'a work of Sculpture', John Bell went on to plead that 'If the higher grade of formative art (Sculpture), be neglected, it will be in vain to look for improvement in taste, or judicious progress in the lower workings of the same department among the manufacturing industries.'[25] Fine art was essential to industry because it taught a communicable, fixed standard of good taste, vital for the production of any object. But industry and mass production were essential to art, because they provided a means of disseminating taste to wider audiences.

Gabriel Williams's chapter explores the ramifications of this nineteenth-century vision of unity across arts, crafts and industrial production, and shows how ideas about creating and sustaining a 'national taste' accompanied the development of new art-industrial technologies. He looks at the anaglyptograph, one of several machines developed partly in tandem with banknote printing technologies and used to make mechanical engravings after historic coins and medals. This technology, and the debates surrounding it, brought together sculptors, medallists, engineers, engravers and print publishers, and fed into wider hopes that the forces of mechanical reproduction and currency circulation could be harnessed for the improvement of national taste. The chapter shows how the hopes for this technology nonetheless ran aground on vexed discussions about reconciling mechanical and 'artistic' engraving, foregrounding debates over the relationship between hand and machine, original and reproduction in conceptualising both art and industry.

From 1851 onwards, international exhibitions offered a distinctly nineteenth-century location for public taste amelioration, via the display and classification of both artistic and industrial objects. Their aims were overtly pro-art-industrial, and printed guides, catalogues and periodicals like the *Illustrated London News* and *Illustrated Exhibitor*, which proliferated to report on these exhibitions, depicted and described marble sculptures, iron stoves, stained glass windows and steam engines alongside each other, encouraging their readers to contemplate relations between

such objects. The Great Exhibition of the Industry of all Nations of 1851 has been central to twentieth- and twenty-first-century evaluations of nineteenth-century history, and exhibitions have become important places for thinking about vision in relation to commerce in nineteenth-century culture.[26] But the idea that international exhibitions' pro-industrial foundations might suggest a wider nineteenth-century sympathy towards and engagement with industrial production has only recently been acknowledged.[27] In many cases art at international exhibitions has been written about independently of the industrial objects that surrounded it, and in a founding work on the study of world's fairs, Paul Greenhalgh decisively severed the two, arguing that the presence of the 'fine arts' at the Great Exhibition prevented it from becoming a 'mere' trade fair.[28] Here, Jasmine Allen's chapter explores exhibitions in Britain and France as complex sites for both distinguishing – and conflating – the relationship between art and industry. She shows how official classifications of stained glass as a distinct form of manufacture contrasted with the exhibitions' stated aims to show the continuities between art and industry. Media specificity and exhibitionary requirements were just one factor among many that in this instance confused both official taxonomies, and exhibition visitors.

By the late nineteenth century, 'artist' was a recognisable career option for men and some women, a commercially viable profession, with training schools, trade connections, a specialist art press, professional dealers, and global job opportunities – not exactly divorced from financial speculation or industry. Colin Trodd's chapter shows how some members of the Arts and Crafts Movement sought to redefine art, and the status of the artist, through the precedent of eighteenth-century visionary painter William Blake. The Arts and Crafts conceptualisation of Blake's work (traced partly through Ruskin's idea of the grotesque) posited certain conflicts between art and industry, but also proposed resolutions to those conflicts in a reconfiguration of both terms. In this sense at least, Arts and Crafts theorists echoed the earlier concerns of the Select Committee on arts and manufactures and the less 'radical' and more 'pro-industrial' design reformers. These two broad theoretical perspectives may be seen, that is, not as inexorably opposed camps but as different points on a continuous spectrum of dialogue about making art and industry more mutually informative. Rethinking art and industry may also be a means to reevaluate the variety and nuance of the Arts and Crafts 'movement'.

Art and new technologies

The relationship between cultural production and the emergence and rapid development of new technologies is fertile territory for the investigation of the intersection between art and industry as it was figured and reconfigured in the nineteenth century. A particularly productive line of

enquiry in the existing literature on the subject has been the paradigm shift caused by the invention of different forms of photographic image making.[29] Instead of focussing on the implications of photography, this volume interrogates less widely considered forms of technology with specific implications for the production and reproduction of art and design. Some of these forms share elements of the discourse generated by early photography, particularly the question of agency and the autogenic image or object, explored here by Nicole Garrod-Bush in her consideration of the kaleidoscope as a mechanical pattern-making apparatus, in turn appropriated as a decorative device in the paintings of William Holman Hunt and Dante Gabriel Rossetti.

