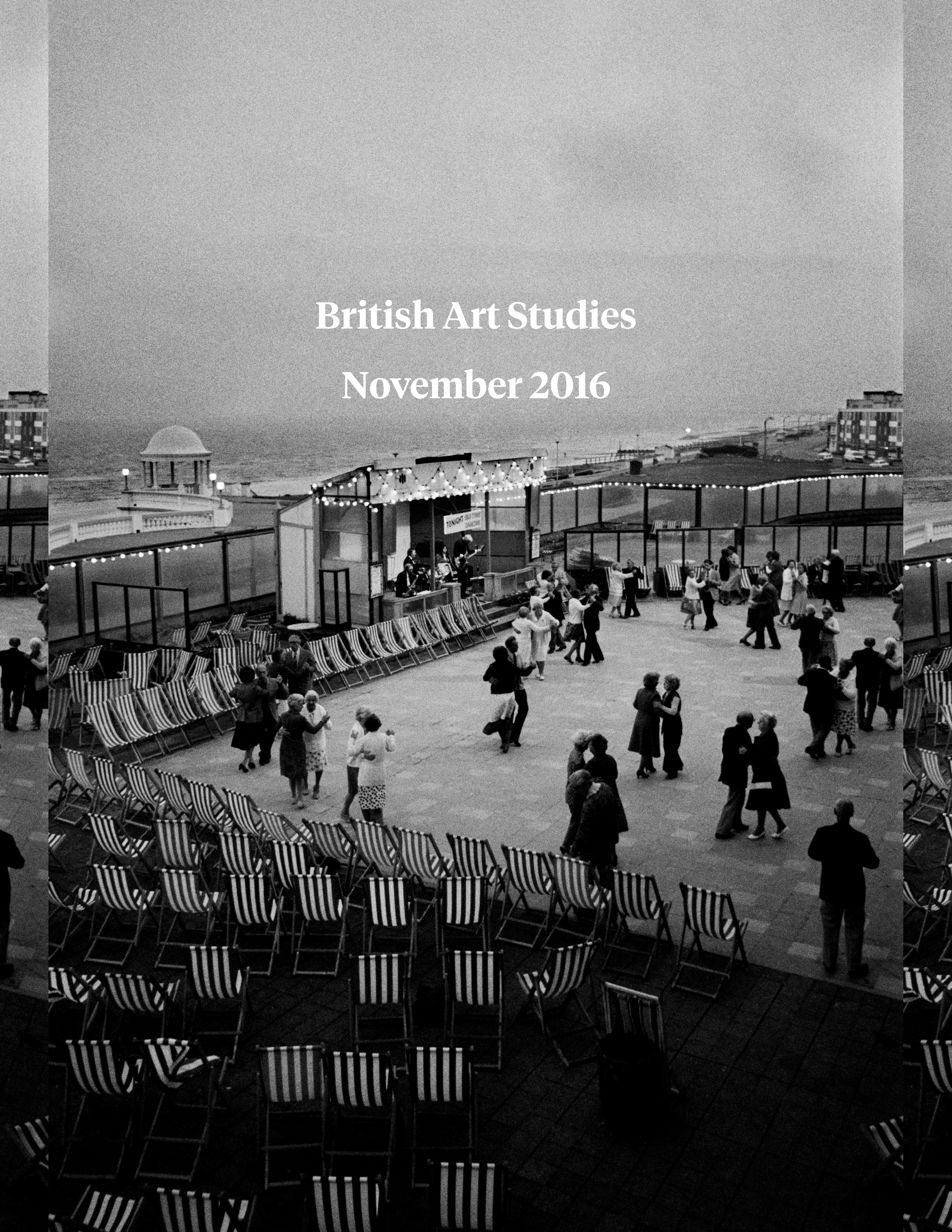
British Art Studies

November 2016



British Art Studies
Issue 4, published 28 November 2016

Cover image: Martin Parr, De La Warr Pavilion, Bexhill on Sea, East Sussex, England, UK, 1978. Digital image courtesy of Martin Parr / © Martin Parr / Magnum Photos (LON28062)

PDF generated on 15 February 2024

Note: *British Art Studies* is a digital publication and intended to be experienced online and referenced digitally. PDFs are provided for ease of reading offline. Please do not reference the PDF in academic citations: we recommend the use of DOIs (digital object identifiers) provided within the online article. These unique alphanumeric strings identify content and provide a persistent link to a location on the internet. A DOI is guaranteed never to change, so you can use it to link permanently to electronic documents with confidence.

Published by:

Paul Mellon Centre
16 Bedford Square
London, WC1B 3JA
https://www.paul-mellon-centre.ac.uk

In partnership with:

Yale Center for British Art
1080 Chapel Street
New Haven, Connecticut
https://britishart.yale.edu

ISSN: 2058-5462
DOI: 10.17658/issn.2058-5462
URL: https://www.britishartstudies.ac.uk

Editorial team: https://www.britishartstudies.ac.uk/about/editorial-team
Advisory board: https://www.britishartstudies.ac.uk/about/advisory-board

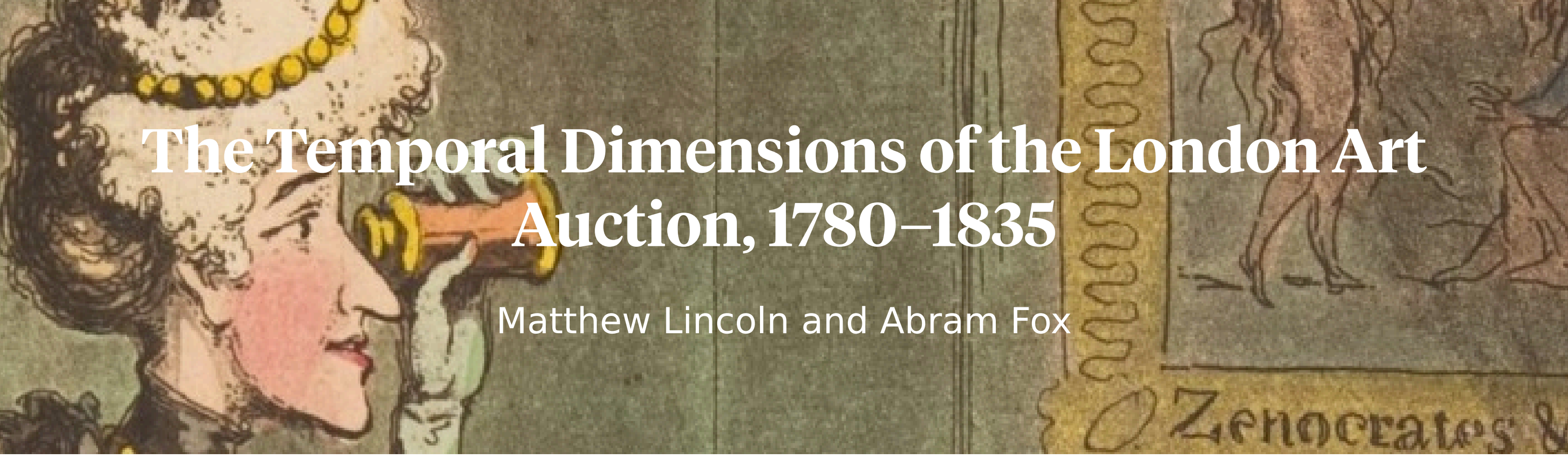
Produced in the United Kingdom.

