12-31-2023

Diana S. Greenwald, Painting by Numbers: Data-Driven Histories of Nineteenth-Century Art

Sara Woodbury
William & Mary, scwoodbury@wm.edu

Follow this and additional works at: https://scholarscompass.vcu.edu/artinquiries_secacart

Part of the Architectural History and Criticism Commons, Art and Design Commons, Art Practice Commons, Fine Arts Commons, Museum Studies Commons, and the Theory and Criticism Commons

Recommended Citation

Painting by Numbers: Data-Driven Histories of Nineteenth-Century Art

Diana S. Greenwald

Princeton, NJ: Princeton University Press, 2021. 256 pages, 55 color, 9 b/w illustrations, 14 tables. $37.00 (hardcover).
ISBN 9780691214948

As with many academic fields, quantitative analysis and other methods associated with the digital humanities have become important analytical tools for art historians. If recent activity surrounding digital art history offers any indication, their significance will only grow. Annual conferences held by CAA, SECAC, and other arts organizations regularly dedicate sessions to digital art history. Collectives such as Lev Manovich's Cultural Analytics Lab have produced visualizations of MoMA's photography holdings and those of other museum collections.[1] In a 2020 article, "The Art Market as System: Florence Levy's Statistics," Anne Helmrich argues for an even older reliance on quantitative methods in art history, noting that Levy (1870-1947) used similar analog approaches in her study of the art market.[2] A proponent of digital analysis, Diana S. Greenwald's *Painting by Numbers: Data-Driven Histories of Nineteenth-Century Art* provides a useful synthesis of digital methods and conventional art history methodology. Combining quantitative data and economic theory with formal analysis, archival research, and other traditional art historical approaches, Greenwald offers new interpretations of individual works of nineteenth-century art while also re-assessing the canon itself.
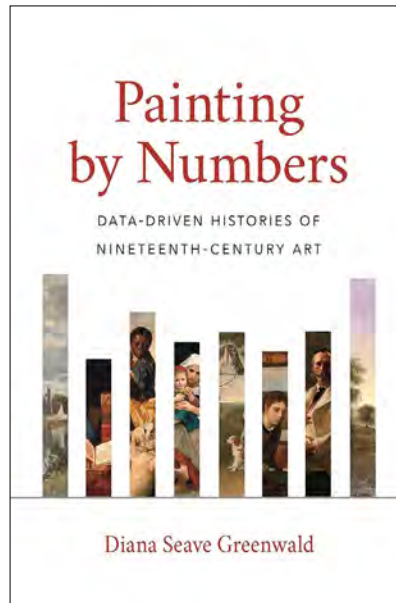
Trained as both an economic historian and an art historian, Greenwald's scholarly intervention is primarily methodological, applying both quantitative analysis and economic theory to the interpretation of art. She critiques the art canon with quantitative data drawn from the hundreds of thousands of paintings documented in nineteenth-century exhibition catalogs and other textual sources. Recognizing the impossibility of evaluating such a massive body of data, she uses these texts to instead address the issue of sample bias, arguing that visualizations of exhibition catalogs and other forms of quantitative analysis can correct an overemphasis on the so-called masterpieces while providing a more comprehensive overview of artistic output (49). She introduces economic theory as a meaningful interpretive framework for studying art history, by contextualizing the activity of individual artists within discussions of labor, resources, and other economic concepts. Greenwald describes the resulting synthesis as a "data-driven history of art," intending to supplement rather than replace conventional art historical methods (4).

Divided into five chapters, *Painting by Numbers* functions less as a comprehensive monograph on a specific artist, subject, or geographic locale than a discussion of data-driven art historical analysis as a scholarly approach, followed by a series of case studies demonstrating the author's methods. Geographically, examples focus on the northern hemisphere, with

chapters about France, the United States, and Great Britain. The first chapter describes Greenwald's methodology, offering a literature review of art historical projects rooted in quantification, with Jules Prown's "The Art Historian and the Computer" an especially notable precedent for data-focused approaches. The second introduces three art-historical datasets—created by Greenwald during master's and doctoral research—upon which the book's remaining case studies rely: *The Whiteley Index to Salon Painting*; the *Historical American Art Exhibition Database* (HAAExD); and the *Royal Academy Exhibition Database,* based on the Royal Academy in London. In each case, she discusses the history of the dataset's creation, providing a summary of the information included and pointing out potential biases or omissions (26, 35). An appendix at the end of the book supplies additional information on the three datasets as well as how Greenwald developed them in consultation with freelance data analysts. She offers readers a thorough overview of her methodological interventions and how to implement them in art historical research.

