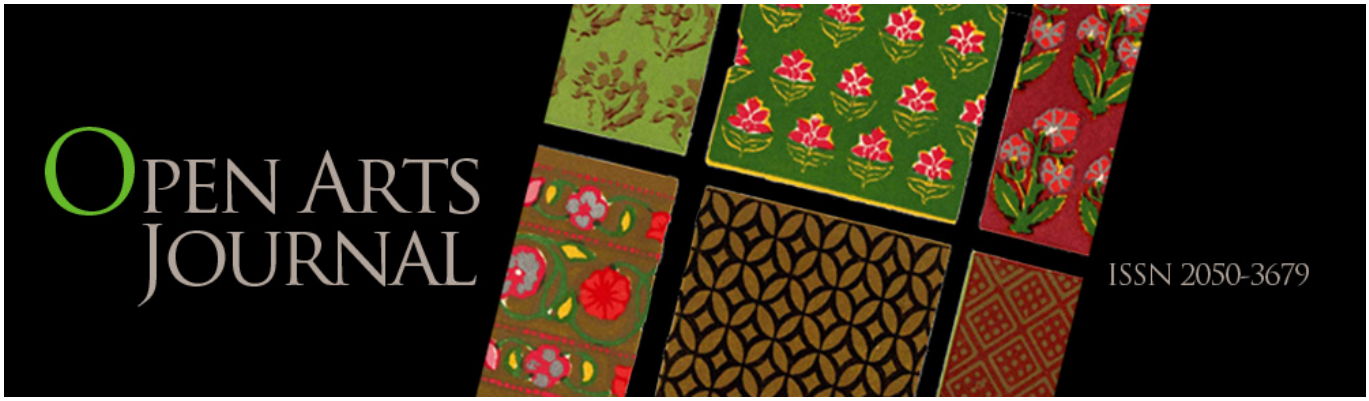

ART, INDUSTRY AND THE LAWS OF NATURE: THE SOUTH KENSINGTON METHOD REVISITED

Renate Dohmen

Abstract

This essay examines approaches to art education in Britain from the late eighteenth century to the 1880s. It explores issues of art and industry with an emphasis on the so-called South Kensington method adopted by the Schools of Art and the national curriculum implemented by Henry Cole, Secretary to the Department of Art and Science, which will be considered in relation to the educational provision offered by the Society for the Encouragement of Arts, Manufactures and Commerce, Mechanics' Institutes, the Schools of Design and the Female School. The discussion presents that the prevalent scholarly dismissal of this approach as inartistic, ineffective and commercial obscures its radical departure from elite notions of fine art as well as its quest to foster a modern conception of art for the working man that combined beauty with usefulness, unified art and science and emphasised geometry and ornamentation rather than life drawing as a matter of principle. It presents that the Department of Art and Science's approach to training designers for industry was one of 'manuring the nation' through public art education in elementary drawing and the education of art teachers, which was thought to raise national standards of taste and would thus 'naturally' improve British manufacture and bring forth designers for industry. It moreover suggests that the South Kensington method and its emphasis on line, basic geometric shapes and ornament needs to be examined in relation to the ethos of German natural philosophy, which considered art and science as integrally connected and articulated an aesthetic approach to scientific enquiry that countered the notion of the transcendental ideal. The essay also highlights South Kensington's inadvertent facilitation of women's art education and suggests that it needs to be acknowledged among the precursors to the Bauhaus.

Keywords: South Kensington Method, Henry Cole, art and industry, Mechanics' Institutes, German natural philosophy, Goethe, geometry, ornament, women's art education, Great Exhibition, Society of Arts, Schools of Design, Schools of Art, Female School of Art, Richard Redgrave, William Dyce, Christopher Dresser
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ART, INDUSTRY AND THE LAWS OF NATURE: THE SOUTH KENSINGTON METHOD REVISITED

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Introduction

Similar to the situation in eighteenth-century France discussed by Emma Barker in this issue, notions of art, design, drawing and art education were closely intertwined in nineteenth-century Britain and fuelled fierce debates in a field riven with overlapping binaries, such as polite accomplishment versus fine art, art versus industry, culture versus commercialism, and craft versus mechanical production. As the industrial revolution marched on, the terms 'art' and 'industry' became focal points for these controversies, and their understanding was far from static. In fact, as art historians Kate Nichols and Rebecca Wade point out, they were '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' (2016, p.2). But the issues pertaining to this history extend beyond terminological slipperiness. As Nichols and Wade highlight, the scholarly discussion of art and design in this period has been dominated by anti-industrial voices, stating that 'the legacy of the literature on art and design education predominantly published in the 1960s and 1970s … positioned Morris and Ruskin as the heroic and prescient figures who rescued design education from industry' (p.13). In *Art versus Industry? New Perspectives on Visual and Industrial Cultures in Nineteenth-Century Britain*, they seek to address this legacy, stating that 'there *was* a relationship between art and industry in the nineteenth century, not simply a disavowal as has so often been presumed' (p.14 italics in the original).

The present debate builds on the achievements of this book. More specifically, it takes its cue from the observation of the art historian Frances Robertson who holds that historiographic derision has forestalled an even-handed assessment of a good four decades of nineteenth-century British design education under the aegis of the Department of Science and Art (DSA), which was headed by the designer, educator, civil servant and bureaucrat extraordinaire Henry Cole, also referred to as 'King Cole' (Fig. 3.1).

As she points out, this history is heavily 'tinged with the shadow of John Ruskin', who opposed Cole's educational stance, and sides with Ruskin's 'campaigns to redirect the values of art and design education at the end of the nineteenth century' (Robertson, 2016, p.121). She draws attention to the prevalence of a polemic that 'poured scorn on the methods and aims of the Government Art Schools of Design that held sway between 1837 and the 1880s', which she identifies as a consequence of the pre-occupation with Ruskin in the scholarly literature, and which led to a dismissal of the art education in this period presented as a 'ludicrous episode by a power-crazed Henry Cole' (p.121). She furthermore argues that this created a condition of 'collective blindness', which does 'disservice to the students, artists, designers and teachers of this period' (p.121) and which has, moreover, by and large, sidelined the history of technical drawing, one of her areas of interest and scholarly expertise.

As part of her research on industrial draughtsmen, she draws attention to the prevailing focus on the 'individual creativity of elite engineers' (Robertson, 2016, p.121) and designers in discussions of art and design in nineteenth-century Britain which, as she

Figure 3.1: James Jacques Joseph Tissot, *Mr. Henry Cole, King Cole,* 26 September 1891. Colour lithography, *Vanity Fair* cartoon. (Credit: Private Collection / Look and Learn / Peter Jackson Collection / Bridgeman Images)

points out, misrepresents the field and disavows the agency of them, perpetuating the two systems thinking that dominates the writing of this history. She presents that this view is based on ideology rather than the givens on the ground, stating that, as the working practices of the draughtsmen reveal, art and industry were far from separate at the time (p.126).

Like Robertson, the art historian Imogen Hart also adopts a critical stance with regard to the predominant narratives in the field. She points out that while the history of the Bauhaus acknowledges the Arts and Crafts Movement, the latter's roots in design reform and the design schools/schools of practical art is scarcely acknowledged (2010, p.32). Architectural historian Arindam Dutta, in a similar vein, points out that the contributions to British design education by the Scottish painter William Dyce, who devised the curriculum of the first Schools of Design founded in Britain in the late 1830s, along with the educational efforts of Henry Cole, who took over the oversight of these schools in 1852, tend to be dismissed as 'all-too mechanical' and 'overbearing and perfunctory apparatuses' (2007, p.35). He chastises this deposition as an 'inordinately *culturalist* understanding' (p.35 italics in the original), which he argues is informed by an overreliance on notions of the avant-garde 'as the primary archive of shifting aesthetic sensibilities'; a charge he also applies to discussions of colonial art education rooted in postcolonial studies perspectives (p.35). Dutta holds that this approach overlooks the role of governmentality in the shaping of the modern aesthetic, and points out that while every 'modern survey has had to acknowledge the critical role of the Cole circle and the DSA in the establishment of a modernist aesthetic' this has at best been a reluctant if not dismissive nod in their direction, stating that 'no survey has devoted more than a page or two on the topic' (p.35). He states that this critique not only applies to the history of the DSA, but also to the one of the Bauhaus, which, likewise, is couched in terms of artistic personalities, which obscures an understanding of the '*founding* role of government in establishing the Bauhaus' (p.36 italics in the original). He considers this approach 'a failure at the core of aesthetic thought' (pp.35–6) that speaks to an ongoing reliance on notions of the individual genius; a given that is all the more astonishing since its inherent Eurocentric and masculinist investments have long been unpacked and persuasively critiqued, and, moreover, do not reflect the cultural histories of colonised countries such as India, the focus of his work on South Kensington and colonial art education.