A joint publication by

PAUL MELLON CENTRE

YALE CENTER FOR BRITISH ART

Contents



The Temporal Dimensions of the London Art Auction, 1780–1835

Matthew Lincoln and Abram Fox

Abstract

The rush of activity among London's auction houses in the first few weeks of summer has long been a familiar occurrence that persists even today. However, this intense seasonal concentration of sales was not always so. This paper draws on quantitative methods to explore the gradual emergence of a tightly scheduled auction season in London at the turn of the nineteenth century, focusing on the sale of paintings. By analysing historical art auction catalogue data, the paper traces the ways in which this shift varied across different segments of the auction market, as well as between individual auction houses. As our study shows, the temporal clustering of painting auctions had specific business advantages, but it also played a key role in enhancing the social import of these auctions, demarcating an annual, weeks-long "event" looked to with anticipation and excitement by auctioneers and buyers alike.

Authors

Data Research Specialist at the Getty Research Institute

Honors College Coordinator at Towson University in Towson, MD.

Acknowledgements

For their assistance in providing crucial data and context, the authors would like to thank Christian Huemer, Ruth Cuadra, and Eric Hormell of the Getty Research Institute, and Royal Academy of Arts archivist Mark Pomeroy. William L. Pressly and Martina Droth provided valuable comments, and the work of Tom Scutt on translating our data visualizations for online presentation is most appreciated.

Cite as

Matthew Lincoln and Abram Fox, "The Temporal Dimensions of the London Art Auction, 1780–1835", British Art Studies, Issue 4, https://dx.doi.org/10.17658/issn.2058-5462/issue-04/afox-mlincoln

Recent literature has highlighted the importance of spatial structures to the evolution of the nineteenth-century London art market. The geography of commercial galleries and auction houses was tightly interwoven with that of exhibition society halls. The Royal Academy was a prime centre of artistic gravity, with galleries and auction halls opening near its first seat on Pall Mall in 1768, and many following its path to Somerset House in 1780 and to Burlington House in 1867. [1] Exhibiting institutions and commercial galleries established a mutually beneficial relationship cemented by spatial proximity to each other, as well as to the fashionable retail shops of the West End. [2]

Yet there was also a dynamic temporal dimension to the social world of nineteenth-century London. It has been argued that a prime period for art auctions in London in the nineteenth century fell between late May and early June, coinciding with the yearly influx of "Society" from their country houses. [3] This was not always the case, however. While previously assumed to be a static influence, close study reveals that the seasonal structure of the art auction market had a history all its own.

Responding to Pamela Fletcher's and Anne Helmreich's call for the use of large data sets over case studies alone in characterizing the development of the London art market, this study draws on a database of painting auction records between 1780 and 1835 in order to tease out the temporal structures in the early flourishing of art auctions in London, and test their relationship to the schedule of the Royal Academy and the larger "Season" of London society. [4] We demonstrate that highly concentrated auction activity in the early summer only developed in the early nineteenth century, and did not apply to all types of artworks, nor was it followed uniformly by all auction houses in London. Moreover, this move towards a more intense auction season should not be interpreted merely as a result of auctioneers', exhibitors', and buyers' financial interests. This temporal concentration may have acted as a focusing lens that compounded the social import of the London art market in this period, setting apart fine art auctions not just in place, but also in time.

Data and Methodology

One of the most comprehensive stores of information about the London art market in the late eighteenth and early nineteenth centuries can be found in the Getty Provenance Index Sales Catalog Database, a project of the Getty Research Institute (GRI). The Sales Catalog Database contains structured descriptions of sales catalogues listing works of art for public auction in major European countries from the seventeenth through the nineteenth centuries. A subset of this endeavour, the British Sales Catalogs project, was developed from an extensive search of hundreds of libraries and archives in order to locate surviving catalogues of British sales, identifying almost 9,000 surviving catalogues dating between 1681 and 1850. The Getty has been gradually indexing these catalogues, entering details of the sales of individual artworks into a searchable database. [5] While the project is still ongoing, the most completely described catalogues of this group span the years between 1780 and 1835, with almost 95 percent of known catalogues from this period having been indexed at the level of the individual artwork (fig. 1). [6]

View this illustration online

Figure 1.
Abram Fox and Matthew Lincoln, Indexing of British Sale Catalogues, Indexing progress on the 9,000 surviving British sales catalogues located by the Getty Research Institute and its partner institutions. The period with the most completely indexed catalogues falls between 1780 and 1835.

Like any archive, this database is not a perfect representation of all historical auctions as they actually occurred; we face that intractable historiographic problem in tandem with all historians. There are inevitably auctions that occurred during this period whose catalogues, by random accident, have not survived. That said, there are also sources of *systematic* bias: particular classes of sales whose records we can, with specific reasons, claim are disproportionately absent from the corpus of surviving auction catalogues. For example, analyses based on the Getty data cannot speak to the patterns of private sales that went unrecorded in published catalogues. Likewise, catalogues with a very small run, or from particularly minor houses, that have not survived into today's institutional collections may also be under-represented. The database also has only limited coverage of auctions of sculpture, works on paper, and decorative arts. With these biases in mind, readers should be aware that the claims in this paper will be restricted to the trends in scheduling of public auctions of paintings.

As of August 2015, the British Sales Catalogs database contains 361,112 entries for individual painting lots in auctions taking place in London. Of all these records, 316,633 (88 percent) have dates falling between 1780 and 1835. [7] Of those records, 230,365 (64 percent of the original total) are listed with a transaction price. [8] It is this last group of records that comprises the working data for our analysis.

Only about 60 percent of these priced objects were sold, with around 25 percent listed as "bought in" (fig. 2). The prices that were recorded for these unsold objects may be the unmet reserve price, or simply the price at which bidding stopped. Because we are interested in auctioneers' strategies in *scheduling* major sales, we include both works that have been marked as "sold" as well as those "bought in" or "withdrawn" where the listed price is either a reserve or an estimate. [9]

View this illustration online

Figure 2.
Abram Fox and Matthew Lincoln, Indexed Transactions Grouped by Type, Proportions of records by auction house in the Getty Provenance Index Sales Catalog Database for paintings auctioned in London, 1780–1835.

Regarding prices: although we are not concerned with measuring art price fluctuations over the years as such, it is nonetheless important to distinguish between auction patterns of the mostly costly paintings versus those sales of less expensive ones, as different segments of the auction market may well have followed different seasonal patterns. [10] Historical inflation and deflation make direct comparison of price values from one decade to the next difficult. [11] For example, a £6 painting in 1780 would belong to the top 20 percent of all works from the same year, while the same price in 1835 would barely break the median price of that year. Therefore, this analysis classifies records across the entire period of study into one of five bins, or quintiles, compared to other records within the same year of sale. If a work was particularly cheap in its own year of sale, then we group it alongside artworks that were also inexpensive in their own respective years of sale; likewise for works that were particularly expensive. For example, a sale that fell into the lowest 20 percent of prices (the first quintile) in 1780, and a sale that fell in the first quintile in 1830, can be considered together, as could the highest 20 percent of works in the fifth quintile. Sorting works into quintiles relative to their own year of sale allows us to generally divide "cheap" artworks from the most "expensive" artworks across the entire period of study, and thus ask how their respective seasonal patterns may have differed.

