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Keys for architectural history research in the digital era

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Keys for architectural history research in the digital era

Handbook

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DOI: 10.4000/books.inha.4924
Publisher: Publications de l'Institut national d'histoire de l'art
Year of publication: 2014
Published on OpenEdition Books: 5 December 2017
Serie: Actes de colloques
Electronic ISBN: 9782917902592

http://books.openedition.org

Electronic reference
HUEBER, Juliette (ed.) ; MENDES DA SILVA, Antonio (ed.). *Keys for architectural history research in the digital era: Handbook.* New edition [online]. Paris: Publications de l'Institut national d'histoire de l'art, 2014 (generated 18 décembre 2020). Available on the Internet: <http://books.openedition.org/inha/4924>. ISBN: 9782917902592. DOI: https://doi.org/10.4000/books.inha.4924.

This text was automatically generated on 18 December 2020.

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This handbook gathers a selection of texts by the speakers at the Training School "Architectural Research in the Digital Era" (Ghent, 2-6 April 2013) and the workshop "GIS, data visualization an open community" (Paris, 27-28 January 2014). The aims of these two events organised in the framework of the COST ISO904 Action European architecture beyond Europe: Sharing Research and Knowledge on Dissemination Processes, Historical Data and Material Legacy (19th-20th centuries), was to familiarize the participants, architectural historians with a variety of aspects related to conducting research in a digital era: Architectural history research in the digital era Copyrights; Standards, metadata, interoperability and sustainability; Data visualisation; Creating a digital research environment, GIS and Open communities.

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Introduction

Antonio Mendes da Silva

1 This handbook gathers a selection of texts by the speakers at the Training School "Architectural Research in the Digital Era" (Ghent, 2-6 April 2013) and the workshop "GIS, data visualization an open community" (Paris, 27-28 January 2014). The aims of these two events organised in the framework of the COST ISO904 Action *European architecture beyond Europe: Sharing Research and Knowledge on Dissemination Processes, Historical Data and Material Legacy (19th-20th centuries)*, was to familiarize the participants, architectural historians with a variety of aspects related to conducting research in a digital era: Architectural history research in the digital era Copyrights; Standards, metadata, interoperability and sustainability; Data visualisation; Creating a digital research environment, GIS and Open communities.

2 These texts offer complementary accounts of contemporary research processes in the context of digital Humanities. Lisa Spiro first presents a general panorama of current academic research from the standpoint of modulations produced by new digital technologies. In parallel, Kenneth Crews tackles the essential questions of copyright and royalties in the circulation of results from research. Then Christophe Leclercq and Paul Girard on the one hand and the team around Ian Gregory on the other, present results of research programmes made possible by digital procedures and tools. Finally, Julien Dorra shows other ways of doing and producing together through Open communities in particular thanks to the internet and social networks.

3 These texts all together point definitively the question of digital training and culture of historians made essential in the context of many research programmes today and which often imply information technology development. Indeed, although information technology techniques have radically changed the research landscape, it remains that that the design of a model of relevant data relies on knowledge of the period being considered by the student and her analysis of the sources. The solution does not appear to be located in the invention of a hypothetical historian-programmer, but in the development of new forms of close collaboration between researchers, engineers and program developers.

Lisa Spiro: The Impact of Digital Humanities on academic research

4 The invention of the web during the 1990s transformed ways of being, doing and living in society, also profoundly changing academic practices both from the point of view of tools and methods, but also of disciplines.

5 Lisa Spiro analyses three forms of changes brought about by the digital revolution:

- unprecedented access to online electronic resources for researchers such as the full text of journal articles,
- the invention of new methods for exploring large and small bodies of data,
- the impetus of a new dynamic in scholarly communication.

6 Projects such as Transcribing Bentham, which is a public collaborative project to transcribe the writings of the English philosopher, launched in 2010-2011, brings into perspective the possibilities for reinvention of scholarly research through the development of new technologies. Other examples of tools that today have been adopted broadly such as Zotero also show the development of practices in the treatment of sources or the analysis of texts. Digital transformation, which is not systematic, of research sources also allows infinitely greater facility in the treatment of large and small corpora.