The art historian Ann Bermingham, in a related argument, critiques that the histories of art education in Victorian Britain neglect the role of the Female School of Art which she argues was a key, if overlooked, influence for the Arts and Crafts Movement and Art Nouveau, while the historian Barbara Whitney Keyser points out that studies of the Victorian design reform movement and of the educational provision offered by the schools of art have utterly neglected the fundamental connection between the 'laws of beauty' articulated in Victorian science which informed the aesthetics of ornament.

A further strand drawn into this discussion of art education in nineteenth century Britain is the contribution of Mechanics' Institutes, which, as the cultural theorist and historian of visual culture Adrian Rifkin has pointed out, 'pioneered the exposure of working people both to works of fine art and to the finest productions of craft and artisanal work, together with machines and tools' (1988, p.95). Yet their history, which falls squarely within the efforts to foster art for industry, has largely been neglected.

This discussion takes its cue from these critiques and seeks to expand prevalent narratives by bringing together strands that have been neglected and/or are usually kept apart as they are deemed to belong to different disciplinary fields and professional interests, such as the history of exhibitions and art education at Mechanics' Institutes, the establishment of the design schools/the schools of art (both at home and in the wider empire), the issue of women's art education, and questions of geometry, science and natural philosophy. It revisits the over-determined binary of art versus industry and argues that the general dismissal of the South Kensington method has not only impeded explorations of the Victorian notions of science it is rooted in, but also led to a neglect of linked histories such as art education at Mechanics' Institutes and women's art education, thus misrepresenting the aesthetic history of this period and disavowing the broad cultural consensus which this paper argues supported the efforts of 'King Cole'.

The Society of Arts and the Royal Academy

This essay contends that nineteenth-century approaches and debates in Britain are rooted in eighteenth-century contexts, which will be briefly outlined in the following. In contrast to the high esteem enjoyed by artists in France, especially if associated with the French academy, artists in early eighteenth-century Britain were considered on a par with artisans, that is, as men 'of skill rather than of intellect' (Carline, 1968, p.49), while foreign artists who had been trained on the Continent were highly regarded and gained lucrative commissions. The reason for this difference in status is generally attributed to the lack of a central

art institution in Britain to raise the profile of art and to offer artists a place to meet and to exhibit. Training in fine art at the time was haphazard and depended on the skills of drawing teachers who roamed the country in search of employment. Some private art schools had also been founded, such as Hogarth's St. Martin's Lane Academy, which had become the prime place for artists to gather and practice life drawing by the middle of the century. But efforts to foster the applied arts were also in evidence in the eighteenth century and the perceived need for good design in manufacture led to the founding of the Society for the Encouragement of Arts, Manufactures and Commerce in 1754, which became the Royal Society of Arts in the nineteenth century. The Society aimed to encourage good design in industry by raising the status and practice of drawing, which was recognised as 'absolutely necessary in many employments, trades and manufactures' and was also considered to be 'of great utility to the public' (Carline, 1968, p.51). The Society initiated public exhibitions of art manufacture, which are considered its 'greatest contribution … to art education' (MacDonald, 1970, p.36) and was centrally involved in the planning of the Great Exhibition in 1851 (Bermingham, 2000, p.233).

Rather than instituting a teaching programme, the approach of the Society to fostering the drawing skills of the nation was to hold competitions. In 1758 it began offering prizes for designs for 'weaving, calico-printing, cabinet-making, coachwork, iron and brasswork, china, earthenware', but the public response was underwhelming and by 1778 the Society reduced its competitions to 'subjects normally performed by fine artists, such as drawing, painting, engraving, modelling, and carving' (MacDonald, 2005, p.45). The prizes, importantly, invited both boys and girls to contribute, who were able to compete in two age brackets, one for the under-fourteen-year-olds, and the other for those over fourteen and under seventeen years of age (Fig. 3.2).

Over time a further section was added allowing older students who attended the St. Martin's Lane Academy to participate. They were thus able to

Figure 3.2: English School, *Distribution of Prizes by HRH Prince Albert at the Society of Arts*, Adelphi, 10 June 1844. Engraving. (Private Collection / Look and Learn / Illustrated Papers Collection / Bridgeman Images)

submit life drawings, which is remarkable in the light of developments in the nineteenth century, when the drawing of the human figure was jealously guarded by the Royal Academy (founded in 1768), and the fine and applied arts were kept firmly apart. These competitions became well-established 'within a decade' and constituted the only national forum that fostered what in the widest sense could be called 'art education' until the founding of the Royal Academy which changed the dynamic in the field (Carline, 1968, p.55). Further evidence of the permeability of boundaries in the eighteenth century was the fact that in 1756 prominent artists such as Joshua Reynolds were invited to judge submissions to the competitions of the Society of Arts, and a considerable number of the boys as well as some girls who won prizes proceeded to become professional artists and academicians, such as Richard Cosway, John Flaxman and Mary Moser, who was to become a founding member of the Royal Academy (Carline, 1968, pp.54–6).

A further point to be noted which is often overlooked, is that the Royal Academy, reflecting the general concern with the benefits of art for the public good at the time, shared an emphasis on the utility of art with the Society of Arts. However, whereas the Society of Arts located art's usefulness in relation to manufacture, the Royal Academy couched its service to the nation in terms of the moral uplift history paintings provided, and the civic and national benefit this accrued (Bermingham, 2000, p.78). The Royal Academy's attitude towards the 'common man', however, set it apart from the Society of Arts, as it sought to shore up the status of fine art through exclusivity and social distance to a general public thought to lack an understanding of the principles of art.

Joshua Reynolds, who was the Royal Academy's first president, significantly shaped its agenda, orienting it towards the French academy in that history painting was declared the highest artistic genre, and old masters and classical antiquity were upheld as models to follow. As will be explored, Cole's approach to art and industry, while ostensibly focused on training designers for industry, that is, on the direct commercial application of art through design, equally aimed at the moral uplift of the nation, but sought to do so through an art education aimed at the 'common man' that was rooted in what he understood to be the laws of art and nature open to all rather than an exclusivist high-cultural agenda.

Reynolds, in his lecture delivered on the opening of the Royal Academy in 1769, thus drew a clear line between mercantile aspirations, such as the ones of the Society of Arts, and the 'polite arts' cultivated at the Royal Academy, stating that an academy needs to be founded on the highest principles, as otherwise 'it can never effect even its own narrow purposes' which will also have a detrimental impact on industry, since if 'it has an origin no higher, not taste can ever be formed in manufactures' (Reynolds, 1891, pp.53–4). Reynolds therefore positions the Royal Academy above and apart from the Society of Arts and its emphasis on the useful arts, stating that 'if the higher arts of design flourish, these inferior ends will be answered of course', implying an 'automatic' infusion of aesthetic sense in the nation's industrial output through the presence of high art (pp.53–4).

This speech in many ways sets the scene for how relations between the fine and applied arts were to unfold in the nineteenth century, with a dominant rhetoric of a separation of spheres, which, on closer inspection, only partially reflected the facts on the ground. For example, when the sculptor John Flaxman

Figure 3.3: John Flaxman, *Apotheosis of Homer vase*, designed c.1785; this example produced c.1870 by Josiah Wedgwood Factory. Jasperware. Dallas Museum of Art, The Barbara and Hensleigh C. Wedgwood Collection, gift of Mrs. Hensleigh C. Wedgwood. (Image courtesy of Dallas Museum of Art)

was appointed Professor of Sculpture in 1810 and delivered a lecture series at the Royal Academy, he dutifully adhered to the ethos Reynolds had sketched out, omitting any mention of his long-standing association with Wedgwood (Irwin, 1991, p.121) (Fig. 3.3).

It is of interest to note that both strands in the dispute over the 'polite' versus the applied arts lay claim to antiquity and the Renaissance, with a particular focus on Raphael. In his discourses, Reynolds, for example, makes reference to Raphael's cartoons, a prized British possession that had been in the Royal Collection since the early seventeenth century, referring to them as 'one of his greatest as well as latest works' (1891, p.291), thereby exclusively focusing on the artistic element of the artist's full-size preparatory designs for the tapestries commissioned by Pope Leo X, without referencing that they were made for application in industry.