View this illustration online

Figure 3.
Abram Fox and Matthew Lincoln, Market Share (by Volume) Among Auction Houses, Proportion of total sales accounted for by each auction house, as recorded in the Getty Provenance Index Sales Catalog Database for paintings auctioned in London, 1780-1835.

Approximately 36 percent of these sales were by Christie's, another 20 percent by Foster's, 9 percent by Phillips, with the remaining 35 percent by smaller houses (fig. 3). A summary overview of the months in which paintings were sold between 1780 and 1835 (fig. 4) shows that, when viewed in aggregate, auctions do appear to be *generally* concentrated within the late spring and early summer, with light activity beginning as early as November. However, the story becomes more complicated once one begins to unpack these averages and examine how this distribution changed over time. The London art auction market witnessed general growth (with periodic contraction) over this period, as shown in a plot of the number of painting lots auctioned per year in this period (fig. 5). How did this seasonal pattern shift and change as the market evolved?

View this illustration online

Figure 4.
Abram Fox and Matthew Lincoln, Painting Sales Grouped by Month, Number of London painting lots recorded as sold in the Getty Provenance Index by month, 1780–1835.

View this illustration online

Figure 5.
Abram Fox and Matthew Lincoln, Paintings Sold by Year, Number of London painting lots recorded as sold in the Getty Provenance Index by year, 1780–1835.

One measure of seasonality in the market can be found by considering how tightly or loosely the busiest auction days cluster in a given year. Are the days with the most auctions concentrated within the span of a few weeks? Or are they scattered throughout the entire year? For each year between 1780 and 1835, we identified the top seven days as measured by the number of lots being sold. [12] To characterize how this annual "spread" changed over time, we measured the coefficient of variation (CV) of the top seven days' locations within the calendar year. [13] A high CV would indicate that these peak days were relatively scattered throughout the year, while a low CV would indicate that these days were more tightly clustered together (see fig. 6 for a visualization of this procedure). It then becomes possible to track year by year, quintile by quintile, and auction house by auction house, whether this CV remained the same, showing no indication of a concentrating season, or if it instead decreased, indicating that the top auction days in a given year were occurring closer and closer together.

View this illustration online

Figure 6.
Abram Fox and Matthew Lincoln, Spread of Top Seven Sale Days in Four Sample Years, In order to measure at what rate the London auction season coalesced over this period, we identified the top seven sale days for each year and measured their relative spread. This figure illustrates this process with four different example years, highlighting in red the top seven days as measured by number of sales. Each plot has been annotated with the coefficient of variation (CV) for each set of top days. When top days are spread farther apart, as in 1800, the CV is higher. When the top days are more concentrated, as in 1830, the CV is lower. (In the event of a tie, additional days are included; see the supplementary material for more information.)

Results

Figure 7 illustrates the result of these calculations, split into rows based on the auction house (all sales, sales just by Christie's, and sales by others), and split into columns based on the price quintile of the artwork being sold. Each plot shows a line of best fit that helps to illustrate whether or not the yearly CV remained the same, increased, or decreased overall between 1780 and 1835. We find that the timing of the "peak auction season" for the cheapest artworks (those in the first to fourth quintiles) did not coalesce significantly over the course of this study period. However, the seasonal spread of the top sales days did tighten significantly for the most expensive paintings in the fifth quintile. Even more intriguing, Christie's appears to be the strongest driver of this trend towards a tighter schedule. Because Christie's accounts for 36 percent of the sales records, its auctioneering strategies have a disproportionate effect on measurements of all auctions combined. When disaggregated, Christie's sales show a much greater increase in seasonal concentration than do sales by other auction houses represented in the data. For example, the CV of Christie's top sales days decreased, on average, by 71 percent between 1780 and 1835, while the CV of houses *other* than Christie's only decreased by 10 percent.

View this illustration online

Figure 7.
Abram Fox and Matthew Lincoln, Change in the Coefficient of Variation, Change in the coefficient of variation the of top auction days between 1780 and 1835. Each plot in this grid measures the change in variation for a different facet of the data. Columns are split according to the price quintile, such that column 1 shows the changing variation for sales of the cheapest 20 percent of artworks, to column 5 representing those sales of the most expensive 20 percent of artworks. Rows show measurements taken from three different subsets of the data: the topmost row shows all sales records, followed by only those sales by Christie's, and then those sales by all other houses excluding Christie's. Each line has been shaded based on the size of the observed effect; the more dramatic the decrease, the redder the colouring.

Around which dates did different auction houses organize their busiest sale days? It is useful to focus on the scheduling strategies of the three most active auction houses in this data set: Christie's, Edward Foster, and Harry Phillips. Figure 8 plots the top auction days for fifth quintile (most expensive) artworks from these houses, annotated with the start and end dates of the Royal Academy exhibition in each year. [14] In 1780, Christie's scheduled its largest sales days as early as January and as late as July. While Christie's would continue to schedule a handful of large sales in the earliest months of the year, after 1800 the house began to concentrate the bulk of sales within the season defined by the dates of the Royal Academy exhibition. (It is also notable that the Royal Academy progressively lengthened its exhibition in this period, from just one month in 1780 to over three months in 1835.) The second largest auctioneer of paintings in this data set, Harry Phillips, similarly distributed large sales between January and July during their earliest years of sales shortly before 1800. Like Christie’s, Phillips increasingly scheduled the highest-volume sales days during or directly before the Royal Academy exhibition. A curious exception, however, was Edward Foster, a later entrant to the market, whose first public sales took place in 1812. While, like Christie’s and Phillips, Foster did hold larger sales during the Royal Academy exhibition, he also frequently held top sales days during the late summer and fall months—a time of the year during which most other auction houses went dormant. Counting up the top sales days for each of these three houses, 23 percent of Foster’s top days happen after 1 August, while only 4 percent of Christie’s and Phillips’s do so. Foster’s expansion into the fall months presents an intriguing parallel with another abnormal pattern of this auction house: it scheduled most of its paintings auctions in the middle of the week (fig. 9), while Christie’s and Phillips overwhelmingly favoured Friday and Saturday sales.

View this illustration online

Figure 8.
Abram Fox and Matthew Lincoln, Distribution of Highest-Volume Sales Days, The seven highest-volume sales days per year for three selected auction houses, 1780–1835. Christie’s, Edward Foster, and Harry Phillips were the three most active houses, by volume, in the data set. The size of each dot represents the number of sales on that day. The black line annotations mark the starting and ending dates of the Royal Academy exhibition for each year.

View this illustration online

Figure 9.
Abram Fox and Matthew Lincoln, Lots Auctioned by Day of the Week, The ratio of lots auctioned per day of the week by Christie’s, Harry Phillips, and Edward Foster, 1780–1835. The grey bars are calculated from the schedules of all auction houses, allowing one to compare the individual schedules of Christie’s, Phillips, and Foster to the overall trend.

Discussion

This analysis sheds light upon three under-studied points about the London auction season: that a concentrated sales period emerged only gradually around the turn of the nineteenth century, that it applied far more to the upper echelon of painting auctions than to sales of middle- or low-end works, and that not all auctioneers devoted their sole attention to this season.

