

Guidelines for the Evaluation of Digital Scholarship in Art and Architectural History

College Art Association and the Society of Architectural Historians

Task Force to Develop Guidelines for Evaluating Digital Art and Architectural
History for Promotion and Tenure

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I. Preface

Art and architectural historians increasingly rely on sophisticated information technologies for research and communication about the visual and built environment. Just as engineers and architects have embraced ever more sophisticated media in their work, from ink on paper to AutoCAD, so have scholars exploited the codex, chromolithograph, color slide, JPEG, and World Wide Web to further knowledge. Though more scholars are embracing digital technology, few art and architectural history departments have established a clear path for recognizing contributions to the scholarly corpus based on digital means and methods.

For art and architectural history, rigor and quality are the benchmarks of scholarly method, analysis, and communication, along with commitment to the preservation of knowledge and stewardship of its sources over time. Digital scholarship relies on digital tools and increased access to images and data from which new types of questions, methods, and results arise. Given the abundance of possible approaches, what do rigor and quality look like in the digital realm? How can scholars, students, and administrators recognize, assess, and reward these? How should digital scholarship be accessed and stored? How can credit be apportioned in collaborative projects? Answering these questions means establishing clear guidelines concerning scholarship in the digital realm so that the work can be included and evaluated as part of the hiring, tenure, and promotion process.

The College Art Association (CAA) and the Society of Architectural Historians (SAH), with funding from the Andrew W. Mellon Foundation, convened a Task Force to Develop Guidelines for the Evaluation of Promotion and Tenure in Digital Art and Architectural History. The intent of the task force is to ensure that as our colleagues employ new technologies, they also contribute to best practices criteria for digital scholarship. These guidelines will help our members and those who assess their work to identify core contributions to the advancement of domain knowledge using digital resources, computational analysis, and/or multimedia modes of presentation and publication to create scholarship.

A. Goal and Scope of Guidelines

Digital technologies are not static, but are ever evolving. This document provides an extensible structure for scholars, academic departments, review committees, and others to employ when assessing digital scholarship. Though flexible, these guidelines offer concrete assistance to our colleagues as they develop best practices in their own institutional guidelines and establish benchmarks of excellence and accomplishment in the realm of digital scholarship. These recommendations do not address whether or not to provide open access or when and how to employ fair use of copyrighted materials.¹ Nor does the document attempt to define new career tracks within our fields. Though these are crucial elements of the changing landscape, we focus here exclusively on definitions and criteria for assessment, forms of publication and evaluation, collaboration, and preservation and stewardship of digital projects.

B. Methods and Results

Task force members are leading art and architectural historians with experience in digital scholarship. The group met over a fifteen-month period to review the status of hiring, promotion,

¹ Further information about the fair use of copyrighted materials may be found in CAA's *Code of Best Practices in Fair Use for the Visual Arts* (2015) at www.collegeart.org/fair-use/.

and tenure practices in regard to digital scholarship, consider unaddressed topics, and write guidelines for evaluating digital scholarship. The task force worked with a researcher and a scholarly communications consultant to develop a research agenda, online surveys, and interview questions to investigate current guidelines, institutional practices, and publications regarding the evaluation of digital scholarship. A literature review on resources and other guidelines follows in the appendix of this document.

II. Definitions and Criteria for Assessment

A. Technology

Digital scholarship is distinctive in that its conceptualization and/or analysis relies on evidence in digital form and often uses digital formats for dissemination. While a PowerPoint presentation can express a particular idea, the merit of PowerPoint as a technology of presentation is rarely intrinsic to the question being addressed by the scholar. In contrast, a project in art history that explores patterns, for example, among ten thousand samples of French art-historical criticism from the nineteenth century, exemplifies a problem that cannot be considered without the aid of digital technology. This type of scholarship—the analysis of a large corpus of texts or images—highlights the importance of defining the choice and use of technology both practically and conceptually. Because many scholars who are called on to review such work lack familiarity with the methodological nuances of digitally enabled scholarship, the primary responsibility for identifying the role of technology falls to the scholar doing the digital work. This individual must clarify why the digital technology employed should be part of the evaluation. (The evaluating committee should include at least one member conversant in digital technologies.)