Proponents of the useful arts, however, also referred to Raphael, presenting him as a model for the union of all the arts to be emulated. In his *Epoch of the Arts* (1813), the playwright and artist Prince Hoare (1755–1834) pointed out that '[t]he earthenware now known by his name [Urbino majolica] ennobled by beauties before unseen, was sought with avidity, and the tapestry of Flanders gathered splendour from his designs' (quoted in Irwin, 1991, p.228). In 1847 Cole, who was to become a key player of British design education and who was closely involved with the Society of Arts, also drew on the Renaissance as a model for an integrated approach to the arts. Working under the pseudonym Felix Summerly, he created an initiative where he asked painters and sculptors to design a range of ceramic, glass and metal objects for manufacture, with his own Summerly Tea Service among them, which he devised prompted by the prize for a tea service created by the Society of Arts in 1845. Entries were exhibited at the Society's rooms in London, and Cole's tea service won a silver medal, was manufactured by Minton, and proved so popular that it remained in production until 1871. In the publicity brochure for his Summerly Art-Manufacture venture Cole stated his conviction that 'an alliance between fine art and manufacture would promote public taste', arguing that such a move would be conducive 'to the interest of all concerned in the production of art manufactures' (Cole, 1884, p.107). He supported this claim with reference to a list of Renaissance artists who had designed for industry, stating that 'designs for pottery are attributed to Raffaelle [sic]' while pointing out that 'Leonardo da Vinci invented necklaces' (p.107). In his approach to elementary education, Cole, moreover, as will be developed, drew on the understanding that what he considered to be the scientific laws that inhere art and nature also informed the art of antiquity.

In *Fifty Years of Public Work*, Cole states that this exhibition initiated the Society's Annual Art Manufactures Exhibitions, and that it was in turn the precedent the latter set, which was 'expanded by the Prince into the great Exhibition of the Works of Industry of all Nations in 1851' (1884, p.106, see also MacDonald, 2005, p.45). This is an interesting proposition, especially in view of Cole's account of the marked reticence he encountered when seeking to persuade manufacturers to execute such designs. For instance, he relates that he could only persuade Mr. Minton with great difficulty to participate in the Felix Summerly venture, as the latter worried he would be ruined on account of the 'retailers in London, who at this time ruled manufacturers with a rod of iron' (p.105). What persuaded Minton in the end, according to Cole, was the fact that 'Messrs Wedgwoods and Spode had broken down the tyranny of the retailers' (p.105), a comment that offers interesting insights into relations between design reform and art manufacturers at the time.

Yet despite the overwhelming success of the Great Exhibition and its spotlight on art-manufacture as central to national pride and the commercial success of Britain, the submissions for the annual art-workmanship competitions held by the Society, for example for 'chased repoussé, and hammered metalwork, carving, enamel and porcelain painting' (MacDonald, 2005, p.46), continued to be muted. The Society's annual report of 1871 thus stated that 'in spite of the large amount of prizes offered, there is still wanting anything like an adequate response on the part of manufacturers, designers, or workmen' (quoted in MacDonald, 2005, p.46), with the result that these awards were, again, withdrawn.

Mechanics' Institutes

So far this discussion has considered the Society of Arts and the Royal Academy as the two main players that have shaped the debates and dominate the discussions in the field. A further thread to be added to this narrative is a sector that is often overlooked, namely the parallel trajectory of educational provision in art and design by Mechanics' Institutes. These institutions sprung up in large numbers across Britain in the first half of the nineteenth century, with 700 Mechanics' Institutes in evidence in England and Wales alone by 1851, and prominent institutions in provincial manufacturing towns such as Manchester, Birmingham, Leeds and Glasgow. Initiated by philanthropists, social

reformers and 'the emerging evangelical Christian movements of the Unitarians and Quakers' (Walker, 2017, p.6), they were focused on adult education and continued the work of earlier mutual improvement societies that responded to the need for a better education of the industrial workforce.

Richard Hamilton, President of the Leeds Mechanics' Institute, thus observed in 1845 that the lack of an appropriate education meant that working men were 'unfit for an age in which the marvels to [sic] technology and science were daily more apparent' (Hamilton quoted in Walker, 2017, p.4). These institutions therefore specifically addressed the working classes and fostered 'what was termed working-class self-help and mental improvement' (Walker, 2017, pp.4–5). Apart from offering provision for adults to augment their understanding of rudimentary science, mathematics, English grammar and reading, these institutions also offered public lectures on subjects representative of 'useful' or scientific knowledge, reflecting the popular interest in such topics, which, however, enjoyed less status than the classics at the time, which constituted the main stay of educational provision for the privileged classes (Walker, 2017, p.5). And while aimed at the skilled workman, Mechanics' Institutes attracted clerks, shop assistants and middle-class women in great numbers, tapping into the desire for self-improvement and social mobility in these sections of society.

Mechanics' Institutes, moreover, also offered drawing classes. In the 1820s and 1830s Leeds, Manchester and Brighton taught landscape, flower and figure drawing, for example (Fawcett, 1974, p.41). And even if their quality varied and depended on the skills of local drawing teachers, it is important to note that they offered the sole access to learn such skills available to artisans and the working classes until the establishment of the Schools of Design, and remained popular even after the advent of the latter (MacDonald, 1970, p.38) (Fig. 3.4).

From the 1840s most Mechanics' Institutes also offered technical and mechanical drawing geared towards engineering. These classes served the interests of workers who were able to earn higher wages if they were versed in technical drawing, as well as the needs of industry, since drawing skills aided the designing of new machines, considerably shortening the time needed to develop them when compared to the traditional approach based on the making of elaborate models (Walker, 2017, p.34).