There were two interrelated benefits to outsourcing the creative and physical labour of design and manufacture to mechanical or autogenic apparatus: matters of artistic judgment that had previously been subject to the vicissitudes of individual taste could be interpreted as objective and infinitely repeatable, and through mechanisation, the design process could enter the same realm of efficiency and standardisation populated by industrialised manufacture, promising a streamlined unity of input and output. As Siegfried Giedion noted in his historical analysis of mechanisation, 'the hand can be trained to a degree of automatic facility. But one power is denied it: to remain unvaryingly active'.[30] Despite the capacity of mechanised technologies to diminish the status and remuneration of the worker through the deskilling of their labour, Giedion characterised mechanisation as essentially neutral and entirely dependent on human agency. He recognised the creative potential for the designer, able to 'realize his every caprice, reasonable or absurd'.[31] This volume engages with examples of the creative appropriation of new technologies and the ways in which the historically and culturally embedded traditions of practices such as ornamental design, technical drawing and printmaking were both retained and transformed by the inventions that brought the spheres of art and industry into productive dialogue. In her chapter on the practice and status of engineers and draughtsmen, Frances Robertson identifies the intersectional figure of the 'visual technician' and reveals the ways in which the profession of technical drawing traversed the shifting terrain of art and industry in the second half of the nineteenth century.

Encounters between existing and emerging modes were sometimes engineered but more often haphazard, leading to unexpected collaborations and hybrid forms. Tom Gretton analyses the complex networks of authorship embedded in the illustrations produced for the *Graphic* and *Illustrated London News*, tracking the implications of the move away from the wood-block and towards photomechanical line-block printing. The chapter goes on to demonstrate how an industrialised mode of mass image production appropriated the pictorial traditions of Western art, but also furnished new claims to a form of collective artistic authorship in continuum

with those traditions. Similarly, Graeme Gooday and Abigail Harrison Moore discuss the domestication of electric lighting as an example of an emerging technology made familiar (and therefore safe) through Arts and Crafts design. While many design reformers perceived that mechanised or industrialised production could endanger artistic manufacture, they also promoted new technologies of reproduction, such as Cheverton's sculpture reducing machine (see front cover). Although mechanically manufactured, the miniature sculptures in Parian-ware porcelain that it produced were held to be a means by which the threat posed by mechanisation to artistic manufacture might be reduced, since they widened the franchise of 'good taste' amongst new audiences and markets.[32]

The chapters in Part II share the approach articulated in Raphael Samuel's influential essay, 'Workshop of the world: steam power and hand technology in mid-Victorian Britain' (1977). Through his revisionist interpretation of the relationship between mechanisation and hand technologies, Samuel emphasised the diversity of industrial production and scrutinised 'the machinery question'. He presents mechanisation as a complex, discontinuous and uneven process, in which hand labour and craft skill were essential to, and coexistent with, new mechanised modes of manufacture. Technology is not conceived here as monolithic or deterministic, nor synonymous with mindless reproduction as it was for Herbert Read writing *Art and industry: the principles of industrial design* in 1934. Rather, for the examples in this volume, exemplified by Cheverton's sculpture reducing machine, it provided new modes of engagement with the world of art.

Resituating design reform and art and design education

Design reform refers to a diverse set of ideas, usually regarded as being current in Britain from the 1830s to 1860s, concerned with improving design and manufacture in order to bolster the economy. Nineteenth-century debates over design reform in particular suggest the permeable boundaries between the artist, designer, artisan, and operative, and it is perhaps not surprising that design reform has been the focus of the few existing discussions that move beyond an art–industry polarity.[33] Education was integral to the project of design reform, pursued through the combined mechanisms of the school and the museum in international, metropolitan and regional iterations. From mid-century onwards the sum of these activities was synonymous with South Kensington and the afterlife of the Great Exhibition, which came to represent a centralised and prescriptive set of cultural practices and governmental policies. The relationship between 'fine art' and 'art-manufacture', and more broadly between art and industry was a matter of particular concern for design reformers, although they were far from unanimous when it came to the degrees to which they were related, and the impact each had on the

other.[34] For a long time, historians have explained design reforms as purely economically motivated.[35] More recently, design and art historians have argued that reformers were also concerned with the moral and social implications of the improvement of public taste.[36] Design reform was certainly a pro-capitalist and in many ways pro-industrial undertaking. But for its proponents, economic improvement was inextricably bound up with social, moral and aesthetic amelioration.