As much as the London art world overlapped with the geography of luxury retailers in the West End, so too was it attuned to the temporal structure of the London Season. [15] Commercial galleries and artists were keenly aware of the timing of Royal Academy exhibitions, and the seasonal concentration compounded with the geographic concentration of the market to engender both competition as well as cooperative interaction. Figure 8 shows how the Royal Academy acted as a temporal attractor for high-end art auctions, as Christie's and other auction houses increasingly scheduled their biggest sales days to take place during the Academy's summer exhibition. Established as a focal point, and in some regards the kickoff, of the London Season, the Royal Academy exhibitions and artists were seen by many institutions as a means to draw audiences already inclined towards the viewing of art. Alderman John Boydell's Shakespeare Gallery seized on this predisposition as a means to promote English artistic production and patronage as a patriotic act, as well as to drum up interest in the purchase of engravings after works in the gallery. [16] The Shakespeare Gallery opened to great fanfare on 4 May 1789 in a Neoclassical structure at 52 Pall Mall, blocks away from the rooms at 125 Pall Mall which had been occupied by Christie's since 1770. Other thematic galleries later sought to capture a share of the public's desire for art: Thomas Macklin's Gallery of the Poets, which was open between 1788 and 1797, and Henry Fuseli's short-lived Gallery of the Miltonic Sublime, which welcomed visitors in 1799 and 1800. [17] In a true example of the London art world cannibalizing itself, when the Shakespeare Gallery failed and its entire holdings were sold off by lottery in January 1805, 52 Pall Mall itself was leased to the newly created British Institution. Attempting to capitalize on public interest and excitement leading up to the Academy's annual exhibitions, the British Institution exhibition began in mid-January and its closing dates overlapped with the opening days of the Academy exhibition. While some Academicians were wary of decreased exhibition attendance and proceeds, others praised the British Institution in its efforts to encourage interest in contemporary English artists. [18] Certainly the twenty-eight full Academicians who sent works to the British Institution welcomed the friendly competition. [19] Other artists, most prominently John Singleton Copley, also took advantage of the popularity of the Royal Academy exhibition as a temporal cue for the display of individual or small groupings of history paintings. [20]

By scheduling a battery of major sales within the few weeks surrounding the social season's major focal point, auction houses were able to maximize publicity for their sales and concentrate the attention of potential buyers, many of whom belonged to the landed gentry who spent the majority of the year in country estates away from London. However, for all its recognized influence on the schedules of other exhibiting organizations and individuals, we find the Royal Academy was not a consistent temporal attractor for painting auctions in the late eighteenth century. As figure 8 illustrates, not until several decades after the founding of the Royal Academy did the major London auctioneers begin to schedule their highest-volume sales days during the annual exhibition. [21] William Roberts's 1897 history of Christie's firm corroborates the evidence that James Christie, in particular, maintained an unpredictable auction schedule in the late eighteenth century:

> Mr. Christie's picture sales sometimes ran in fits and starts. Several would occur within a few weeks of one another, and then cease for months. After the Colebrooke dispersal, for example, no more noteworthy picture sales occurred until December 14th. From the catalogues it would appear that there was no such institution as a vacation invented, for auctions were held throughout August, September and October—whenever, in fact, they were wanted or could be made up. [22]

Our analysis supports Roberts's characterization of Christie's scattered auction schedule in the 1780s and 1790s. Moreover, our results also suggest that the house began to follow a more regular and concentrated summer auction schedule after 1800. It may not be a coincidence that this change came after James Christie died in 1803 and the house passed to his eldest son, also named James. The younger Christie seems to have been a far more responsible and capable businessman than his father, who had a reputation for difficult business dealings and was notorious for overcharging clients for fees and for extremely late payment from auction proceeds. [23] While other London auction houses also gradually shifted their top auction days more closely together, it was Christie's that made the most striking shift.

The seasonal influence of the Royal Academy exhibition and other Society events on auction schedules was not necessarily a one-way relationship, however. Early exhibitions of English art, such as those at the Foundling Hospital beginning in the 1740s, and a number organized by the Society of Artists of Great Britain from 1760 onwards, were in turn responses to a growing interest in art stoked by access to art auction previews. [24] It is possible that the Royal Academy also responded to the growing volume of art auctions over this period by gradually lengthening its annual exhibition while shifting its opening day to late April, and then to early May. In turn, Christie's and Harry Phillips themselves also appear to have extended their own high-volume seasons to follow the lengthening Royal Academy exhibition. Both the Royal Academy and the auction houses may also have been gradually adapting to third-party factors as well. In the early nineteenth century, the majority of Parliament sessions ended after the start of July. This was consistently later in the year than session closing dates in the mid-eighteenth century, when as many ended in April or March as did in June or July. [25] The art market, along with the rest of high London society, may still have been gradually adjusting its schedule to Parliament's new pattern.

Another factor that may have incentivized auction houses to concentrate high-end sales within a shorter period of time was the increasing volume of paintings being auctioned. The overall growth in the number of recorded auctions per year (fig. 5) over the course of this period may well have been sparked by political events, as continental aristocracy displaced by revolution and war in the eighteenth and nineteenth centuries were often forced to part with their art collections. Frequently these émigrés found their way to England, as did their art. From 1789 onwards, sales of French collections ballooned, as did shipments from Spain and the Netherlands between 1798 and 1810. [26] This increasing volume may have been an additional incentive for auction houses to concentrate their largest sales within a shorter, and thus more efficient, schedule.

Figure 10.
James Gillray, A Peep at Christie’s;—or—Tally-ho, & his Nimeney-pimmeney taking the Morning Lounge, published 24 Sept. 1796, etching and aquatint, hand coloured, 35 × 25.7 cm. Collection of the British Museum, London (1868,0808.6552) Digital image courtesy of Trustees of the British Museum.

Seasonal concentration may have had more than a simple economic motivation, however. The centrality of these art institutions to high-end social life in London is well understood. Auctioneers like Christie's and Sotheby's carefully constructed the rhetoric of their auction advertisements and catalogues in order to promote their sales as venues where both fine art, but also social cachet, could be obtained and displayed. [27] The concentrated geography of the London art market not only optimized physical foot traffic, but also lent a fashionable West End imprimatur to the art market, an association that mutually benefitted both public exhibitors and private galleries. [28] Private viewing days at auction houses could be highly exclusive indeed. Roberts writes:

> A great feature of the sales at Christie's at the latter part of the last century was the private view day. This was a fashionable lounge where persons of distinction congregated in great numbers. During the season, when any remarkable collections were on view, occasional evening receptions took place: the great room was then lighted up, and persons of quality attended in such large numbers that an official from the Opera was stationed at the entrance to prevent the intrusion of those not belonging to the fashionable world. [29]

James Gillray caricatured the high society audiences of auctions in *A Peep at Christie's;—or—Tally-ho, & his Nimeny-pimmeny, taking the Morning Lounge* (fig. 10), showing Edward Smith-Stanley, twelfth Earl of Derby, and the actress Elizabeth Farren viewing works during an auction preview day, while three other attendees in outfits of varying levels of absurdity dominate the background. [30] The caricaturist also lampooned the bombastic rhetoric of Christie's advertisements and catalogues (and the credulous buyers who succumbed to them) in *Mæcenas, in pursuit of the fine-arts* (fig. 11), in which Gillray satirically pictures George Granville Leveson-Garner, Marquess of Stafford, a notable patron of the arts, being drawn into a Christie's sale outlandishly advertised with a "Catalogue of 800 Capital Pictures to be Sold by Mr. Christie in Pall Mall, February 1st, 1808". That there was, in fact, no prominent sale on that date in 1808 points to this Maecenas' gullibility. [31] Based on our analysis of auction dates, we might also note that he was less likely to find auctions of truly capital pictures in London while there was still snow on the ground.