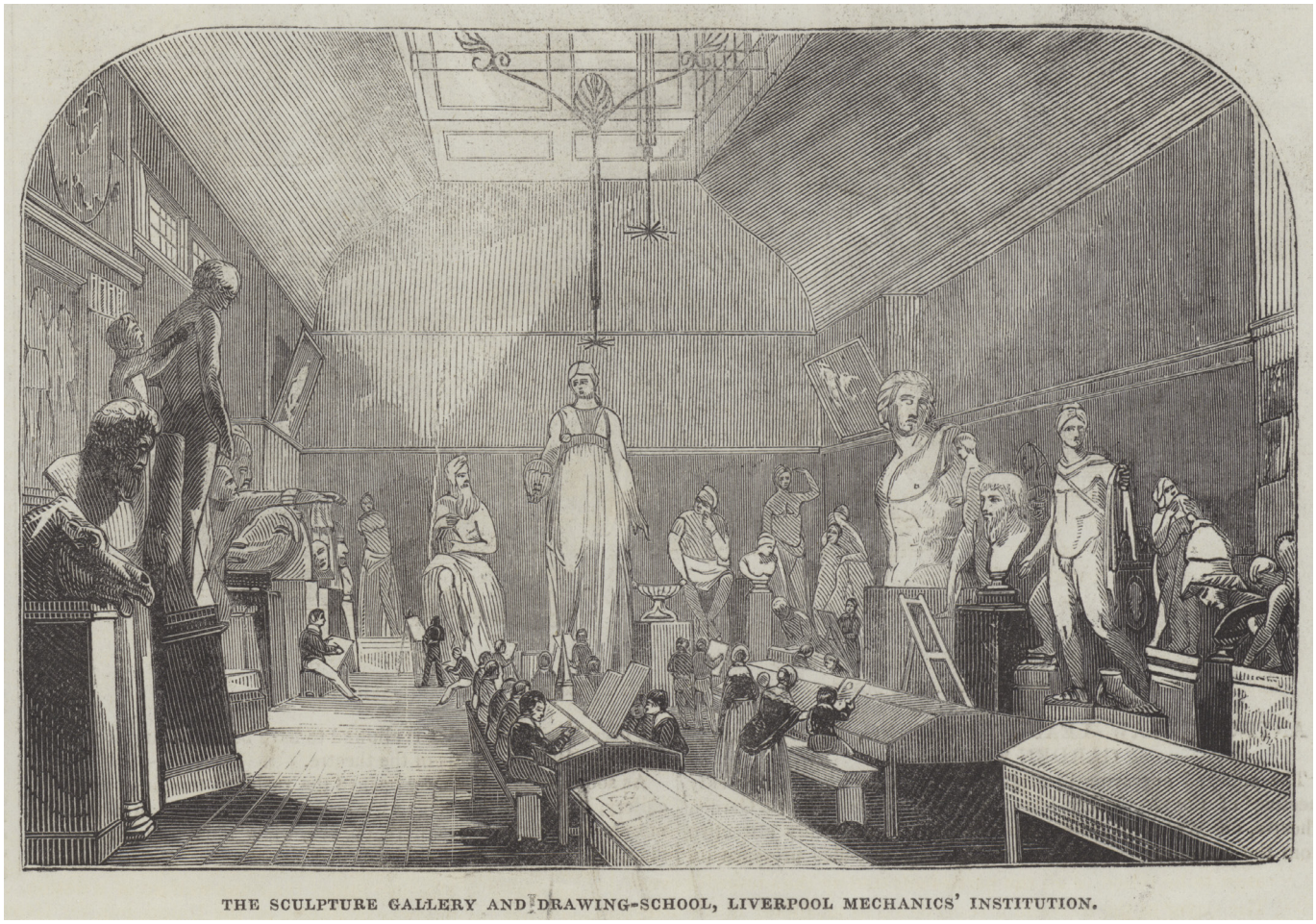

Figure 3.4: English School, *The Sculpture Gallery and Drawing-School, Liverpool Mechanics' Institution*, 19th century. Engraving. (Image credit: Private Collection / Look and Learn / Illustrated Papers Collection / Bridgeman Images)

Apart from offering classes ranging from science to art and literacy, these institutes put on numerous shows that combined the display of art and science, which created and popularised a culture of attending exhibitions among the working classes. An exhibition staged by the Manchester Mechanics' Institute in December 1837, for example, advertised the following displays in the *Manchester Guardian*: 'Works of Fine and Useful Arts, Objects of Natural History and Specimens of British Manufactures' (quoted in Kusamitsu, 1979, p.70). Remarkably, these exhibitions combined 'the fine art gallery, the science museum, the natural history museum' (Kusamitsu, 1979, p.77). The fine art on display originated with local collectors who loaned works to be put on display and artists also sent in their works. In 1840 an exhibition in Leeds thus reportedly received paintings loaned by aristocrats, gentry, merchants, manufacturers, local artists and other collectors, and a committee had the task to select from among works by high calibre artists such as Correggio, Giorgione, Rubens, Rembrandt, Poussin, Reynolds, Turner, Pugin and others (Kusamitsu, 1979, p.82). These exhibitions therefore gave access to fine art to members of the working population in ways that was unprecedented, suggesting that they were 'a springboard for the establishment of the permanent and public fine-art galleries and museums of natural history and science which began to be established from the 1850s' (Kusamitsu, 1979, p.85). Mechanics' Institutes thus pioneered the exposure of artisans and the working classes to art, introducing them to the new museum and exhibition culture that was developing at the time (Rifkin, 1988, p.95).

The mechanical arts at the exhibitions were similarly spectacular and presented canals and lakes created by the mechanics associated with the institutes, allowing model steamships to motor away. They also featured fountains and light houses as well as a large number of working machines, such as miniature steam engines and Jacquard looms, flax spinning frames, embroidery machines, letter- and copper-plate printing presses etc. built expressly for this purpose, which filled the exhibition rooms with considerable noise. The machines at such exhibitions were exceedingly popular and frequently travelled from exhibition to exhibition, often with an attendant worker who operated them who offered live demonstrations of working processes, with specimens made by these model machines sold to the delighted visitors. In 1839, the directors and the president of the Manchester Mechanics' Institute thus, for example, wore waistcoats woven at the exhibition by the silk weaver who demonstrated his art in their exhibition (Kusamitsu, 1979, p.79). By all accounts these events were great visitor attractions. The Leeds exhibition in 1839, which as the *Leeds Mercury* reported opened in the evening 'between the hours of seven and ten' to allow the working population to attend, found that 'the rooms … are [so] crowded that they would be almost unbearable', stating that over a period of a week '4811 single tickets have been purchased, and the total number of season tickets bought from the commencement is about 3000', adding that 'most of the latter have been already used many times by their owners, and it is a pleasing fact that no small number of them have been purchased by working men, not only for themselves but (as the tickets are not transferable) for the various members of their families' *(Leeds Mercury,* 1839, p.*5*).

Such exhibitions, moreover, became destinations of railway excursions, with special trains laid on and 'exchange excursions' organised. In 1840 Mechanics Institutes in Leicester and Nottingham, for example, held their exhibitions at the same time, and 400 visitors from Nottingham arrived in Leicester, with about 1,000 people from Leicester repaying the favour (Kusamitsu, 1979, p.82). This suggests that the provincial exhibitions organised by Mechanics' Institutes constitute key antecedents to the Great Exhibition, pioneering the format the latter adopted. They arguably also ensured its popular success, as they facilitated a taste for attending such exhibitions and for engaging with art and technological innovation amongst members of the working and lower middle classes, who were otherwise locked out of cultural debates due to their lack of education (Walker, 2017, p.42).

Overall, the provincial exhibitions at Mechanics' Institutes were considered a space of 'rational recreation' for skilled workers and the lower middle classes, that is, an engagement in 'respectable', edifying and self-improvement activities social reformers encouraged at the time, in contrast to drinking, gambling or radical political activity considered 'unruly' (Rodrick, 2004, p.15). The success of art instruction at Mechanics' Institutes and the fact that they attracted artisans, which the Schools of Design and Schools of Art failed to do, thus raises questions as to why such efforts by the latter failed to gain traction. A possible contributing factor here may well be the shifting contexts of work for British designers. As the design historian Philip A. Sykas has pointed out, in contrast to French designers, who were largely employed in the luxury trades, British designers worked for a cheap mass market with low margins, which gave little scope for exercising taste, with only a small number of calico printers in a position to meet the expense of creating in-house, original designs. As the nineteenth century

progressed the trend therefore increasingly was to buy in designs from ateliers, with France dominating this market, which may, at least in part, explain the decline in artisanal interest in instruction in design from the second half of the nineteenth century (Sykas, 1998, pp.7–9).

Schools of Design

The Schools of Design were instituted in the wake of the Parliamentary Select Committee on Arts and Manufactures of 1835–36. It was set up in response to the re-entry of French goods into the British market in 1826 and the perceived French superiority in art manufacture, especially the production of luxury wares, which dominated the discussion of the Select Committee (Rifkin, 1988, p.91). The rationale for founding the schools was to teach artisans the principles of ornamental art, which was thought to ensure the international competitiveness of British manufacture. Their remit was clearly differentiated from the study of fine art, that is, the schools were tasked to 'avoid fine art and devise means to disseminate the techniques and skills of industrial design' (Dutta, 2007, p.2).

In order to decide on the best pedagogic approach to adopt, the Scottish painter and educationist William Dyce was commissioned by the Board of Trade to travel to Europe and evaluate the methods of design education employed on the Continent. On his return he came out in favour of the pedagogy of the German *Gewerbeschulen*, which offered a system of technical education that entailed drawing the outlines of geometrical shapes and simple elements of ornament, classes in maths and physics, workshop-based practice and the study of objects in museums (Wood, 2008, p.166). The French system, which revolved around studies from nature and life drawing at all levels, did not appeal to Dyce, who stated that the students considered themselves to be artists rather than artisans (MacDonald, 1970, pp.79, 81–2). Dyce, who was subsequently appointed to lead this initiative, founded the first School of Design in London in 1837 (renamed Normal Training School of Art in 1857, National Art Training School in 1863, and Royal College of Art in 1897) based on these principles, with a further twenty-one schools added across Britain by1852. He also established a school to train art teachers in 1841. The curriculum he devised was tiered and consisted of seven stages that progressed from practising drawing straight lines, copying two-dimensional geometric forms, drawing geometric figures in the round, followed by casts of ornaments, studies in colour and finally the human form from the flat and in the round from casts or from life. The final section taught the history and principles of ornamental design and its application to manufacture.

The schools were, however, not deemed a success, in part because of local politics and conditions, the duplication of provision by the then well-established and popular Mechanics' Institutes, and because the teaching staff were almost exclusively drawn from the membership of the Royal Academy who, for the most part, had neither an interest in industry, nor a sense what teaching drawing for industry might entail.