Digital inquiry can take shape in several ways, including (but not limited to) the forms listed below.

- Research that often takes preexisting digital tools or methods and applies them to art and/or historical problems with little to no change to the digital tool itself. This may include, for example, the use of Geographical Information Systems (GIS) to explore spatial distribution of galleries in a specific place and time, or contributions to databases and other digital resources that expand but do not change the dataset.
- Developmental digital humanities research that focuses particular attention on conceptualizing and implementing significant programming, coding, or tool development of value to art and architectural historical research, and possibly other subjects as well. For example, creating a new means of visualizing historical buildings and environments or new kinds of mapping or map presentation tools are developments that can be used by other scholars.
- Experimental research that combines digital and humanities methods. Projects that clearly articulate research questions that combine both art and architectural history problems or methods along with computational problems and methods fit in this category. Examples include an analysis of a “big data” set of codices through corpus linguistics that advances the interpretation of the historical significance of the dataset and, at the same time, offers new insights and digital methods in corpus linguistics; or an analysis of key moments and sites of innovation and creativity within the corpus of Western painting in which new algorithms in evaluating works come into play.

Each of these research methods uses digital technologies in different ways and to different purposes. In the research statement, scholars should make evident which uses of digital technology mark the significant contributions of their work and why these technologies are appropriate for a particular art or architectural question.

While the primary responsibility for clarifying the scholarly contribution of the use of digital technologies rests with the scholar, departments and colleges/universities must articulate appropriate categories of digital scholarship in their evaluation documents as well as what clarification they expect from a scholar under consideration. This may, for example, take the form of a separate brief document explaining the use of the digital technology to non-specialists.

B. Process as Scholarship

A work of digital scholarship often requires developing or refining a methodology. That work should be evaluated as a contribution to scholarship, just as methodological innovations in traditional scholarship are given weight in assessments of achievement. By extension, digital scholarship may need to be evaluated by the *process* of analysis in addition to the *results* of the analysis.² Process can be essential to the creation of knowledge when, for example, the process demands construction of a database or other tools. Structuring substantial amounts of data and constructing a workable database can take years of research that requires a complex cascade of decisions, discussions, and conceptualizations. These essential activities are worthy of evaluation in their own right. Scholars must document such processes and decisions as the scholarship develops, and evaluating committees must attend to process as a contribution to scholarship. In particular, scholars considering digital projects should be instructed about the expectations for documentation of digital projects where process is a key result of scholarship.

In general, the importance of process in digital work can be identified in two ways: through a project narrative or a stand-alone work.

- A project narrative is a standard part of digital scholarship. This may be a separate component that describes the choice, development, and use of digital technologies, or it may be part of an article, book, or other scholarly piece.³ The scholar should use the project narrative to communicate what about the use of digital technologies is of intellectual interest on its own, such as the development of a particular database structure that could be relevant not only for the present article but adaptable for other art-historical cases.
- At times, the scholar's process is complex and leads to such compelling results that it forms a stand-alone work. Scholars should clarify in their research statement how such a work relates to other aspects of the scholarship, how it fits chronologically in the

² This is standard in the sciences, of course, and digital humanities take its cues in part from scientific methods in this area.

³ A typical example could be the "Project Narrative" section of articles in *Nineteenth-Century Art Worldwide*, which make use of the digital capacities of the journal (see for example, Jacqueline Marie Musacchio, Project Narrative for "Mapping the 'White, Marmorean Flock': Anne Whitney Abroad, 1867–1868," *Nineteenth-Century Art Worldwide* 13, no. 2 (Autumn 2014), at www.19thc-artworldwide.org/index.php/autumn14/musacchio-project-narrative).

development of a larger project (if appropriate), and what audience the work is meant to address.⁴

In either case, scholars should clearly present their processes and evaluating committees should be ready to validate and evaluate this scholarship on its own terms as process, rather than consider it as less than equal to traditional methodologies. Evaluation guidelines should clearly express how the scholar should discuss and document process, particularly if the evaluation committee requests a separate project narrative as part of the deliberations.