7 The Mapping the Republic of Letters project, which received funding in the first Digging into Data competition, is an excellent example. Bringing together collaborators at Stanford University, the University of Oklahoma and Oxford University, this project examines the correspondence network through which ideas circulated during the Enlightenment. Intellectuals such as Voltaire, John Locke, Benjamin Franklin and many others participated in rich exchanges of letters, providing what principal researcher Dan Edelstein calls an early form of peer review. This exchange is documented by the Electronic Enlightenment project, which provided Mapping the Republic of Letters with access to metadata for about 50,000 letters.

8 This project allows motives for networks to be visualized through time which would never have been possible within the limits of classical research, and consequently opens the field to other types of questioning of research data to the development of other hypotheses and to other interpretations.

9 The Digital Humanities do not only process large corpora of data. They can also enlighten small corpora in a totally new way, such as for example the letters of the the American cartographer Jedediah Hotchkiss's correspondence with his daughter in which he describes and maps the Battle of Fredericksburg during the US Civil War. This corpus was treated with Neatline, a group of digital tools developed by the Scholars' Lab at the University of Virginia Library, allowing historical narratives to be built from cartographies and timelines.

10 Finally, Lisa Spiro describes the positive impact of digital humanities on the traditional forms of scholarly communication, in particular on evaluation processes. For example, a study shows that 55% of the books in the Cornell Library acquired after 1990 have never been borrowed. In contrast, online forms of dissemination of scientific literature accelerate the circulation of ideas and touch an infinitely more vast public with which authors initiate broader forms of scholarly conversation that overturn the traditional forms of peer assessment.

11 There are now a large number of ways of disseminating ideas on the web (websites, blogs, online journals), although they still suffer from a lack of confidence and scholarly legitimacy. They still retain all the characteristics of traditional methods of scholarly production in terms of rigour and scholarly requirements while adding on collaborative and interdisciplinary components.

Kenneth D. Crews and Questions of copyright and royalties

12 The major obstacle to making the results of research available and the dissemination of digital resources is the question of copyright. This issue is especially sensitive in the area of art and architectural history whose objects of study are to a great extent visual corpora. It is therefore essential for researchers and all the producers of data in general to have clear knowledge of what it is possible to do.

13 Kenneth D. Crews proposes an analysis of museums' policies relating to images of their works of art, reviewing the legitimate claims but also protective positions that are unjustifiable from a legal point of view. This contribution is placed mainly from the point of view of American law and policies adopted by the great American museum institutions.

14 The Copyright Act in the USA, like copyright in many other countries, introduces exceptions to copyright that have major implications in the context of the reproduction of heritage objects. The notion of "Fair Use" in the USA or the educational exception in France (Fair use and some exceptions related to education and research can apply to artworks) are applicable to works of art. On the other hand, protection by copyright has by necessity limited scope in time. Due to this, works that are in the public domain no longer benefit from the protections of copyright although moral law continues to apply for artists. However, the understanding of the implications of protection by copyright quickly becomes more complex when we refer for example to the situation of professional photographers, in particular those who photograph art works. The notion of originality underlies the decision of Judge Bridgeman in the USA relating to the protection of works of reproduction.

15 Another example that can be tricky to assess is that of the rights an artwork's owner, especially when the owner is a museum. Kenneth Crews shows that very often, museums go beyond the legal framework of copyright protection in implementing arbitrary rules for the use of reproductions of works and in controlling access to the original work.

16 If in most cases, the implementation of these barriers in museums can be explained and understood, the consequences can be catastrophic for academic research. And this all the more so that a researcher's work often requires the publication of reproductions from multiple sources that can be subject to different rules. Kenneth Crews thus compares the different positions adopted by major American institutions such as The Museum of Fine Art Boston, The Guggenheim Museum, The Georgia Museum of Art, The Carnegie Museum of Art, to cite only a few. In conclusion, K. Crews shows that although globally institutional positions are now widely open to criticism, from a legal point of view some have nevertheless adopted a course of action that goes towards openness and the dissemination of objects. This is the case of the Guggenheim for

example. At a time when visual communication has never been so important, it therefore calls for a re-evaluation of public policies and the reformation of reproduction rules introduced by museums.