View this illustration online

Figure 11.
James Gillray, Mæcenas, in pursuit of the fine-arts, published 9 May 1808. Hand-coloured etching, 25.8 x 19.8 cm. Collection of Lewis Walpole Library, Yale University, New Haven (808.05.09.01) Digital image courtesy of Lewis Walpole Library

Landscape painter Joseph Farington's daily diary, kept between 1793 and 1821, provides exceptional insight into the minutiae of life for members of English high society. A founding member of the Royal Academy and distant relative, by marriage, of politician and art historian Horace Walpole, fourth Earl of Orford, Farington was one of the more successful English artists of his day in terms of leveraging his artistic insight toward increased social status. In 1806 he recorded an experience of some of the art-viewing opportunities available around Pall Mall during the Season. On Friday, 25 April he spent the day in the company of famous collector Sir George Beaumont, seventh Baronet, during which the pair visited Christie's to view Dutch and Flemish paintings, followed by a visit to another gallery to look at works by Poussin and Rubens, and ending at the inaugural British Institution exhibition, where they joined a discussion on the new institution's challenge to the Royal Academy, whose exhibition would open exactly a week later. [32]

These sales showcased elite consumption in a very public way, to a wide range of ends, as Gillray's print of the Earl of Derby and Elizabeth Farren so vividly depicts. Many auction attendees were there to participate in the spectacle by demonstrating their refined taste through the purchase of art and the construction of new collections. Others viewed collecting as a patriotic venture, demonstrating conspicuous cultural patriotism through the purchase of works by contemporary English artists. [33] Like the Royal Academy exhibition itself, auctions of prestigious collections were events at which one could see and be seen by "Society". [34] These events became venues for the performance and construction of taste and refinement. In 1808, William Henry Pyne quipped that "those who might think it necessary to appear to have, what nature had denied them, taste and judgment", relied on the dealers and auction rooms of London to address their lack of discrimination, spotlighting the performative aspect of auction attendance. [35]

An emergent seasonal structure may have helped to further demarcate exceptional auction periods from day-to-day commerce, elevating art auctions from a series of interchangeable incidents to an annual, weeks-long "event" looked to with anticipation and excitement by auctioneers and buyers alike. Arjun Appadurai's conception of auctions as "tournaments of value" is particularly apt here. Appadurai characterizes these tournaments as periodic events that are as much a way to signal social status as to exchange material goods, and, as such, are socially distinguished from everyday commercial activity. [36] Appadurai suggests that it is the sport-like rituals of the auction room that form this distinction, and our analysis demonstrates how the dimension of time is relevant to this interpretation. By fitting their most prestigious auction days into an ever-tighter schedule, houses like Christie's could concentrate wealth and social cachet within a tightly defined place and time. This was all the more true between 1780 and 1840, when auction rooms were largely filled by retail buyers, and had not yet been dominated by professional dealers buying and selling their own inventories. [37] Shortening and intensifying the season for the highest-end auctions not only served a business function, but also enhanced their social import.

For all the incentives for auction houses to tightly cluster almost all their high-end sales during the height of the London social season, it is also important to recognize a notable exception. We found that the third largest auction house represented in these data by sales volume, Edward Foster's, remarkably scheduled a significant number of its busiest sale days of high-value artworks well into late summer, and even the fall months; by the 1810s, as we have shown, this stands out as an abnormal practice for London auctioneers. This behaviour may be understood as a localized instance of the niche-seeking practice that national markets engaged in on the continental scale. In his broader analysis of international auctions between 1801 and 1820, Christian Huemer has shown that major European art centres appear to have established their own regional auction seasons; England favouring the late spring, France peaking in November, and smaller markets in Belgium and the Netherlands focusing sales in the late summer, when the major markets in London and Paris were largely quiet. Huemer posits that this time-shifting was born of necessity, allowing agents to attend all the year's important sales without having to be in two places at once. [38] It is possible that Edward Foster found similar success in offering some significant sales in the London off-season as a supplement to its regular offerings at the height of the early summer auction season. These later sales could open a venue to those buyers and sellers who would otherwise have had to wait until the next year to offer their works at the biggest sales at Christie's.

Likewise, it should be noted that Foster was also the only firm we found that appears to have conducted a large portion of its sales midweek (particularly on Wednesday and Thursday—see fig. 9), perhaps taking advantage of the weekly vacuum left by other houses, Christie's in particular, that favoured Friday and Saturday. While scheduling sales in a short seasonal timeline may have been beneficial for many firms looking to bring together buyers and sellers in a socially charged environment, Foster clearly strove to carve out a unique position even in the midst of the unavoidable peak season, scheduling around behemoths like Christie's while still taking advantage of the rich field of potential buyers gathered in one season and place.

These results raise some new questions that deserve continued research. To what extent are these same changing scheduling strategies reflected in newspaper advertisements by auction houses? If advertisements had a better survival rate than auction catalogues, particularly for smaller or lower-end sales, then they may offer a fruitful source for checking the representativeness of the Getty's auction data at different periods in time. Future work might also investigate whether scheduling patterns were affected by particular genres of artwork, or the nationalities of the artists who painted them. Much like the spatial structure defined by physical viewing spaces, the temporal structures defined by auction houses, exhibiting institutions, and the larger social Season played an active role in reshaping the London art market in this period.

Footnotes

1 On the English art landscape in the late eighteenth century, see Rosie Dias, "'A World of Pictures': Pall Mall and the Topography of Display, 1780–99", in *Georgian Geographies: Essays on Space, Place and Landscape in the Eighteenth Century*, ed. Miles Ogborn and Charles W. J. Withers (Manchester: Manchester Univ. Press, 2004), 92–113; on the late nineteenth century, see Pamela M. Fletcher, "Shopping for Art: The Rise of the Commercial Art Gallery, 1850s–90s", in *The Rise of the Modern Art Market in London, 1850–1939*, ed. Pamela M. Fletcher and Anne Helmreich (Manchester: Manchester Univ. Press, 2011); Pamela M. Fletcher and Anne Helmreich, "Local/Global: Mapping Nineteenth-Century London's Art Market", *Nineteenth-Century Art Worldwide* 11, no. 3 (2012), http://www.19thc-artworldwide.org/index.php/autumn12/fletcher-helmreich-mapping-the-london-art-market. On the history of the Royal Academy, see Sidney Hutchison, *The History of the Royal Academy, 1768–1986* (1968; London: Royce, 1986), and James Fenton, *School of Genius: A History of the Royal Academy of Arts* (London: Royal Academy of Arts, 2006).