III. Forms of Publications and Evaluation

A. What Publication Means

Although schools, departments, and committees may embrace a hierarchy of publications for tenure and promotion, criteria for evaluation should regard new kinds of publications as significant as those in print. There are several important dimensions to the changing nature of scholarly publications in the twenty-first century that should be considered when evaluating digital scholarship.

- Traditional forms of peer-reviewed publications exist in different or additional formats, i.e., a peer-reviewed journal article can be presented in print and online or online-only. For digital-only peer-reviewed publications, word count frequently replaces page count in determining the “weight” of the publication. For digital-only publications such as encyclopedias, one or more topical entries and their associated metadata similarly will replace page count. However, as long as the peer review process is explicit and rigorous, the format of the scholarly publication is irrelevant.
- There are numerous new forms of publications, each of which can be considered legitimate outlets for the distribution of scholarly work. In many cases, the scholar is not only producing a conventional text, but also accompanying metadata or other online materials, such as exhibitions, which also must be understood as scholarly output. Evaluation committees should articulate the weight of each component of digitally produced scholarship.
- As digital humanities continue to grow, scholars are increasingly involved in the conceptualization and development of new genres of digital publications for which they may not be the primary author, including databases and websites, and frequently a dynamic combination of both. Here, the role of the scholar goes well beyond traditional notions of the editor who shapes a print-only publication, and the scholar should be given appropriate credit for this important part of digital humanities research. In some cases, the scholar is both editor and contributor—particularly if he or she is developing a website, database, or tool to support the publication of original research. Some of this work may be collaborative, and evaluating committees need to develop fair mechanisms for evaluating collaborative digital scholarship.
- Since the impact of scholarship is often defined through distribution and citation, access to scholarship should also be regarded as an essential aspect of its influence. Access can take many forms in the digital realm, including open access journals, repositories, and

⁴ Often, these works go through rigorous peer review, such as Maximilian Schich’s contribution to *Science* 345, no. 6196 (August 2014): 558–562. If not, as in cases of non-digital scholarship, the scholar should explain why a particular publishing venue is appropriately rigorous for the criteria of their department or college/university.

monographs. Meritorious work published in open access venues should not be discounted because it does not travel through traditional distribution channels. The degree to which scholarship exists in “open access” formats might also be considered a part of evaluative criteria, with the institution defining the metrics of impact for open access publications. Given that universities and external funders are increasingly mandating access for the research produced by faculty, the impact of open access venues should be given consideration in standards for evaluation.

B. Evaluation

Evaluation is one of the most difficult aspects of digital humanities to address. How are examples of digital scholarship evaluated, compared to modes of traditional scholarship, or understood by a non-technological community? Assessment takes place in two ways: through peer review and through institutional evaluation. In peer review, the evaluation should include both a content expert and a digital expert, or one person who is both. In institutional evaluation, digital scholarship can be evaluated by non-digital specialists in a manner similar to any other evaluation process, as, for example, when a French medievalist in a department evaluates and votes on work by a scholar with expertise in Sung Dynasty China. In both cases, evaluation will depend on the clarity of the argument and the scholarship, as well as the assessment of impact and evidence of review by the field of specialists. This standard holds in digital scholarship as it does with non-digital scholarship.

1. Peer Review

The inadequacy of existing peer review for digital scholarship is directly related to the changing nature of publications. In many cases, peer review for a digital publication is little different from that of a print publication, with the peer reviewer commenting on a text (regardless of length) according to the guidelines established by the editor or publisher. However, many digital publications include elements other than text. For example, scholarship built on relational databases requires an array of metadata to accompany scholarly contributions submitted for publication; qualified peer reviewers familiar with the purpose of metadata, controlled vocabularies, and digital design should be called on to evaluate metadata and other digital elements of a project. This scenario could be called “traditional peer review plus”—meaning, for example, that there is something that resembles a text as well as metadata, and that the peer reviewer is evaluating the scholarship before publication (e.g., before being made publicly available on a website). Evaluation committees must provide reviewers capable of evaluating the multiple components of digital scholarship.

Opportunities for peer review of digital works exist outside the pathways of review for traditional publications. External peer review for digital scholarship can take place at multiple stages of production and publication.