Christophe Leclercq and Paul Girard: Experiments in Art and Technology Datascape

17 Christophe Leclercq and Paul Girard present the results obtained from the electronic processing of the archives of The Experiments in Art and Technology (E.A.T.), the association created in 1966 in the USA by the artists Robert Rauschenberg and Robert Whitman. The association's aim was to create synergy between artists, engineers and scientists for the creation of works that went beyond the strict limits of the artistic sphere. The complexity of the productions arising from the association's activity in all its facets, touching on aesthetics and the history of art, as well as social history, requires specific processing methods for the archives.

18 The "archival documents" include the following formats and types: correspondence; letters, manuscripts, lists; inventories, files, budgets; finance documents, grant applications, programs, advertisement documents, invitation cards, press kits, press releases, communiqués; memos, speeches, reports; memoranda, bibliographies, essays. Also featured are "published text documents": books, text in books, issues of periodicals, text in periodicals, proceedings, theses, solo exhibition catalogues, group exhibition catalogues. Lastly, there are video documents (interviews, documentaries/ reports), audio documents (interviews), visual documents (photographs, and the like), and digital documents (CD-ROMs, etc.).

19 As regards the work and projects from the association, the authors present the processing of sources developed on the one hand by the Daniel Langlois Foundation and on the other by one of the principal members of the E.A.T., Billy Klüver.

20 Regarding the exploration of the archives, the authors have developed a digital treatment method, a "datascape" to analyse data from these specific archives, following a continuous iterative process of exploration and modelling that preserves the initial complexity of the data. The aim is to allow the generation of data visualizations in the form of graphs, diagrams, timelines, maps, etc. from the concepts retained that are the participants, temporal sequences, places and the sources. The concept of "datascape" allows the qualitative and quantitative analysis of the data to be reconciled.

Ian Gregory, Alistair Baron, David Cooper, Andrew Hardie, Patricia Murrieta-Flores, Paul Rayson: Crossing Boundaries: Using GIS in Literary Studies, History and Beyond

21 In the context of the increasingly widespread use of geographical information systems in the humanities and social sciences, the authors analyse several questions relating to this recent use compared to the nature of the data that can be manipulated by GIS (and following which model) and compared to the relevance of the results of research

carried out in this way. This analysis relies on examples from studies of textual corpora.

22 The first example is based on descriptions of the voyages of Thomas Gray in 1769 and of Samuel Taylor Coleridge in 1802 around the English Lake District. These are short descriptions, each of less than 10,000 words, analysed in the context of the "Mapping the Lakes" project (Gregory & Cooper, 2009; Cooper & Gregory, 2011). After identifying all the geographical terms, XML processing (including disambiguation and processing of variants) and georeferencing, the authors produced cartographical visualizations of the two travellers' itineraries, assessed their preferences with respect to the types of places through which they travelled, the sites where they stayed, valleys, altitude... finally these preferences were linked to the English Picturesque for Gray and the Romantic movement for Coleridge. This example shows that it is possible to create a geographical information system from literary texts and the geographical explorations within these texts give results that can be truly innovative for research.

23 The second example presented by the authors relates to a very large text corpus of some 2.5 million words from the reports of the Registrar General from 1851 to 1911 for England and Wales. The authors used analysis techniques of the place names mentioned in the reports that had been georeferenced beforehand. Their aim was to analyse which places are mentioned and what the text says about them. Several automatic searching techniques were used such as "concordance" (the word is indicated with the citation of the passage in which it appears) and "collocation" (frequency of appearance of other words around the searched term). A search on infant mortality at that time shows for example that measles was the most important factor and furthermore allows the geographical zones which were most affected to be visualized.