2 Such relationships frequently included the transfer of spaces from auction houses to exhibition spaces and vice versa. In the second half of the eighteenth century, one space in Pall Mall was home to: the auction rooms for Aaron Lambe; a warehouse for printseller Richard Dalton; James Christie's auction rooms in 1766 and 1767; the Royal Academy of Arts as a meeting space from 1768 through 1771, and exhibition space from 1768 through 1779; Thomas Macklin's Gallery of the Poets from 1788 to 1797, and Henry Fuseli's Gallery of the Miltonic Sublime in 1799 and 1800. Hutchison, *History of the Royal Academy*, 33; William Roberts, *Memorials of Christie's: A Record of Art Sales from 1766 to 1896*, 2 vols. (London: G. Bell and Sons, 1897), 1: 2–15; Cynthia Wall, "The English Auction: Narratives of Dismantlings", *Eighteenth-Century Studies* 31, no. 1 (Oct. 1997): 5, 23; http://www.jstor.org/stable/30053642.

3 See, for example, Guido Guerzoni, "The British Painting Market, 1789–1914", in *Economic History and the Arts*, ed. Michael North (Cologne: Böhlau, 1996), 100; Christian Huemer, "Provenance on Steroids: Or, the Promise of Big Data", in *New Projects in Digital Art History Symposium* (Washington, DC: Center for Advanced Study in the Visual Arts, 2014), http://www.nga.gov/content/ngaweb/audio-video/video/digital-history-conference/dah-huemer-3.html. While Huemer drew on a similar section of the data to that used in this study, he instead focused on international trends only between 1801 and 1820, and did not attempt to break down auction schedules by price or auction house.

4 Fletcher and Helmreich, "Local/Global", 3.

5 The GRI has collaborated with the Frick Collection; the National Gallery of Art, Washington, DC; the National Gallery, London; the Paul Mellon Centre for Studies in British Art; and the University of York to locate these catalogues. However, the collections searched span a massive range of both European and American archives: http://www.getty.edu/research/tools/provenance/charts.html.

6 All analyses were performed in the statistical programming language R. See R Development Core Team, *R: A Language and Environment for Statistical Computing* (Vienna: R Foundation for Statistical Computing, 2014), http://www.R-project.org. The visualizations were produced using the R package ggplot2; Hadley Wickham, *ggplot2: Elegant Graphics for Data Analysis* (New York: Springer, 2009), http://had.co.nz/ggplot2/book. The data used for this study were current as of 25 August 2015, and were provided with the kind assistance of Christian Huemer and Ruth Cuadra. These data, and the code necessary to reproduce this analysis and its visualizations are available in full here: http://doi.org/10.5281/zenodo.165168.

7 The robustness of auction catalogue records beginning in 1780 corresponds closely to the 1779 amendment to the Auction Duty Act of 1777. While the initial Act mandated the licensure of all auctioneers through the London Excise Office and the payment of duties on the sales of items, the amendment required all auctioneers to provide the Excise Office at least two days' notice of any sales, depending on location, and demanded the submission within twenty-four hours of "a written or printed catalogue, attested and signed by such auctioneer or his known clerk, in which catalogue shall be particularly enumerated every article, lot, parcel, and thing intended to be sold at auction" (19 Geo.III.c.56.s.9). Satomi Ohashi, "The Auction Duty Act of 1777: The Beginning of Institutionalisation of Auctions in Britain", in *Auctions, Agents and Dealers: The Mechanisms of the Art Market, 1660–1830*, ed. Jeremy Warren and Adriana Turpin (Oxford: The Bezley Archive and Archaeopress in association with The Wallace Collection, 2007), 25–26.

8 This figure excludes records that have one or more of the following characteristics: no transaction information at all (83,385); transaction information is marked as uncertain (1,678); more than one price is listed (212).

9 The supplementary material to this article demonstrates that similar effects were found when only "sold" records were considered, and even when only "bought in" records were considered.

10 On segmentation of the British art market in the early eighteenth century, see Neil De Marchi, "Auctioning Paintings in Late Seventeenth-Century London: Rules, Segmentation and Prices in an Emergent Market", in *Economics of Art and Culture: Invited Papers at the 12th International Conference of the Association of Cultural Economics International*, ed. Victor A. Ginsburgh (Amsterdam: Elsevier, 2004), 99; Thomas M. Bayer and John R. Page, *The Development of the Art Market in England Money as Muse, 1730–1900* (London: Pickering & Chatto, 2011), 74.

11 For example, inflation rates swung radically from the late eighteenth century through the end of the Napoleonic era. See Robert D. Hume, "The Value of Money in Eighteenth-Century England: Incomes, Prices, Buying Power—and Some Problems in Cultural Economics", *Huntington Library Quarterly* 77, no. 4 (Dec. 2014), 375, doi:10.1525/hlq.2014.77.4.373.

12 Identifying seven top-ranking days per year, versus a higher or lower number, is a somewhat arbitrary decision. However, we found similar correlations when running the aggregation analysis using both a greater as well as a smaller number of days.

13 The coefficient of variation of a set of numbers is equal to the standard deviation of that set divided by the mean value of that set.

14 Royal Academy of Arts archivist Mark Pomeroy kindly shared his draft list of the exhibition opening and closing dates in this period. Note that, several decades after the time frame discussed in this article, the Royal Academy began hosting a wintertime exhibition of works by old masters and deceased Academicians, called the Winter Exhibition. The traditional annual exhibition, which by that point ran from late April to late July, soon became known as the Summer Exhibition, a name it still holds today, even though the Winter Exhibitions were discontinued in the twentieth century.

15 On the phenomenon of the London social season, see Leonore Davidoff, *The Best Circles: Society, Etiquette and the Season* (London: Croom Helm, 1973).

16 Sven H. A. Bruntjen, *John Boydell, 1719–1804: A Study of Art Patronage and Publishing in Georgian London* (New York: Garland Publishing, 1985), 69. Boydell called the venture his “Shakspere” Gallery, while Farington referred to it as the “Shakespere” Gallery. Modern scholarship generally uses the spelling “Shakespeare”. The idea for the Shakespeare Gallery was first proposed at a 1786 dinner hosted by Boydell’s nephew and business partner, Josiah; the guest list included at least one Academician, Benjamin West, with many accounts also placing Paul Sandby at the occasion.

17 Richard D. Altick, *The Shows of London* (Cambridge, MA: Harvard Univ. Press, 1978), 108. Fuseli’s Miltonic gallery also followed a seasonal schedule, opening to the public between March and July in 1780, and May and July in 1799, mirroring the increasing seasonal concentration that we see in the painting auction market.

18 For all its emphasis on exhibiting the work of British artists, the British Institution also played a key role in constructing an image of the masterpieces by foreign artists belonging to private British owners as a kind of national property. See Ann Pullan, “Public Goods or Private Interests? The British Institution in the Early Nineteenth Century”, in *Art in Bourgeois Society, 1790–1850*, ed. Andrew Hemingway and William Vaughan (Cambridge: Cambridge Univ. Press, 1998), 29.

19 See Thomas Smith, *Recollections of the British Institution, for Promoting the Fine Arts in the United Kingdom* (London: Simpkin & Marshall and Edward Stanford, 1860), 22–39, for a full list of artists and works submitted to the 1806 British Institution exhibition, including those by the President, Benjamin West, and the Keeper of the Royal Academy, Henry Fuseli. See Joseph Farington, *The Diary . . .*, ed. Kenneth Garlick, Angus D. Macintyre, and Kathryn Cave, 17 vols. (New Haven and London: Yale Univ. Press, 1978–98), 7: 2734, for a discussion of some Academicians’ concerns about the overlap between the Royal Academy and British Institution exhibitions.