Chapters in Part III 'resituate' design reform and art education by placing them in different spatial contexts as well as among different disciplines, workers, practices and media beyond the prototypical South Kensington Schools and Museum. They discuss technical art schools, the Calcutta International Exhibition, the Alhambra, the Crystal Palace at Sydenham, sculpture as collaborative practice, Indian textile workers, and Italian marble cutters. This section of the book suggests that the design reform project cannot be properly understood by analysing official central government policy (Henry Cole *et al.*) or goings-on at South Kensington alone. Its chapters purposefully address other sides of the design reform and art education coins, considering the fraught, contingent and covert dialogues between this supposed 'centre' and wider geographical and industrial contexts.

Following Catherine Hall and Sonya Rose's discussions of the domestication and absorption of imperial goods and ideas in Britain, imperial encounters cannot but permeate *all* the chapters in a volume which deals with nineteenth-century manufacturing.[37] Indeed, as Chitralekha Zutshi has argued, 'the idea of the modern industrial product was itself clearly shaped by Victorian Britain's encounter with global commodities such as Kashmiri shawls and their indigenous imitations'. Shawls, for example, became 'modern industrial products' by being circulated, replicated and remade in new industrial contexts – but all with an eye to the design credentials and good taste of the original.[38] British ambitions to spread design reform and art education in colonial India, as well as nineteenth-century British encounters with Indian material culture 'at home' have been the subject of considerable research, and our claim to be 'resituating' design reform here does not rest exclusively on the chapters' consideration of this particular location.[39] The aspects of Indian visual culture and artisan practice analysed here by Renate Dohmen and Natasha Eaton offer different perspectives on design reform and emphasise the ways in which the power dynamics of colonial contexts might reshape the art-industrial relationship. They also extend the chronological framework of design reforming rhetoric, showing how it was co-opted into colonial schools of art and design well into the 1880s, and how it was repositioned alongside (rather than in opposition to) Arts and Crafts practices.

In addition to their overt art-industrial rhetoric, international exhibitions were preeminent nineteenth-century sites for displaying and creating the

nation through its technological and artistic produce, and for encountering other nations' wares. International exhibitions did not operate on any set programmatic basis, and each in itself was far from a coherent entity. But the connection to design reform – to notions that industry and artistic endeavour could productively work together to enhance the production of goods, the training of artisans, and a populace's taste – was clear throughout nineteenth-century exhibitions across the globe. Dohmen's chapter on the only international exhibition to take place in India, held in Calcutta from 1883–34, makes clear the fundamental significance of an exhibition's location to the evaluation of its overall success, and more specifically to its articulation of the relationship between art and industry.

Contemporaries viewed international exhibitions as markers of progress and modernity. These attributes took on added significance in the colonial context; they were the purported benefits that Britain would bring to its subject colony India. But to British design reformers, the modernity signified by the idea of an international exhibition stood in tension with the objects of Indian art-manufacture that the exhibition housed, which they romanticised as pre-industrial craft objects, made by pre-industrial peoples. Although design reformers championed artistic associations with new technologies 'at home' (and indeed even in the reproduction of versions of Indian goods), these British modes of production were held to be a threat to Indian artisans, whose produce and practice was regarded as static, and traditional, definitively not modern. Anxieties about imperial governance were woven together with fears that industry would destroy 'traditional' art practices.[40] A new perspective on this paradoxical celebration and denigration of Indian artisan labour as ideally pre-industrial is provided by Eaton's examination of design reforming ideas about colour in relation to Indian art-manufacture. Colonial administrators attempted to define precise laws of colour, but the messy, ungovernable practices and practitioners of fabric dyeing troubled any such centrally diffused message. Eaton's study of colour as subaltern resituates design reform as something more complex than solely a successful tool of imperial governance or a means of social control.