Julien Dorra and the question of open communities

24 Under the title, "Building an open community: a new opportunity for scholarly projects", Julien Dorra presents in this final contribution, the wonderful possibilities for collaborative work provoked by the internet, the web and social networks through the experience of Open Communities. The major experience, and probably one of the most original ones among those which were presented is Museomix, the launch of which in 2011 the author contributed to and where people from a diverse set of skills and talents gather in a museum, and prototype new ways of experiencing museums in 3 days using a wide range of tools and technologies. Museomix is an "open invitation to build together". In the wake of this, other forms of open communities are presented in a variety of registers from contribution to collective knowledge and on different scales: Wikipedia and OpenStreetMap, but also communities from the world of developers and open source such as Drupal and Linux. For those who wish to engage in the experience of mounting projects around the constitution of a community, this contribution from Julien Dorra provides precious feedback on what works and what does not, on pitfalls to be avoided and on ways forward. Finally, the author shows that the idea of mounting a project based on building a community therefore comes today to broaden the field of possibilities even in the context of traditional forms of production of academic knowledge.

25 Digital humanities within their general meaning of transdiscipline "carrier of methods, of systems and of heuristic perspectives connected to the digital in the humanities and social sciences"[1] seem to have renewed the conditions of knowledge production and circulation in a novel manner. This does not go smoothly or without a variety of difficulties. But the landscapes that they are drawing today, as we can see in all the studies gathered here, is especially rich and burgeoning.

NOTES

1. http://en.wikipedia.org/wiki/Digital_humanities. Accessed March 25, 2014.

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Access, Explore, Converse: The Impact (and Potential Impact) of the Digital Humanities on Scholarship

Lisa Spiro

1 I started graduate school in English in 1992, the year after the web became publicly available and the year before the introduction of the Mosaic browser popularized web browsing.[1] The more than twenty years since then have witnessed massive changes in how we shop, access music, movies, games and videos, communicate with others, and discover news and other forms of information. Not all of those changes have been positive (just ask the people trying to come up with effective business models for journalism), but they have certainly been profound, allowing us to find, share, and act upon information much more efficiently and to participate in vibrant (if sometimes contentious) online communities.

2 How has scholarship in the humanities changed over the same period? Humanities scholars now communicate with colleagues using email and other networked technologies, employ word processing software to compose their papers, conduct research using online databases and catalogs, and publish in journals that offer web-based versions. Yet humanities scholars could harness technology in even more powerful ways to conduct their research and communicate their ideas. Perhaps more importantly, they are in a position to more fully contribute their own perspectives to the ongoing conversation about the cultural implications of digital technologies and media. As Cathy Davidson argues,

> we need to acknowledge how much the massive computational abilities that have transformed the sciences have also changed our field in ways large and small and hold possibilities for far greater transformation in the three areas – research, writing, and teaching – that matter most. We are not exempt from the technological changes of our era, and we need to take greater responsibility for them.[2]

3 Digital technologies affect core humanistic practices, such as how we tell stories, read, communicate, construct and share knowledge, participate in communities, and shape

our own identities. As Davidson suggests, it is crucial for humanists to contribute to the continued exploration of the Information Age. We should be thinking about transformations critically, considering what they mean for the humanities, and working to shape them.

4 In my view, the academic community that has done the most to explore the possibilities (and problems) of technology in the humanities is that of the digital humanities. What do I mean by "digital humanities"? There probably exist as many definitions of the term as there are people who consider themselves digital humanists, but I favor this definition from *Digital Humanities Quarterly*, one of the major journals in the field:

> Digital humanities is a diverse and still emerging field that encompasses the practice of humanities research in and through information technology, and the exploration of how the humanities may evolve through their engagement with technology, media, and computational methods.[3]

5 This definition highlights the emergent and evolving nature of the field. The digital humanities community includes diverse disciplines (literature, architectural history, computer science, information science, and so forth), professional backgrounds (faculty members, librarians, programmers, designers, and so on), and theoretical perspectives. Work in the digital humanities may take on many forms, from mining texts to authoring multimodal essays to building platforms for participation in humanities work. In this essay, I will focus on three ways in which the digital humanities is contributing to scholarship, with the promise of an even greater impact in the future: providing access to cultural information, devising new methods for analyzing data both large and small, and reinvigorating scholarly communication. I will ground my analysis in specific examples that illustrate the potential of work in the digital humanities as well as ongoing challenges faced by the field. Together, these approaches invite generative scholarship, which celebrates collaboration, experimentation, iteration, openness, public engagement, interpretation, making, and critiquing.[4]