A lynch pin in this struggle over artistic status was drawing from the human figure which was central to art instruction at the Royal Academy and was claimed as the reserve of fine artists. Academicians thus sought to curb any potential upward social mobility into the echelons of fine art by students attending Schools of Design and decreed that drawing the human figure was not to be the basis of teaching in design schools. In consequence, as the British history painter Benjamin Robert Haydon noted in his diary, 'every Student who entered the school of design should be obliged to *sign* a *declaration* or to practice either as Historical! – Portrait Painter! – or Landscape Painter!' (quoted in Wood, 2008, p.166, italics in the original). Drawing from the nude, even though it featured in the curriculum, was thus only offered when pressure was applied by students, and was even then 'limited to crafts in which the nude figure frequently occurred, such as arabesque painting, wall paper printing, and metal work' (MacDonald, 1970, p.82). This separation of spheres therefore instituted a two-tier art system that was to define the educational landscape in nineteenth-century Britain. It must be noted, however, that from the South Kensington perspective the supposed superior world of fine art and the School of Arts' separation from it was of little relevance, as its supporters did not conceive of their approach as 'lesser than', but rather as the 'true', modern, scientific and up-to-date approach to art, a fact that is frequently missed in the literature.

Criticism of the schools, however, reached such a point, that in 1847 a Select Committee was called to examine their effectiveness. The reports showed that while around 16,000 students had been recruited, no benefit to industry of the training received could be evidenced (Rifkin, 1988, p.92). Thus, even though Dyce, for example, had sought to introduce a workshop at the school, this, apparently, was not a success. The suggestion was that the young artisans who had enrolled at the school were all too familiar with industrial working practices and wanted to learn life drawing rather than more of what they already had at work (MacDonald, 1970, p.81); a rationale that, however,

does not account for the keen interest in technology, machinery and workshop processes presented in exhibitions organized by Mechanics' Institutes, and is worthy of further exploration.

Schools of Art

Subsequent to these dissatisfactory findings, Cole was tasked with reforming the Schools of Design and was appointed Secretary of the Department of Practical Art (DPA), a new government department to oversee these schools, after the close of the Great Exhibition in 1852 (Dutta, 2007, p.19). The Department moved to the site purchased with the profits of the Great Exhibition in 1856 and into a building that by the time Cole retired in 1873 had transformed into the South Kensington Museum (later divided into the Victoria and Albert and Science museums), which housed the museum collections of the Central School of Design together with the collection of exhibits from the Great Exhibition.

One of the challenges Cole and his team faced was that the requirements of different sectors of manufacture were highly diverse and tuition needed to be boiled down to a common denominator, with drawing thought to offer this shared ground. A further difficulty was the noted lack of basic facility in drawing among prospective students, which meant that foundational skills needed to be widely taught as part of the strategy and that teachers had to be trained to do so. Cole thus initiated a national system of education to be introduced in elementary schools. He also devised a curriculum for drawing teachers and for educators to teach at the former Schools of Design, now renamed Schools of Practical Art, or Schools of Art for short, with his artistic right-hand man, the genre and landscape painter Richard Redgrave, preparing the necessary teaching manuals and drawing examples to be copied by students (McDonald, 1970, pp.158–60).

In *Fifty Years of Public Work* Cole explains what could be seen as the rationale behind the renaming of the schools as correcting a mistranslation, stating that 'drawing schools in France were called "Écoles de Dessin," which, as is well known, means "Schools of Drawing", and not necessarily "Schools of Design"' (1884, p.281). He also argues the overarching emphasis on drawing rather than design in terms of a long-term strategy to 'naturally' generate designers over time, critiquing a skills-based approach and the expectation that by means of such schools 'designers could suddenly be created' as short-termist and misguided. He thus chastises the idea that 'all to be done was to start Schools of Design, and in them to train students to originate and apply decoration' (p.281) as unrealistic. As he lays out, his strategy was rather conceived in terms of 'manuring the country with elementary drawing power', arguing that this was the right approach to design education and that 'well developed fruits could be obtained from it' (p.281).

It is worth noting that Ruskin, who was vehemently opposed to Cole's approach to drawing instruction which he considered fundamentally inartistic, and who cast, as has been developed, such a shadow on the history of the Schools of Art, nonetheless expressed what could be seen as a similar pedagogical conviction to Cole. He, for example, advised: 'do not let your anxiety to reach the platter and the cup interfere with your education of the Raphael', adding that what was at stake was to train 'the ablest hands, irrespective of any consideration of economy or facility of production' and then it was up to this 'trained artist to determine how far art can be popularized, or manufacture ennobled' (Ruskin, 1857, p.vii).

Cole's argument for the need of 'manuring' the country was evidently persuasive, since the oversight for his endeavour was moved from the Board of Trade to the jurisdiction of the Council of Education in 1856 (Wood, 2008, p.168). This is perhaps even more surprising since the approach to teaching in the Schools of Art had not fundamentally changed from the instruction meted out at the Schools of Design, except for the expansion of Dyce's seven-tier system to twenty-three stages in the curriculum Cole and his team had devised. Now drawing from nature was only introduced at stage ten, and design only appeared on the syllabus at stage twenty-two, which, according to the art historian Paul Wood, hardly any student reached, as each prior stage had to be completed and certified before the next one could be attempted (Wood, 2008, p.168).

The initial five stages of the training at the Schools of Art were now dedicated to the study of ornament and commenced with linear drawing, the study of perspective and mechanical drawing of architecture, followed by freehand outline drawings of ornament from the flat and in the round and exercises in shading. Stages six to ten were devoted to figure and flower drawing from the flat, from casts and from the nude, followed by seven stages of studying colour, which commenced with the application of colour to ornament. This was followed by a teaching unit on modelling comprising four stages. It will be of interest to note that stage eight encompassed life drawing and stage seventeen modelling from the nude. In reality though, such studies remained controversial, with Schools of Arts, much like their predecessors, only rarely offering such classes, and if so due to pupil

pressure. This reluctance was not only because life drawing 'was viewed by academicians as their essential cultural capital' (Bermingham, 2000, p.231), but also due to Victorian prudishness. In fact, in the early days of the Royal Academy only married men had been permitted to draw from the female nude and it was certainly considered an improper subject of study for working-class men or women to do so (p.230). Holding life-drawing classes at Schools of Art thus required written permission, and even if granted, they were not listed in the official list of classes available to the public.

After the completion of twenty-one stages, students finally reached the 'Design Course' which, curiously, comprised of two stages only. Stage twenty-two returned to the study of ornament, commencing with natural objects 'ornamentally treated, usually botanical', to monochrome and coloured ornamental arrangements frequently presented in a hexagon, and studies of historic ornament drawn or modelled (MacDonald, 1970, pp. 390-91). The final stage called 'applied design' surprisingly was reserved for so-called Master students training in the London school at Marlborough House (later in South Kensington) set to become instructors at the Schools of Art rather than students intending to become designers for industry as one might have expected, and included mechanical drawing, architectural design, surface design as well as lithography, wood engraving and porcelain painting (MacDonald, 1970, pp.388–91). The Schools of Art therefore instituted a system of instruction that differentiated teachers destined to teach at elementary schools and 'Masters' who were to train teachers at all levels; a designation that is a give-away to the medieval ideation that informed the perspective of the Cole circle at least in part. This demonstrates that despite the noted difference there also was a shared outlook that connected Cole's approach to design reform with the ones of Ruskin and Morris.

Overall the curriculum was thus, surprisingly, at no stage geared towards producing designers for industry, but revolved around training a new kind of art teacher who had little in common with the drawing masters of old or the Royal Academicians. A further factor to be considered that is often overlooked in discussions of British art education in the nineteenth century is that many of the Master students, once trained, fanned out across the British empire, spreading the South Kensington system around the globe, with 'textbooks, models, plaster casts, drawing materials and other equipment from the South Kensington depository' (Dutta, 2007, p.27) shipped to India, for example. An example here is John Lockwood Kipling, the father of Rudyard Kipling, who taught for a decade at the Sir Jamsetjee Jeejeebhoy School of Art (J. J. School of Art) in today's Mumbai from 1865 and later became principal of the Mayo School of Art in Lahore. British art schools in India, however, were not founded to train designers for industry, not even ostensibly, but to instruct Indian artisans to preserve the 'traditional' modes of craft production in India, adding a further twist to this history. The aim was on the whole not successful, however, not only on the grounds of the absurdity and extreme arrogance of the quest, but also since most students at these schools did not come from artisanal backgrounds and decidedly harboured artistic ambitions, some successfully so. Ironically therefore, in the spaces of empire, at a geographical remove from the Royal Academy and its policing of the border between the fine and applied arts, the colonial subaltern achieved the upwards social mobility academicians so feared. Moreover, while the record of the J.J. School of Art in turning out employable artisans is questionable (Parker, 1987, p.133), it successfully churned out drawing teachers who worked in schools across the Bombay Presidency where South Kensington style drawing had been instituted (Burns, 1909, p.636). The phenomenon, which also applied to British settler colonies, gave the South Kensington approach an enormous reach; a factor yet to be more fully developed in the scholarly literature on British art education, given that its consideration, if broached, is mostly developed in relation to the histories of former colonies-turned-nation states at present (Chalmers, 1985, Calhoun, 2015, Dutta, 2007, Kantawala, 2012, Parker 1987).