20 Copley exhibited his history painting *The Death of the Earl of Chatham* as a one-work show in 1781, and as the centrepiece of several other independent displays of a small number of works between 1783 and 1797. For extended discussion of the exhibition of *The Death of Chatham*, see Jules David Prown, *John Singleton Copley: In England, 1774–1815* (Cambridge, MA: Harvard Univ. Press, 1966), 284; and Harold E. Dickson, “Artists as Showmen”, *American Art Journal* 5, no. 1 (May 1973): 4–5, doi:10.2307/1593939. Copley had completed *The Death of Chatham* without a commission, and hoped to recoup his costs with revenue from an independent exhibition. He reportedly realized approximately £5,000 profit from the display, while Royal Academy exhibition revenue dropped £1,000 from previous years. The painting was displayed in the Society of Arts space in Spring Gardens; Copley had initially planned on renting a room from James Christie in the Royal Academy’s old exhibition space in Pall Mall, but pressure on Christie from an Academy contingent led the auctioneer to refuse Copley’s request.

21 Multiple associations of artists immediately predated the 1768 founding of the Royal Academy. One such group, called the Society of Artists of Great Britain (later the Incorporated Society of Artists of Great Britain), had hosted spring exhibitions in London beginning in 1760, first at the Society of Arts, Manufactures and Commerce in the Adelphi building, and then from 1761 in Spring Gardens. A dispute over leadership led to a faction of members of the Society of Artists, including Sir William Chambers and Joshua Reynolds, to create the Royal Academy. Another organization, the Free Society of Artists, exhibited at multiple locations between 1761 and 1783, including for a time in Christie’s auction rooms. See Algernon Graves, *The Society of Artists of Great Britain, 1760–1791, the Free Society of Artists, 1761–1783: A Complete Dictionary of Contributors and Their Work from the Foundation of the Societies to 1791* (London: George Bell & Sons, 1907), 295–328.

22 Roberts, *Memorials of Christie’s*, 32–33.

23 Farington, *Diary*, 3: 979; Henry Richard Tedder, “Christie, James (1773–1831)”, *Dictionary of National Biography* (London: Smith, Elder and Co., 1885–1900), https://en.wikisource.org/wiki/Christie,_James_(1773-1831)_(DNB00). From August 1795 through February 1796, Farington frequently recorded the frustrated efforts of Murrough O’Brien, fifth Earl of Inchiquin, and Mary Palmer, Countess of Inchiquin, the inheritors of Sir Joshua Reynolds’s estate, to receive payment from the auction of Reynolds’s painting collection in March 1795, and in 1797 Farington reported that a friend chastised Christie as “notorious for paying ill”. Farington, *Diary*, 2: 362, 375–76, 382, 432, 409; 7: 2734.

24 Dickson, “Artists as Showmen”, 4; Altick, *Shows of London*, 101.

25 For the closing dates of Parliament sessions between 1780 and 1835, see L. B. Namier and John Brooke, *The House of Commons, 1754–1790* (London: Published for the History of Parliament Trust by Secker & Warburg, 1985); R. G. Thorne, *The House of Commons, 1790–1820* (London: Published for the History of Parliament Trust by Secker & Warburg, 1986); D. R. Fisher, *The House of Commons, 1820–1832* (Cambridge: Published for the History of Parliament Trust by Cambridge Univ. Press, 2009).

26 Guerzoni, “British Painting Market”, 115–16. For a prolonged description of one such venture, ultimately unsuccessful, by American artist John Trumbull in the 1790s, see Irma B. Jaffe, *John Trumbull: Patriot-Artist of the American Revolution* (Boston: New York Graphic Society, 1975), 172–75.

27 Wall, “English Auction”, 1–25.

28 Fletcher and Helmreich, “Local/Global”, 6.

29 Roberts, *Memorials of Christie’s*, 6.

30 The print was also a pointed barb at the Earl of Derby attending social events with his mistress Farren, while his wife, Elizabeth Smith-Stanley, Countess of Derby, was dying of tuberculosis. The Earl is shown examining a painting of a fox hunt titled *The Death*, referring to both his inclination for hunting and his interest in the impending death of his wife, while Farren views a Neoclassical work labelled *Zenocrates and Phryne*, depicting the courtesan Phryne unsuccessfully attempting to woo the Greek philosopher. See Richard T. Godfrey and Mark Hallett, *James Gillray: The Art of Caricature* (London: Tate Publishing, 2001), cat. no. 169.

31 Godfrey and Hallet, *James Gillray*, cat. no. 180B.

32 Farington, *Diary*, 7: 2734. At the time of its founding in 1769, the Royal Academy exhibition was unofficially anchored to St George's Day on 23 April, with an Annual Dinner held that evening followed by the public opening of the exhibition the following day, as long as neither occasion fell on a Sunday. For this reason, the first Annual Dinner was not actually held until 1770. The relationship between St George's Day and the exhibition opening was codified by the Academy in 1771; later, from 1780 onward, the dates for the Annual Dinner and exhibition opening began to shift later in the year, wavering between the end of April and beginning of May; Hutchison, *History of the Royal Academy*, 39.

33 Works by contemporary English artists were thought to be much poorer investments than works by old masters, giving their purchase and display by English patrons a strong nationalistic veneer; Holger Hoock, "'Struggling against a Vulgar Prejudice': Patriotism and the Collecting of British Art at the Turn of the Nineteenth Century", *Journal of British Studies* 49, no. 3 (July 2010): 572.

34 K. Dian Kriz has argued that the Royal Academy exhibitions were similarly a site of social performance in "'Stare Cases': Engendering the Public's Two Bodies at the Royal Academy of Arts", in *Art on the Line: The Royal Academy Exhibitions at Somerset House, 1780–1836*, ed. David H. Solkin (New Haven and London: Paul Mellon Centre for Studies in British Art and the Courtauld Institute Gallery, 2001).

35 W. H. Pyne, *The Microcosm of London; or, London in Miniature*, 3 vols. (London: R. Ackermann, 1808–10; facsimile repr., London: Methuen & Co., 1904), 1: 33.

36 Arjun Appadurai, "Introduction: Commodities and the Politics of Value", in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge Univ. Press, 1986), 21. The exchange of material goods also served as a signal of social status through the collection and arrangements of objects. Rather than offering the possibility for middle-class buyers to assert higher status levels, however, these tournaments concentrated wealth and society. Changes in collecting practices reflected shifts in taste, not any real alteration in the demographics of those who could actually afford to purchase art. See Hoock, "Struggling Against a Vulgar Prejudice", 567–72.

37 Bayer and Page, *Development of the Art Market*, 84, figure 5.1. By comparison, Guerzoni finds that around 60 percent of auction buyers in the late nineteenth and early twentieth centuries were art dealers; Guerzoni, "British Painting Market", 113. "Retail buyers" should not be misunderstood, however, as a wide swath of the public. Paintings were still luxury goods attainable only by the rich. See Hume, "Value of Money", 406–7.

38 Huemer, "Provenance on Steroids".

Bibliography

Altick, Richard D. *The Shows of London*. Cambridge, MA: Belknap Press, 1978.