Making Cultural Information Available

6 When asked what has been the most significant impact of digital resources on their research, many humanities scholars would point to the increased access to information. Indeed, in a study that Jane Segal and I undertook on the impact of digital resources on scholars of American literature and culture, we found that most used computers to conduct searches and access research materials such as journal articles and electronic texts but that few were using analytical tools or exploring "new modes of interpreting text."[5] In survey comments and interviews, scholars frequently mentioned the ways in which digitization was making research faster and more convenient, allowing them to access a broad range of resources at any time from any place with an internet connection. They could also exchange ideas via listservs, email, and online forums. Yet some feared that the rise of digital resources would result in researchers feeling pressured to produce more, giving less serious consideration to the resources they examined, and ignoring materials that had not been digitized.

7 The digital humanities have played an important role both in building high-quality digital collections of texts, images, videos, maps, audio, and artifacts, and in developing the experiments, standards, and best practices underlying this work. Indeed, the

important (if sometimes undervalued) work of scholarly editing has been transformed by the digital. The Text Encoding Initiative (TEI) provides a widely adopted standard for representing the structure, presentation and "conceptual features" of texts digitally.[6] As editors have grappled with how to represent a text, TEI has stimulated ongoing explorations of the nature of text and the purposes of editing.[7] Many digital humanists, myself included, note with some pride that work on TEI has helped shape the development of XML, a core standard for enabling the exchange of information online.

8 Digital humanists have also developed new approaches to creating, exploring, and organizing digital collections. Projects such as Transcribing Bentham provide access to transcription tools and digital images of manuscript pages, enabling the public to help transcribe historical manuscripts and thus contribute to knowledge.[8] As researchers seek to make sense of rich digital collections, digital humanists have developed tools such as Voyant, TaPoR, and WordSeer for analyzing patterns in texts.[9] Such tools allow researchers to identify and investigate unique or frequently occurring terms and to understand key words across a corpus. Moreover, researchers can organize, analyze, and share the information that they collect using citation management tools such as Zotero.[10]

The Impact of the Walt Whitman Archive

9 One particular example, that of the Walt Whitman Archive (WWA), demonstrates the impact of digital collections on scholars and the public.[11] Launched by Ken Price and Ed Folsom in the mid-1990s, this digital collection offers a wide range of materials related to Whitman and his poetry, including his manuscripts, works published in books and periodicals, translations, biographical materials, reviews, and images and audio. In the study undertaken with my colleague Jane Segal, Whitman scholars called the WWA "indispensable," "the first place that I go to do research on Whitman," and "the most important development in the history of Whitman studies."[12] Scholars told us that the WWA has sparked deeper study of Whitman's manuscripts, particularly editions of *Leaves of Grass* other than the 1855 and deathbed editions, by making it much easier to examine "the visual evidence." Moreover, it has attracted greater attention to the contexts surrounding Whitman, such as works by his disciples and his appearance in periodicals. As is appropriate for America's "poet of democracy,"[13] the WWA has made his works available around the world, resulting in significant web hits: 30,856 visits from 143 countries between September 4th and October 4th, 2011.[14] Like the Whitman Archive, a number of other digital collections also expand access to literary, historical, and artistic works and enable new modes of analysis.

Exploring Big and Small Data: New Methods for the Humanities

10 As Roy Rosenzsweig observes, we are shifting from an environment of information scarcity to one of information abundance.[15] Once information is in a digital format, it can be more easily searched, mined, manipulated, visualized, shared, and mashed up. Having access to so much information raises another question: how does one make sense of it? Such was the question posed by the American National Endowment for the Humanities (NEH) and its international partners with the Digging into Data Challenge:

"Now that we have massive databases of materials used by scholars in the humanities and social sciences [...] what new, computationally-based research methods might we apply?"[16] Now in its third iteration, Digging into Data requires teams from two or more countries to examine how computational research methods can offer insights into questions in the humanities or social sciences. In the first two rounds, a wide range of projects (eight in the first round, fourteen in the second) received funding, encompassing data such as railroad records, speech datasets, digital images of American quilts, music corpora, medieval charters, newspaper articles documenting the 1918 flu pandemic, and medical images of mummies. Making sense of this data required teams to develop and apply innovative methods, incorporating techniques such as text mining, social network analysis, geospatial analysis, and data visualization.[17] As Christa Williford and Charles Henry have observed, "The Digging into Data Challenge presents us with a new paradigm: a digital ecology of data, algorithms, metadata, analytical and visualization tools, and new forms of scholarly expression that result from this research."[18] The Digging into Data projects give us a glimpse of new possibilities for works in the humanities. They not only enable scholars to apply the interpretive traditions of the humanities to data on a massive scale, but they also require cross-disciplinary collaboration and give rise to dynamic scholarly arguments that foster interaction and conversation.