The relationship between foreign and domestic design traditions is also the subject of Lara Eggleton's chapter. Eggleton looks outside (but alongside) British imperial governance to examine two distinct nineteenth-century understandings of the ornament of the Alhambra in Spain, through the reproductions of the Alhambra at another all too rarely acknowledged site of design reforming endeavour, the Crystal Palace post-1851, removed to Sydenham and reopened in 1854. The chapter offers a geographical relocation of design reform, but, perhaps more significantly, re-examines the Alhambra-related undertakings of one of design reform's keenest proponents, Owen Jones, in relation to the writings of John Ruskin, usually characterised as one of its most vehement critics. Analysed from

the perspective of nineteenth-century art-industrial debates, throughout this section design reform appears in different forms, across and between cultures, and with a broad range of adherents and practitioners.

For the advocates of design reform, a centralised system of design education promised to be the means through which a productive and disciplined symbiosis of art and industry could be established and maintained, not just in Britain but across the Empire. Once Richard Redgrave and his South Kensington colleagues had established the National Course of Instruction as a universal curriculum in 1852, it seemed logical to extend the systematic and codified approach to control the education of the colonies. Natasha Eaton addresses the implications of this imposition in her chapter on the agency of colour in India, drawing out the ways in which this attempt to standardise taste and production were resisted and subverted. The resituating of art and design education is both figurative and geographical, confronting on one hand the legacy of the literature on art and design education predominantly published in the 1960s and 1970s that positioned Morris and Ruskin as the heroic and prescient figures who rescued design education from industry, and on the other, challenging the perception that regional and international activities were merely peripheral to dominant South Kensington narrative.[41] In her chapter on the career trajectories of the alumni of the South London Technical School of Art in the last quarter of the nineteenth century and into the opening two decades of the twentieth, Ann Compton considers the possibilities and the limitations produced by established networks of labour. By following a cohort of sculptors, those intersectional figures whose work and status had oscillated between art and industry for centuries, we witness the renegotiation and redefinition of craft and collaboration and in a sense, the fulfilment of the great promise of design reform.

Conclusion

The relationships between art and industry are perhaps more obvious in media which, through methods and materials, occupy a more self-evidently uncertain status – stained glass, sculpture, or photography, for example. *Art versus industry?*, however, emphasises the importance of art-industrial relations for painting on canvas as much as lacemaking, and the questions it addresses will, we hope, be as important to art historians as to historians of science and technology. The close case studies here testify to the array of diverse materials, practices, practitioners and locations that participated in forging the complex relations between art and industry in nineteenth-century British culture: from stained glass to plaster, sculpture machines to fabric dyers, engineers to lacemakers and print makers, Italian marble quarries to Indian jails, International Exhibitions in London, Paris and Calcutta, to domestic decor in Sussex. Many engage with John Ruskin and

William Morris, providing a more nuanced vision of these legendarily anti-industrialists' attitudes towards art-manufacture. Others focus on increasingly well-known figures in nineteenth-century design reform, such as Owen Jones and Henry Cole, resituating their endeavours alongside Ruskin and Morris. Together, the chapters present an intricate picture of the vexed relations between art and industry in the nineteenth century. Most importantly, they show that there *was* a relationship between art and industry in the nineteenth century, not simply a disavowal as has so often been presumed.