Female School of Art

The Female School of Art originated with a class of women in 1841 at the Design School in London, which became a separate school for women when it was moved to a separate building in 1848 and was retained by Cole when he took over in 1852. Women's classes attracted middle-class or high-born women who paid full fees, which made them popular with the schools, as the revenue was needed to supplement their income. They also organized charitable bazaars, which, according to the artist, educator and historian of British art education Stuart MacDonald, 'produced for some Schools more than half their annual income' (1970, p.148), and led to suggestions that they 'bankrolled Cole's design schools' (Bermingham, 2000, p.226). Apart from the commercial motif in offering tuition to women, Cole was evidently invested in women's emancipation and in solving the problem of women's work, to which Schools of Art contributed by offering qualifications 'to the rapidly growing profession of

schoolteachers, many of them women' (*Survey of London*, 1975). It must be noted, however, that their presence at the schools was not uncontroversial, as public education was meant for the poor, and provision for wealthy young women at such schools could be seen as a misappropriation of government funds. Gendered class distinctions, however, supported women's instruction in art, as for gentlewomen in reduced circumstances the vocational practice of art constituted an acceptable form of earning a living. In contrast, gentlemen studying at such schools would have been wholly unacceptable, as art was not a profession deemed fit for men of this class (MacDonald, 1970, p.148).

Unless they were seeking to obtain certification to become art teachers, women were not tied to the national curriculum and readily engaged in free-hand drawing and painting flowers from nature, otherwise reserved for students who had reached stage fourteen in the national curriculum (Bermingham, 2000, p.225). Some female students, however, did choose to adhere to the national curriculum, such as the well-known Victorian artist and illustrator Kate Greenaway (1846–1901), who completed all its twenty-three stages (Fig. 3.5).

The Female School was popular and had a long waiting list, as only seventy students could be crammed into the building (MacDonald, 1970, p.135). A further point of interest is that by the 1860s, the number of students enrolled in amateur classes for ladies, together with other general students, evidently outnumbered the prospective teachers and artisans enrolled in such schools (Bermingham, 2000, p.226), with the general fee-paying student constituting about 'nine-tenths of the student population during Cole's period of office' (MacDonald, 1970, p.172). This context puts a rather interesting perspective on Cole's professed aim to 'manure' the nation to prepare the ground for national

Figure 3.5: Kate Greenaway, *Prize Student-Work.* Drawing. Greenaway made this drawing for one of six tiles as a student aged 17. (Lebrecht History / Bridgeman Images)

artistic development and the 'natural' emergence of designers for industry. It would moreover appear that his policies were successful in unexpected quarters due to the self-funding policy that saw Government Schools of Art open their doors to droves of fee-paying ladies and general students, formerly known as amateurs. Ironically, therefore, it was middle- and upper-class women who were able to straddle the divided art worlds of nineteenth-century Britain, as they were able to train at the Schools of Art normally reserved for men of a lower class, while their gender and class status also allowed for an association with the fine arts, at least in principle, which a percentage of them pursued.

Despite the efforts of the Royal Academy to curb the artistic ambitions of pupils of Government Schools of Art, women thus defied these rules and used them as stepping stones for careers in fine art. Examples here are Laura Herford, the first woman to be admitted to the Royal Academy (Bermingham, 2000, p.226), and Rosa Bonheur, who exhibited at the Royal Academy (MacDonald, 1970, p.173). This was in no small part due to the prevalence of able and well-trained women exerting pressure on the Royal Academy to open their doors, which led to their admittance in the 1860s (Bermingham, 2000, p.226). Yet once accepted as students, they were not allowed to draw the female nude up until 1893, even though they could study the partially draped male nude.

A further point to note is that women at the Schools of Design had already been exceedingly successful, winning nearly all the annual prizes, so that a second tier of prizes had to be introduced just for them to prevent female students scooping them up altogether. They had also outdone other students with the number of designs sold for 'silverware, pottery, chintz, lace, bookbindings, title pages and wood engravings to manufacturers' (MacDonald, 1970, p.135). This trend continued in the Cole era, when women surpassed their peers in finding employment, which Bermingham attributed to the fact that they were not bound to the curriculum (2000, p225). As she points out, the ability to render floral design was a sought after skill in the British textile industry, and as the national curriculum's emphasis on geometry and copying architectural ornament did not cater for the industry's need, it turned to women and their skills in botanical drawing instead (2000, p.226). For Dyce and Cole this evident success in training designers for industry would, however, not have been gratifying, since they endorsed the design reform view that illusionist botanical design for surface decorations was in bad taste.

Art, science and the laws of nature

When discussing the history of art and design education in nineteenth-century Britain a curious point to consider is that while French design excellence loomed large in the hearings at the Select Committee in 1835, even reaching 'mythomanic levels' as Rifkin suggests (1988, p.96), and despite the fact that keeping up with France had been the main impetus for founding Britain's design schools, there was a decisive turning away from the successful French model of design education characterised by an emphasis on figure drawing and drawing from nature. This negation of the French approach to art education, moreover, was sustained when the Select Committee in 1847 found the methods adopted by the Schools of Designs to be failing. Cole's regime, furthermore, not only largely continued with the pedagogy Dyce had initiated at the schools, but persisted in doing so for decades, even though the curriculum he instituted likewise did not achieve the stated aim of training designers for employment in industry.

The scholarly literature, while emphasizing the laboriousness of the curriculum as well as its lack of artistic touch, however, tends to be mute on the subject of the surprising longevity of the South Kensington curriculum. There is also scarcely an acknowledgement that for Cole and Co. the notion of fine art was old-fashioned and elitist (Carline, 1968, p.84), nor that they conceived of their approach as a modern version of the unity of art and design during the Middle Ages and the Renaissance adapted to the era of industrial manufacture that entailed a re-envisioned conception of art and of art education (Redgrave, 1890, pp.155–6).

The suggestion is that what has commonly been portrayed as stubborn misguidedness, if not foolhardiness, was in fact a perspective supported by a considerable consensus, as otherwise the South Kensington method, with its emphasis on elementary rather than life drawing, could not have been sustained for such a long period, given its lack of commercial success, the undoubted rigidity with which the national curriculum was implemented as well as the difficulties caused by the 'payments on results' and economic self-sufficiency policies imposed on Government Art Schools.

It is thus interesting to note that Redgrave, in his *Manual of Design*, characterises the French system of instruction in terms of its 'great freedom and ease of execution', which, as he stresses, is achieved at the expense of 'correctness and truth' (1890, p.160). He, moreover, suggests that the South Kensington pedagogy in contrast 'seeks freedom through knowledge attained by careful and precise imitation' and thus

differs from the French system of 'facility and fluency' (p.160) that lacks such foundation, since in France 'no instruction seems to be given in the historic styles of different periods, or in the principles which should guide the application of ornament in the decoration of separate fabrics and objects' (p.161). As he explains, the British approach in contrast aims at a 'fuller sense of the beautiful and the true', which he presents as superior to the charms of French 'facility, readiness, and acquaintance with the fashion of to-day' (p.161).

Redgrave also compares British pedagogy to the German system and argues the British curriculum as a more thorough and consistent rendition of the latter, since it alternates between two- and three dimensional methods that build on one another, that is

> first, outlining from flat examples, then from solids and objects; shading from flat examples next has place, then shading from models and casts of ornament; flowers and foliage are drawn from flat examples, then from nature; the figure in outline, or shaded first from flat examples, then from the round, and finally from the living model. (p.162)

He ultimately contrasts the German and the British methods in terms of mechanical versus artistic approaches to design, arguing the German system produces 'good draughtsmen and modellers, intelligent artizans [sic] skilled to handle the pencil and the modelling tool' while the British model aims to educate 'designers for manufacture' and 'to instil the principles of decorative art' (p.165), citing the fact that every village has its drawing school in evidence of the greater efficacy of the British scheme.