The remaining three chapters show Greenwald's data-driven method in action, with each chapter focusing on a different dataset. Though these case studies appear self-contained, analytically, they share an overarching interest in the impact of limited resources in relation to who is chosen for the art historical canon, not only in terms of money but especially in time for travel and balancing professional with domestic obligations. The

third chapter concentrates on *The Whiteley Index* and landscapes featured in the nineteenth-century Paris Salon. Greenwald posits that the limited income of artists encouraged them to pursue residencies and colonies near their homes in Paris, practical decisions that not only shaped the content of the Salons but subsequently the art historical canon itself.

The fourth chapter looks at American women artists by addressing the discrepancy between the frequency of female participants in the National Academy of Design (NAD) exhibitions and the paucity of women in the permanent collection at the Metropolitan Museum of Art, which routinely acquired works from the NAD shows. Using theories of economic labor as her primary framework, Greenwald argues that the limited number of women in nineteenth-century museum collections reflects not only the sexism of cultural institutions but a shortage of time stemming from domestic duties, a situation which continues today. The final chapter focuses on art exhibited at the Royal Academy and asks why depictions of the London metropole appear more frequently than the British Empire's more distant territories. Examining the work through an economic lens, she notes how both the time and money required to travel restricted the number of artists capable of relocating away from London to paint.

What makes Greenwald's work robust is how well it synthesizes quantitative analysis with conventional art historical research. Her ability to alternate between macro and micro scales of art recalls

quantitative work from literary historians such as Matthew Jockers. His 2013 book *Macroanalysis* offers both a bird's eye view of literary output, for a particular time or place, and zooms in on specific texts to provide more focused case studies. On the macro level, Greenwald interprets a prodigious amount of information, but she skillfully deploys such visualizations as bar graphs and charts, helping readers parse the data, while introducing visual qualities of often unillustrated exhibition catalogs and related texts. She works proficiently on the level of individual works of art, applying an economic lens to reassess the visual elements of specific paintings. Using economic theory as a primary interpretive framework, she offers a means of contextualizing the careers of individual artists within broader social trends, reminding viewers that artists function within the confines of economic structures, even as they express unique creative views.

As a text, *Painting by Numbers* is well organized and well written, allowing readers to easily follow Greenwald's methodological demonstrations. The case studies begin on the macro level before working their way down to individual artists or works, with succinct summaries at the end of each chapter. Greenwald is careful to point out the limitations of these methods. When describing the development of the datasets, in the second chapter, she emphasizes the limitations of her data—from the lack of illustrations to inconsistencies regarding titles, dimensions, and other information—providing readers

with a better understanding of the potential biases in her sources. Rather than regard quantitative analysis as a replacement for more conventional art historical research, she also argues that "Data-driven art history is . . . at its best in conjunction with traditional qualitative methods, including archival research and formal analysis" (49). Her assurances that data-driven methods are meant to supplement rather than replace traditional art historical research suggests Greenwald's awareness of the potential flattening effects of, for instance, data-driven art. Rather than reduce paintings to numbers, she instead offers data-driven art as a means of providing more comprehensive samples from which scholars can choose individual works to interpret.