- Grant applications constitute the first stage of peer review. External funding is critical to the realization of many digital projects, and funding is highly competitive. Applications require that scholars secure multiple letters of support for each project. Letters and application materials are reviewed by experts who frequently provide written feedback.
- Collaboration constitutes another form of peer review, as many digital projects bring together a diverse array of experts as partners and stakeholders. Whether they are

discipline-specific scholars or technical advisors, experts provide assessment and evaluation as continuous feedback necessary to collaborative projects.

- Peer review may occur as an iterative and ongoing process because of the fluid workflow of digital publications. For example, a website's information design or metadata structure might be reviewed by appropriate experts early in the process while some elements of content might be reviewed toward a project's completion.
- Selection of digital projects for deposit into a preservation repository can be another site of external peer review. In addition to e-journals, digital projects and extensions may be accepted for institutional libraries or other important, accessible scholarly and public history sites because they are judged to be of long-term scholarly value. The librarians and scholars in the institution accepting digital materials provide peer review in this context.

2. Departmental and College/University Evaluation

Especially as related to the use of digital technologies themselves, the evaluation may be fundamentally different from the review of traditional publications. Evaluating committees should provide adequate resources for reviewing digital scholarship as described below.

- Evaluate the work in its native environment. Many institutions and scholarly societies have determined that it is crucial that digital work be seen in the environment for which it was designed.⁵ Scholars deserve to have their work taken seriously, including the digital contribution. Hence, all work of digital scholarship must be evaluated in its appropriate environment.
- Include digital specialists as part of the evaluation process. If digital scholarship is a requirement for employment or accepted as part of a scholar's portfolio, that work must be evaluated by an expert who understands the digital contribution. This may take the form of outside peer review and/or, ideally, a member of the evaluating committee with particular expertise.⁶
- Attend to the venue of publication or distribution in new ways. Evaluating committees should not only evaluate the standard published "product" but also the rigor and impact of the website or attendant digital contribution. While scholars maintain the primary responsibility to clarify the significance of all aspects of and venues for their work, departments and colleges/universities should develop guidelines that clearly state how digital contributions published or distributed in non-traditional sites will be evaluated and considered.
- Support impact measurements beyond citation. Art and architectural history scholars do not use traditional citations as a measure of impact—at least not to the same degree as scientists. However, how to account for citations and impact remains an issue for faculty members in humanities-based disciplines in certain institutions that rely more heavily on quantitative metrics. In keeping with the Leiden Manifesto for Research Metrics, CAA and SAH recommend that quantitative evaluation should only be used in appropriate scenarios and such evaluation should be accompanied by qualitative, expert assessment.

⁵ If, for example, a map animation is an important part of a scholar's argument, that animation should be seen within the appropriate program rather than as a screenshot or a still.

⁶ If the construction of a database is part of the intellectual work, then someone who can evaluate the complexity and rigor of a particular database must be part of the evaluation process.

Further, the Leiden Manifesto notes that it is important to “account for variation by field in publication and citation practices. Best practice is to select a suite of possible indicators and allow fields to choose among them.”⁷

There are many other complexities of the evaluation of digital scholarship. Nevertheless, CAA and SAH endorse the inclusion of the above criteria and the attendant discussion of technology, process, and content in all aspects of the personnel process in which digital scholarship is or may be part of the evaluation process.

IV. Collaboration

A. Teams

Collaboration is often essential to the successful execution of digital scholarship. Not unlike traditional models of scholarship, multiple skill sets and bodies of expertise may be required to illuminate new evidence, new patterns, and to develop new interpretations of scholarly material. However, since digital scholarship relies on primary evidence that is in digital form and thus readily accessible to computer analysis, it may benefit particularly from collaborative partnerships. This reflects not only the benefit of comparing different interpretive paradigms, but also the frequent necessity for particular sorts of technical expertise. Although collaborative models for developing digital research may represent a shift from sole-authored research in the humanities, collaboration in no way compromises the intellectual rigor of research and analysis, but may indeed require even more sustained and meticulous attention to the project at hand. The benefits of multi-authored research are indeed apparent from its widespread use in many scientific fields. As the Modern Language Association’s (MLA) report on the evaluation of scholarship for tenure and promotion concluded: “Opportunities to collaborate should be welcomed rather than treated with suspicion because of traditional prejudices or the difficulty of assigning credit. . . . The guiding rule, once again, should be to evaluate *the quality of the results*.”⁸ With respect to digital scholarship, the value of such contributions should not be assessed with respect to traditions familiar from the world of print-based scholarship, but with sensitivity to the particular demands and opportunities of a collaborative approach.