Overall Redgrave argues the excellence of the British training in terms of the 'careful study of ancient ornament' and the 'analysis of foliage and flowers, with a view to the new ornamental forms to be derived from them' and their basis in 'geometrical and other laws' (p.165). As also outlined in Owen Jones' famous *Grammar of Ornament* (1856), the declared aim of the South Kensington method thus is neither to copy historic styles nor to imitate nature, but to understand the latter's underlying principles and to express them in exemplary ornament, which he demonstrates with two sketches that present, as he stresses, a 'mode of analysis' (p.165). He thus contrast a drawing of the sow-thistle 'drawn as it grows' (Fig. 3.6) with the plants flattened elements (Fig. 3.7), stating that in this mode 'the form of the buds, the open blossoms, the seed vessels and the leaves, are examined as new motives for ornament' and are explored in view of 'laws which

Figures 3.6 and 3.7: Richard Redgrave, *Sow-Thistle*, 1890. Woodcut, published in *Manual of Design*, pp.166–7. (Image credit: University of Toronto via archive.org). Redgrave drew these images as indications of the mode of analysis he promoted in his *Manual*, stating that many details and forms could be obtained from this single plant. He also points out that such elements, as well as the careful study of the leaf and of the bracts, offer new and original forms of beauty in ornament.

govern the agreeable distribution of ornamental details, either as to form, colour, quantity, or symmetrical combinations' (p.165).

Redgrave also emphasizes that the training does not end with learning the manual skills of execution, nor with the mental skills of analysis or application of the structural laws of geometry, but states that the 'proper application of ornament to the various materials in which the design is intended to be wrought' (pp.165–6) constitutes the final stage of the training received. He stresses that this element of instruction is 'not followed by Continental decorative artists', and that British design alone maintains the 'true relation between the ornament and the ground' which was 'well understood by the Orientals and by the artists of the Middle Ages' (p.167), yet is overlooked by modern designers as evidenced by the prevalent application of pictorial art to flat surfaces.

What Redgrave is referring to here is the kind of work that was displayed in Marlborough House, when it served as a Museum of Manufacture. Envisaged by Cole as a 'schoolroom for everyone', he sought to instruct the public on matters of taste, that is, good design, by displaying not only approved examples, but also ones to be avoided, which were gathered in the Gallery of False Principles (Thorpe, 2019). The latter was soon dubbed the 'Chamber of Horrors' and it was not long before it was hastily disassembled since the manufacturers of these examples had been named and were not best pleased.

In the satire of the principles laid out by South Kensington commissioned by Charles Dickens for *Household Words*, the visit to the 'Chamber of Horrors' by the fictional character Mr. Crumpet is life changing, though not necessarily in ways that added to his wellbeing, as he realises to his dismay that he is a man of no taste. Dickens has him explain his conversion to the principles of good taste as follows:

> I was ashamed of the pattern on my trowsers [sic], for I saw a piece of them hung up as a horror. I dared not pull out my pocket handkerchief while any one was by, lest I should be seen dabbing the perspiration from my forehead with a wreath of coral. I saw it all; when I went home I found that I had been living among horrors up to that hour. The paper in my parlour contains four kinds of birds of paradise, besides bridges and pagodas.
>
> (Worley, 1852, pp.265–6).

While much ridiculed at the time, the endeavour to bring taste 'to the people' entails an effort in levelling social class, as in eighteenth-century Britain concerns with taste had been a privilege of aristocratic as well as intellectual and professional circles. This changed with Augustus Welby Pugin's *True Principles of Christian or Pointed Architecture* (1841), which introduced the notion that taste and societal values were intricately linked, arguing, for example, that the Gothic style expressed true Christian values and was better suited to British architecture than pagan Neo-classicism. Cole was influenced by Pugin's notion that taste and the idea that good design had a moral dimension that impacted society. In an article in *The Journal of Design and Manufacture*, which he initiated in 1841, Cole thus suggests that whereas the commercial benefit of ornamental design furthers the 'tens of thousands', this is surpassed by 'the moral influence of ornamental art', which 'extends to millions' (quoted in Suga, 2004, p.47). Discussions of taste and their moral undercurrent, moreover, gained wider currency in the nineteenth century due to the industrial revolution and the Great Exhibition in particular, when domestic consumption became a national concern and taste manuals flourished (Suga, 2004, pp. 43–4). Cole's ambition to educate the public in 'good taste' and to emphasise geometry at a time when naturalistic flower patterns were exceedingly popular and equalled commercial success (Suga, 2004, p.46) therefore needs to be acknowledged as an audacious move against the odds and contrary to market interests, which rather rested, as Redgrave put it, on 'the principles of the beautiful and the true' (1890, p.160).

It would, moreover, seem that these ideas were widely shared. Giving evidence to the Select Committee in 1836, Thomas Leverton Donaldson, secretary of the Institute of British Architects, for example, stated that '[g]eometry of course is the foundation of scientific knowledge which is necessary for all workmen, as giving them a greater knowledge of form and delineation' (quoted in Macdonald, 1970, p.121). To which other committee members added that it was also the basis of form in art and in nature (Macdonald, 1970, p.121). Likewise an article in the *Penny Magazine*, published by the Society of Diffusion of Useful Knowledge, which aimed at 'improving' the working classes, equates advancing 'the taste of the people of Great Britain' with 'the decoration of houses… pursued on scientific principles' (*Penny Magazine*, 1836, p.484), stating that doing so will have the added benefit of furnishing employment for local artisans and British industry.

Interestingly, the magazine also trots out antiquity in support of this argument, stating that 'the greatest manufactories of Greece' were 'connected with fine arts' and that 'the artists of Aegina had … commissions in all parts of the country' (p.484), thus emphasising

that high calibre artists worked for industry in ancient Greece. It lends further support to the approach to art education adopted by Dyce and continued by Cole and Redgrave, by quoting a statement made by David Ramsay Hay, the influential Scottish interior decorator and author of *The Laws of Harmonious Colouring*, a work Redgrave drew on for the colouring element of the national curriculum (Keyser, 1992, p.236). When asked what the best training would be for someone wanting to enter his trade and to improve the taste of the working people, Hay states it to be 'the drawing of large symmetrical figures by hand', and that after sufficient practice in such study the attention of students should be directed towards plants, suggesting that 'grace and elegance of form are to be found in the common dock, the thistle, the fern, or even a stalk of corn or barley' and that this practice should begin 'by studying from large well-developed leaves' (quoted in *Penny Magazine*, 1836, p.484). He moreover adds that this is an art for the people as the 'study of such objects is within the reach of all classes' and, connecting back to antiquity, he states that 'those who thus form their taste, when they come to the study of ornamental remains of Athens or Rome, will find themselves familiar with the source from which such designs are derived' (p.484), by which he means nature.

So how are we to understand the recurring reference to geometry, nature and antiquity in relation to art manufacture, which appears to be advocated as a 'classicism for the common man'? As the art historian Barbara Whitney Keyser has pointed out, design reform was rooted in an 'art-science complex' that connected 'mathematics, science, numerical mysticism and applied sciences ranging from architecture and engineering to machine design' (1998, p.12) and was grounded in German natural philosophy. She points to the German poet Johann Wolfgang von Goethe as a key figure in this regard who articulated an aesthetic approach to science; a perspective that in its nineteenth-century British guise linked art and industry and was central to the South Kensington system of art education, a connection not commonly draw out in discussions of this method.

In *Metamorphosis of Plants* (1790), Goethe, for example, posited the notion of an archetypal plant (Urpflanze), which he came to understand as the underlying pattern of generation that can be intuited through studying the metamorphosis of botanical form. For Goethe, the plant is primarily formed through the leaf and its progressive transformation into stem, flower etc., revealing an underlying schema or law of nature to the student of this process (Steigerwald, 2002, pp.296–7). He, moreover, suggests natural formation as closely linked to great art, in fact his ideas about plant morphology had been greatly facilitated by the study of the art of antiquity during a sojourn to Rome, where he had concluded that antique 'masterpieces were produced by man in accordance with the same true and natural laws as the masterpieces of nature' (Goethe quoted in Steigerwald, 2002, p.306). For him the organicist laws of nature, which he explored through an embodied understanding of perception and the close observation of natural phenomena, thus differ from the divine ideal of Renaissance Neo-Platonism associated with the dominant understanding of *disegno* discussed in the introduction to this volume. Goethe's position is demonstrated in this exchange with the German dramatist and literary theorist Friedrich Schiller about his notion of the *Urpflanze* [primal plant], with Schiller stating

> Das ist keine Erfahrung, das ist eine Idee' ['That is not an experience, it is an idea'] and Goethe responding 'Das kann mir sehr lieb sein, daß ich Ideen habe, ohne es zu wissen, und sie sogar mit Augen sehe' ['That's fine by me that I have ideas without realizing it and that I even see them with my eyes'].
>
> (Goethe and Schiller quoted and translated in Crawford, 2007, p.280)

Goethe therefore posits the body and its mechanisms of perception as affective domain for scientific discovery, an approach that entails an alternative to geometry understood as proportion and expression of a transcendental ideal.