The fourth chapter offers a particularly effective demonstration of Greenwald's methods in action. As with the other case studies, she begins from a macro view of art, before scaling down to an individual level, by sharing quantitative data, interpreting it through an economic lens, and then applying that lens to individual works or artists. Following her own suggestion that data-driven art works best from quantitative observations, she begins her analysis by noting the discrepancy between the frequency of women artists exhibiting at the National Academy of Design exhibitions, and the paucity of paintings from nineteenth-century women artists in the Metropolitan Museum of Art. Although she agrees that sexist cultural norms influenced the lack of women artists in museum collections, she then uses economic

interpretations of labor to posit that a lack of time stemming from domestic obligations also detrimentally affected the careers of nineteenth-century women artists. Specifically, she argues that women, usually working from home to better accommodate childcare, often lacked the time and studio space to produce large history paintings or portraits, the genres that museums were most likely to collect during the nineteenth century. Additionally, she observes that in the absence of full-time dealers, nineteenth-century artists sold their works by cultivating relationships with prospective buyers, a significant social expense that many women lacked the time or propriety to do (87).

After establishing these broader social and economic trends, Greenwald focuses on the career of Lilly Martin Spencer (1822–1902). Through an analysis of archival correspondence, the author observes that despite being one of the most successful professional women artists in nineteenth-century America, Martin struggled to balance a painting career with domestic obligations (108). Eschewing conventional interpretations of sentimentality, Greenwald instead astutely notes that paintings like *Victory at Fredericksburg* display Martin's efficiency as an artist, with references to traditional art historical subjects, such as still life or the Madonna and Child, incorporated into her contemporary genre scenes (109-110). *Painting by Numbers* brings a fresh perspective to both Martin's career and the work of nineteenth-century women artists, showing how they

endeavored to produce work within economic and domestic confines. Given recent studies on the detrimental impact of the pandemic on the professional careers of women as they assume domestic obligations stemming from working or studying at home, the book's observations remain all too relevant.[3]

Although Greenwald's text is not intended to be comprehensive, the collaborative aspects of her work would benefit from a more in-depth discussion. While she does acknowledge the labor of freelance data analysts in the creation and interpretation of the three datasets, in Appendix A, this section would have a greater impact on readers if it had been introduced as early as the second chapter, rendering it a centerpiece of the author's methods rather than an afterthought. As Anne Burdick and fellow authors argue, in their seminal text *Digital Humanities*, collaboration is crucial to effective digital humanities scholarship because it enables interpreting vast amounts of data while also challenging the conventional model of solitary research and publication.[4] Spotlighting the partnerships Greenwald developed while creating her databases essentially demonstrates the importance of collaborative scholarship to art historians interested in digital approaches.

Overall, Greenwald's text offers a dynamic demonstration of the potential offered by quantitative analysis. It is intended as a conversation opener rather than the final word, providing readers with tools, potential research questions, and guiding examples to inform

their research. Rather than replace conventional methods, as the author effectively demonstrates, large datasets can supplement traditional interpretive approaches by expanding the pool of works for analysis and broadening the contexts for the works art historians choose to interpret. In essence, Greenwald aims to create a bigger picture for art historians, through both large pools of data and economic theoretical frameworks. While not all readers will necessarily be interested in an economic approach to art, this book nonetheless demonstrates how visualizations and other datasets can enrich scholarly inquiries. Scholars and students at all levels of familiarity with digital humanities should find value in the text, whether they incorporate data-driven methods into their research practices or not. For scholars embarking on quantitative inquiries, *Painting by Numbers* offers a valid and capable demonstration of its methodological potential.

Sara Woodbury
William & Mary

Endnote

1. Nadav Hochman and Lev Manovich, "A View from Above: Exploratory Visualizations of the Thomas Walther Collection," in Mitra Abbaspour, Lee Ann Daffner, and Maria Morris Hambourg, eds., *Object:Photo. Modern Photographs: The Thomas Walther Collection 1909–1949* (New York, NY: Museum of Modern Art, 2014): 1-6.

2. Anne Helmreich, "The Art Market as a System: Florence Levy's Statistics," *American Art* 34, no. 3 (September 1, 2020): 107, https://doi.org/10.1086/712752.

3. Michel Martin, Hanna Rosin, Jamila Michener, and Margaret Brower, "Pandemic Sets Back Women's Progress in Workforce," NPR February 14, 2021, sec. Business, https://www.npr.org/2021/02/14/967917836/pandemic-sets-back-womens-progress-in-workforce.

4. Anne Burdick, Jeffrey Schnapp, and Johanna Drucker, *Digital Humanities* (Cambridge, MA: MIT Press, 2012), vii.