Appadurai, Arjun. "Introduction: Commodities and the Politics of Value." In *The Social Life of Things: Commodities in Cultural Perspective*. Ed. Arjun Appadurai. Cambridge: Cambridge Univ. Press, 1986, 3–63.

Bayer, Thomas M., and John R. Page. *The Development of the Art Market in England: Money as Muse, 1730–1900*. London: Pickering & Chatto, 2011.

Bruntjen, Sven H. A. *John Boydell, 1719–1804: A Study of Art Patronage and Publishing in Georgian London*. New York: Garland Publishing, 1985.

Davidoff, Leonore. *The Best Circles: Society, Etiquette and the Season*. London: Croom Helm, 1973.

De Marchi, Neil. "Auctioning Paintings in Late Seventeenth-Century London: Rules, Segmentation and Prices in an Emergent Market." In *Economics of Art and Culture: Invited Papers at the 12th International Conference of the Association of Cultural Economics International*. Ed. Victor A. Ginsburgh. Amsterdam: Elsevier, 2004, 97–128.

Dias, Rosie. "'A World of Pictures': Pall Mall and the Topography of Display, 1780–99." In *Georgian Geographies: Essays on Space, Place and Landscape in the Eighteenth Century*. Ed. Miles Ogborn and Charles W. J. Withers. Manchester: Manchester Univ. Press, 2004, 92–113.

Dickson, Harold E. "Artists as Showmen." *American Art Journal* 5, no. 1 (May 1973): 4–17. doi:10.2307/1593939.

Farington, Joseph. *The Diary of Joseph Farington*. Ed. Kenneth Garlick, Angus D. Macintyre, and Kathryn Cave. 17 vols. New Haven and London: Yale Univ. Press, 1978–98.

Fenton, James. *School of Genius: A History of the Royal Academy of Arts*. London: Royal Academy of Arts, 2006.

Fletcher, Pamela M. "Shopping for Art: The Rise of the Commercial Art Gallery, 1850s–90s." In *The Rise of the Modern Art Market in London, 1850–1939*. Ed. Pamela M. Fletcher and Anne Helmreich. Manchester: Manchester Univ. Press, 2011, 47–64.

Fletcher, Pamela M., and Anne Helmreich. "Local/Global: Mapping Nineteenth-Century London's Art Market." *Nineteenth-Century Art Worldwide* 11, no. 3 (Autumn 2012). http://www.19thc-artworldwide.org/index.php/autumn12/fletcher-helmreich-mapping-the-london-art-market.

Godfrey, Richard T., and Mark Hallett. *James Gillray: The Art of Caricature*. London: Tate Publishing, 2001.

Graves, Algernon. *The Society of Artists of Great Britain, 1760–1791, the Free Society of Artists, 1761–1783: A Complete Dictionary of Contributors and Their Work from the Foundation of the Societies to 1791*. London: George Bell & Sons, 1907.

Guerzoni, Guido. “The British Painting Market, 1789–1914.” In *Economic History and the Arts*. Ed. Michael North. Cologne: Böhlau, 1996, 97–132.

Hoock, Holger. “‘Struggling against a Vulgar Prejudice’: Patriotism and the Collecting of British Art at the Turn of the Nineteenth Century.” *Journal of British Studies* 49, no. 3 (July 2010): 566–91.

Huemer, Christian. “Provenance on Steroids: Or, the Promise of Big Data.” In *New Projects in Digital Art History Symposium*. Washington, DC: Center for Advanced Study in the Visual Arts, 2014. http://www.nga.gov/content/ngaweb/audio-video/video/digital-history-conference/dah-huemer-3.html.

Hume, Robert D. “The Value of Money in Eighteenth-Century England: Incomes, Prices, Buying Power—and Some Problems in Cultural Economics.” *Huntington Library Quarterly* 77, no. 4 (Dec. 2014): 373–416, doi: 10.1525/hlq.2014.77.4.373.

Hutchison, Sidney C. *The History of the Royal Academy, 1768–1968*. New York: Taplinger, 1968.

Jaffe, Irma B. *John Trumbull: Patriot-Artist of the American Revolution*. Boston: New York Graphic Society, 1975.

Jenner, Charles. *Town Eclogues*. London: T. Cadell, 1772. http://archive.org/details/towneclogues00jenn.

Kriz, K. Dian. “‘Stare Cases’: Engendering the Public’s Two Bodies at the Royal Academy of Arts.” In *Art on the Line: The Royal Academy Exhibitions at Somerset House, 1780–1836*. Ed. David H. Solkin. New Haven and London: Paul Mellon Centre for Studies in British Art and the Courtauld Institute Gallery, 2001.

Learmount, Brian. *A History of the Auction*. Iver: Barnard & Learmont, 1985.

Namier, L. B., and John Brooke, *The House of Commons, 1754–1790.* London: Published for the History of Parliament Trust by Secker & Warburg, 1985.

Ohashi, Satomi. “The Auction Duty Act of 1777: The Beginning of Institutionalisation of Auctions in Britain.” In *Auctions, Agents and Dealers: The Mechanisms of the Art Market, 1660–1830*. Ed. Jeremy Warren and Adriana Turpin. Oxford: The Bezley Archive and Archaeopress in association with The Wallace Collection, 2007, 21–31.

Pascoe, Charles Eyre. *London of Today: An Illustrated Handbook for the Season*. Boston: Roberts Brothers, 1885. http://hdl.handle.net/2027/nyp.33433071387207.

Prown, Jules David. *John Singleton Copley: In England, 1774–1815*. Cambridge, MA: Harvard Univ. Press, 1966.

Pullan, Ann. “Public Goods or Private Interests? The British Institution in the Early Nineteenth Century.” In *Art in Bourgeois Society, 1790–1850*. Ed. Andrew Hemingway and William Vaughan. Cambridge: Cambridge Univ. Press, 1998, 27–44.

Pyne, W. H. *The Microcosm of London; Or, London in Miniature*. 3 vols. London: R. Ackerman, 1808–10. Facsimile repr., London: Methuen & Co., 1904. .

R Development Core Team. *R: A Language and Environment for Statistical Computing*. Vienna: R Foundation for Statistical Computing, 2014. http://www.R-project.org.

Roberts, William. *Memorials of Christie’s: A Record of Art Sales from 1766 to 1896*. 2 vols. London: G. Bell and Sons, 1897. http://hdl.handle.net/2027/gri.ark:/13960/t6k09br1m.

Smith, Thomas. *Recollections of the British Institution, for Promoting the Fine Arts in the United Kingdom*. London: Simpkin & Marshall and Edward Stanford, 1860.

Tedder, Henry Richard. “Christie, James (1773–1831).” *Dictionary of National Biography*. London: Smith, Elder and Co., 1885–1900. https://en.wikisource.org/wiki/Christie,_James_(1773-1831)_(DNB00).

Wall, Cynthia. “The English Auction: Narratives of Dismantlings.” *Eighteenth-Century Studies* 31, no. 1 (Oct. 1997): 1–25.

Wickham, Hadley. *ggplot2: Elegant Graphics for Data Analysis*. New York: Springer, 2009. http://had.co.nz/ggplot2/book.

Wright, Thomas, ed. *The Works of James Gillray, the Caricaturist, with the Story of His Life and Times*. Amsterdam: S. Emmering, 1970.

Licensing