In his essay 'Simple imitation of nature, manner, style' ([1789] 1980), Goethe moreover lays out his critique of what he considers the inferior approach to art of the mannerist who neglects the careful examination of nature and offers a superficial, vacuous and hence insignificant form, making up for lack of observation with artistic expression. Goethe suggests that the highest attainment in art is achieved if it 'succeeds in creating … a general language' which is accomplished through 'profound and accurate study' in order to capture 'more and more precisely that characteristics of things', suggesting that this approach represents the level of 'style' which is 'equal to the highest achievements of man' (1980, p 22). For him style is thus 'based on the profoundest knowledge, and the essence of things insofar as we can recognize it in visible and tangible form' (p 22). Read through the lens of Redgrave's explanations of form and his rejection of French 'facility' in favour of 'scientific principle' and 'careful and precise imitation', Goethe's text reads like the ur-manual of the South Kensington curriculum.

The endorsement of Goethean notions, however, was far from an isolated phenomenon in Victorian Britain and, for example, informed the practice of advocates of transcendental or philosophical anatomy, a label that, however, is somewhat misleading, as prominent proponents of this approach, such as the anatomists Charles Bell and John Henry Green, who both taught at the Royal College of Surgeons while Green also lectured at the Royal Academy, endorsed the Goethean view of 'expression as variety and the deep structure of organisms as unity' (Keyser, 1998, p.132) rather than the notion of a transcendental ideal.

In its South Kensington rendition, the notion of an aesthetic-scientific discovery of the laws of form in nature, however, was closely linked to ornamentation, with crystals seen as representative of lifeless nature characterized by the straight line, while curvature and spiral shapes were considered integral to organic form. Both elements were thought to be related and based on linearity, since the 'spiral had both the character of the straight line, yet showed progression and continuity' (p132); a reference that maps perfectly onto the approach taken in the national curriculum where the study of form was based on line and alternates between flatness and roundness in the early stages.

Reflecting this perspective, Keyser perceptively coined the term 'indirect imitation of nature' for the Victorian design reform movement (p.128), which Dutta extends to include the aesthetic ideology promoted by the South Kensington School (2007, p.103). It thus needs to be acknowledged that South Kensington's sidelining of life drawing and the study of the human form in favour of studies of geometry and plant life is underpinned by a radical re-conception of prevalent notions of beauty and utility, which in contrast to the understanding of fine art upheld by the Royal Academy that is characterized by ideal notions of beauty considered to be 'disinterested' and a negative attitude towards the world of commerce, constituted an aesthetics rooted in the lived world. It must also be recognized that this outlook was promoted by influential figures, with Prince Albert among them, who had supported the idea of Schools of Design and Cole's efforts every step of the way and who, unsurprisingly perhaps, subscribed to the notion of the art-science complex, which he had brought with him from Germany. He also had a strong sense of the public's right to direct contact with culture, which challenged the notion of art as the domain of the privileged few (*Survey of London*, 1975, pp.74–96).

A further influence on the South Kensington approach to be recognized is the work of the Swiss educational reformer Johann Heinrich Pestalozzi. He advocated an education for the poor and developed a pedagogy for nursery children that revolved around drawing parallel and intersecting lines as well as basic shapes such as triangles, circles and squares, advocated as an 'alphabet of forms', to foster the child's 'formative impulse' in a structured approach to teaching (Dutta, 2007, p.92). Pestalozzi argued that if such instruction formed the basis of art education it would foster the talents of the common man, since the absence of such training meant that the development of the 'instinctive feeling of proportion' artists required necessitated them to 'grope in the dark', stating that this skill could thus only be acquired 'by immense exertion and great perseverance', which only 'a few privileged individuals' with sufficient leisure could afford (pp.91–2). Pestalozzi, moreover, held that 'the art of drawing ought to be a universal requirement' on the grounds that 'the faculty for it is universally inherent in the constitution of the human mind' and that it constitutes a 'spontaneous impulse of nature' to be fostered (p.92).

Throwing down the gauntlet to prevalent conceptions of art promoted by the Royal Academy, the designer Christopher Dresser, a former student of Owen Jones and of the London School of Art where he had become a prominent educator, thus emphasized in the first few lines of *Principles of Design*, that his book is 'addressed to working men' (1870, p.v) and was written with the aim to foster their 'art-germs which doubtless lie dormant' (p.vi), stating that '[a]t the very outset we must recognise the fact that the beautiful has a commercial or money value' (p.1). Further underscoring his challenge to the art establishment he exclaims 'Workmen! I am a worker, and a believer in the efficacy of work' (p.4). To which he adds '[o] rnamentation is in the highest sense of the word a Fine Art; there is no art more noble, none more exalted' and, further undermining the exalted status claimed by the Royal Academy, he adds that ornamentation 'is a fine art, for it embodies and expresses the feelings of the soul of man', declaring 'professors of the art' to be 'for the most part false pretenders' as, since they ignore decoration, they 'cast aside a source of refinement, and deprive themselves of what may induce their elevation in virtue and morals' (p.15).

Considered from this vantage point, the emphasis on line, geometry and ornament in the national curriculum no longer appears inexplicable, absurd and misguided, but can be recognised as connected to what were considered to be laws of nature that, moreover, fostered an inherent human facility; an outlook that constituted a fundamental departure from prevalent conceptions of art as represented by the Royal Academy, which Cole and his circle considered

to be elitist, unscientific and backwards. It would thus appear that Cole's regime was far more principled and radical than it is generally given credit for and was underpinned by a philosophical perspective beyond its much, and often pejoratively cited, utilitarianism and the accusations of a failed agenda of cheap commercialism, judged to be useless rather than useful as claimed.

Conclusion

British design education for the most part of the nineteenth century charted a unique path, which, drawing on and furthering the efforts of the Society of Arts and the Mechanics Institutes, led to the institution of elementary education in drawing in public schools and the development of the much-maligned South Kensington method.

The prevalent critique of the South Kensington method as inartistic and ineffectual, however, as has been argued, overlooks the radical nature of its endeavour. Driven by a social vision of the 'true' and the 'beautiful' tinged with design reform fervour and the kind of sentiment that also found expression in the Pre-Raphaelite and the Arts and Crafts Movement, it did not endorse the cultural elitism of fine art. It rather constituted a national effort in the improvement of taste and an aesthetic-moral education rooted in German natural philosophy in the guise of an organicist understanding of the formative forces of nature conceived as natural law that underpinned a modern conception of art for the common man, encompassed industry and constituted a novel understanding of aesthetic practice that countered the notion of the individual genius.

This re-envisioned understanding of art, moreover, brought commercial interests and international competition into alignment with the potential to increase workers' wages, while facilitating the aesthetic improvement of domestic environments, fostering of artistic development and the moral uplift of the nation. The instituting of drawing classes in elementary schools in parallel to the training provided in the Schools of Art thus needs to be understood as an effort in the aesthetic 'manuring of the nation', with designing for industry an envisaged benefit further down the line.

The South Kensingtion method, moreover, arguably had a more profound effect than commonly acknowledged. With its pro-industry stance Cole's national effort in art education for one needs to be recognised as closer in spirit to the Bauhaus than generally acknowledged, or certainly deserves a place on the podium of Bauhaus antecedents alongside Ruskin and the Arts and Crafts Movement. Its importance for fostering women's art education also needs to be added to the list of its achievements. In fact, as Bermingham posits, the origins of Art Nouveau may well be found in the Female School of Design and the tradition of women's flower drawing and painting rather than 'the work of Pugin, Ruskin and the Pre-Raphaelites' as is commonly assumed (2000, p.226). She also suggests that the Female School may even be of greater significance for Art Nouveau than 'the more familiar influence of the Arts and Crafts Movement' (p.226).

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