B. Roles

As noted above, digital scholarship is often collaborative. Digital art and architectural history may include scholars from multiple disciplines, librarians, technologists, and outside experts who practice digital scholarship. Further support may be required from an outside project manager, as there may be too many areas of expertise for a single contributing scholar to manage effectively. These specializations may include not only that of the scholar’s subject area, but also information management (including metadata and citation conventions in a range of disciplines) and intimate familiarity with the technologies required to achieve the goals of the scholarship, such as Geographic Information Systems (GIS), database programming, and web development.

⁷ Diana Hicks, Paul Wouters, Ludo Waltman, Sarah de Rijcke, and Ismael Rafols, “Bibliometrics: The Leiden Manifesto for Research Metrics,” *Nature* 520 (April 23, 2015), at www.nature.com/news/bibliometrics-the-leiden-manifesto-for-research-metrics-1.17351.

⁸ Modern Language Association, *Report of the MLA Task Force on Evaluating Scholarship for Tenure and Promotion* (2007), at www.mla.org/content/download/3362/81802/taskforcereport0608.pdf.

It is the scholar's responsibility and prerogative to explain the different roles each collaborator played and estimate each collaborator's contribution. In turn, evaluating committees need to be aware that collaborative work often does not break down into easily determined "percentages" that add up to the final project. Collaborative work is not a puzzle where each person brings a predetermined piece to the final picture; rather, it is a process through which intellectual content is generated *within* and through the collaboration. As such, collaborative work generally takes more time than single-authored work, rather than less.

There are also practical considerations to be taken into account when evaluating collaborative work. The time and effort spent finding collaborators with the appropriate skills to support the work—and in some cases securing funding to support them—can require creativity and time. The work of identifying collaborators and funding should be considered in the assessment of the collaborative work. Evaluators should also take care not to assume that one discipline's conventions for assigning relative credit to multiple authors (i.e., the order of author names; the identity of the corresponding author) are operative in other disciplines to allow a broader perspective during the evaluation of the scholarly work.

V. Stewardship, Preservation, and Access

Scholars should establish a sustainability plan for their digital scholarship. Development of a plan involves discussions with librarians and preservationists to ensure that there is a clear understanding of what can and should be preserved and to understand file formats that are best for particular pieces of the project, the likelihood of preserving a project in its native format, and alternative formats for differing levels of accessibility. For instance, if a preservation repository cannot support AutoCAD files, the scholar should make derivative files that allow viewing.⁹ If a project uses coding that provides particular types of rendering online, it may or may not be supported and preserved. Understanding the alternative options for preserving the intellectual content of a digital project is an important part of the planning process. This includes discussions about the ideal preservation format and back-up plans if the native format cannot be sustained over time. The scholar should also follow the best practices of the digital repository in which the work will be placed. It is important to communicate what and where data of long-term value are available.

⁹ Derivative files are "lossy" in that they compress a file format, but "lose" original detail. The most common example of a lossy file is a JPEG, which reduces the file size by eliminating part of the data while retaining the overall structure of the original file, whether an unprocessed raw file or a TIFF, GIF, or PNG.

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Selected Bibliography

The following works were referred to by the task force and provided in reports by Michelle Millar Fisher, a task force member, and Alice Lynn McMichael, researcher for the task force. These are presented here for further reading and reference, but are not intended to represent the full extent of material and opinion on the topic of assessing digital scholarship for advancement and tenure.

A. Disciplinary Digital Evaluation Guidelines

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The University of Arizona, “Promoting an Inclusive View of Scholarship,” <http://facultyaffairs.arizona.edu/promoting-inclusive-view-scholarship>

C. Related Publications

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