Notes

1 A version of the exhibition was conceived in 2008 for a project at Palais de Tokyo in Paris called *D'une révolution à l'autre* (From one revolution to another). After leaving Manchester, the exhibition was restaged in Nottingham, Coventry and Newcastle in 2014.
2 www.southbankcentre.co.uk/find/hayward-gallery-and-visual-arts/hayward-touring/future/jeremy-deller-curates-all-that-is-solid-melts-into-air (accessed 4 February 2015).
3 Ruskin, *Lectures on art*, pp. 94–5.
4 For an essential evaluation of the nineteenth-century creation of the 'myth' of the Industrial Revolution as a 'historical thing-in-itself' and of the precursors to Toynbee, see Coleman, *Myth, history, and the industrial revolution*, pp. 1–42.
5 Kristeller, *Renaissance thought and the arts*, pp. 163–227; Shiner, *The invention of art*. On the emergence of craft in relation to the changing valences of art and industry, see Cardoso, 'Craft versus design'.
6 See Gretton, '"Art is cheaper and goes lower in France"'.
7 Robinson, *Catalogue of a collection of works of decorative art*, p. 4.
8 De Marchi, 'Introduction'.
9 See Miller, 'Consumption as the vanguard of history', pp. 25–7.
10 See especially Hart, *Arts and crafts objects*.
11 Barringer, *Men at work*, p. 12.
12 Engels, *The condition of the working class*, p. 37.
13 For further discussion see Berg, 'Useful knowledge'.
14 These ideas were discussed by figures as diverse as Thomas Carlyle, Friedrich Engels, and Alfred Toynbee. See Coleman, *Myth, history and the industrial revolution*.
15 See Taylor and Wolff, *The Victorians since 1901*.
16 Peters Corbett and Perry, 'Introduction'; Barlow, 'Fear and loathing of the academic'.
17 *Report from the Select Committee on arts and their connexion with manufactures*, p. iii.
18 Gretton, '"Art is cheaper and goes lower in France"'.
19 Some examples include Marryat, *Collections towards a history of pottery*; Bremner (ed.) *Great industries*; Butterfield, *A complete history of the cotton trade*. On histories of plastering, see Compton's chapter 10 in this volume.
20 See, for example, Barringer, *Men at work*; Elliot and Helland, *Women artists and the decorative arts*.
21 Hadjiafxendi and Zakresi, 'Introduction: artistry and industry', pp. 8–9.
22 Adamson, 'Introduction', pp. 2–3.
23 *Report from the Select Committee on arts and their connexion with manufactures*, 110–11, 123 (1836), 104, 116; Taylor, 'The mutual interests of artists and manufacturers'; '"High art" and ornamental art', *Journal of Design and Manufacture*; Bell,

British sculpture; Alma-Tadema, 'Art in its relation to industry'.

24 Bell, *British sculpture*, p. 10. See further Nichols, *Greece and Rome at the Crystal Palace*, pp. 133–6; Irwin, 'Art versus design', 228–30.

25 Bell, *British sculpture*, pp. 10–11.

26 On the Great Exhibition's role in history writing, see Purbrick, 'Introduction'. On art, vision and commerce, Teukolsky, 'This sublime museum', pp. 84–100; Di Bello, '"Multiplying statues by machinery"'.

27 Thomas Richards' influential 1990 account of the Great Exhibition as the origins of commodity culture has to some extent re-written and disregarded the significance of the exhibition as a space of pro-industrial culture. See, however, Bizup, *Manufacturing culture*, pp. 147–76; Kriegel, *Grand designs*, pp. 86–159.

28 Greenhalgh, *Ephemeral vistas*, p. 198.

29 On the relationship between photography, painting, sculpture, industry and technology in the nineteenth century, see Roberts, *Art history through the camera's lens*; Hamber, *'A higher branch of the art'*; Haworth-Booth, *Photography: an independent art*; and Edwards, *The making of English photography*.

30 Giedion, *Mechanization takes command*, p. 47.

31 *Ibid*., p. 346.

32 Atterbury, *The parian phenomenon*.

33 See, for example, Bizup, *Manufacturing culture*; Kriegel, *Grand designs*; Rifkin, 'Success disavowed'.

34 For an overview, see Lubbock, *The tyranny of taste*, pp. 248–70.

35 See especially Bell, *The schools of design*. Romans, 'Living in the past', 270–7 provides a useful historiography.

36 Lubbock, *Tyranny of taste*, p. xiii; p. 248; Romans, 'A question of "taste"', pp. 42–3.

37 Hall and Rose, 'Introduction'.

38 Zutshi, '"Designed for eternity"', 421.

39 See, among others, Dutta, *The bureaucracy of beauty*; Mathur, *India by design*; Mitter, *Art and nationalism*.

40 Zutshi, '"Designed for eternity"', 434–5. Dewan, 'The body at work', pp. 118–34 provides a rich examination of how these anxieties coalesced around the figure of the 'native craftsman'.

41 Bell, *The schools of design* and Macdonald, *The history and philosophy of art education* represent two traditional accounts of the history of art and design education in Britain. For more recent revisionist scholarship, see Romans 'Living in the past', 270–7, Romans 'A question of "'taste"'', pp. 41–53 and Quinn, 'The political economic necessity of the art school 1835–52', pp. 62–70.

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