Visualizing Knowledge Networks: Mapping the Republic of Letters

11 The Mapping the Republic of Letters project, which received funding in the first Digging into Data competition, is an excellent example.[19] Bringing together collaborators at Stanford University, the University of Oklahoma, and Oxford University, this project examines the correspondence network through which ideas circulated during the Enlightenment. Intellectuals such as Voltaire, John Locke, Benjamin Franklin, and many others participated in rich exchanges of letters, providing what principal investigator Dan Edelstein calls an early form of peer review.[20] This exchange is documented by the Electronic Enlightenment project, which provided Mapping the Republic of Letters with access to metadata for about 50,000 letters. In order to understand patterns across these letters, Edelstein and his colleagues are developing visualization tools and methods, using them to pose questions that are difficult to explore manually, such as how correspondence networks developed over space and time, where the hotspots and coldspots were, and what makes someone a "hub" connecting multiple correspondents.[21] To devise new tools and methods, the project brought together historians, computer scientists, and an academic technology specialist in an iterative, interdisciplinary, and collaborative process: "Through discussions about the data and draft views, the computer scientists and humanities scholars learned to understand and appreciate the others' intellectual, theoretical, and methodological approaches."[22] The team also grappled with how to deal with missing or uncertain data (such as the absence of dates or location information), how to represent data, and how to foster interpretation. Its members continue to push the project forward by devising ever more elegant techniques for visualizing historical data. Ultimately, they aim to support what they call "ampliation," or "interpretation-driven extension of data through visual interaction," whereby researchers can add their own analysis by, for example, annotating data and creating markers for variables such as place and time.[23] This work is thus less about crunching numbers or establishing

certainty than it is about augmenting human capabilities to detect and interpret emerging connections—a humanistic endeavor.

Exploring Millions of Words: With Criminal Intent

12 Whereas the Mapping the Enlightenment project explores correspondence networks across space and time, Data Mining with Criminal Intent, another project funded in the first round of Digging into Data, provides tools and interfaces for searching and studying a large collection of trial transcripts.[24] This project brings together *The Proceedings of the Old Bailey, 1674-1913*, which contains documents from 197,000 trials that took place at London's central criminal court (about 127 million words), with two key tools: Zotero for managing information and Voyant for analyzing and visualizing the data.[25] The project also makes available an API to query Old Bailey data, so that researchers can filter searches by the gender of the defendant or victim, nature of the offense, date, punishment, and so forth. After searching for trial transcripts in Old Bailey, researchers can send them to Voyant to investigate patterns and trends across the corpus as well as in particular documents. They can explore a word cloud highlighting frequently used words, a summary of word usage across the corpus, distinctive words in particular documents compared to the rest of the corpus, and keywords in context. Essentially Voyant helps researchers to begin to make sense of a large amount of data, finding trends, examining outliers, and exploring their significance. One of the main goals of the project is to make these tools available to the "ordinary working historian," so that he or she does not need sophisticated programming knowledge or technical skills "to integrate text mining and visualization into his or her day-to-day work."[26] This way of working with texts generates a productive sort of unfamiliarity that sharpens the researcher's observance.[27] In working on this project, the historians involved have made some fascinating initial discoveries. For example, they found that around 1825 the number of short trials increased, as did the number of guilty pleas, suggesting a rise in plea bargaining around this period.[28]

13 All this talk about humanities data may make some scholars nervous, since it sounds awfully science-like and empiricist. But, ultimately, these methods can help scholars to answer questions that are humanistic at their core. As Steve Ramsay says,

> The Old Bailey, like the Naked City, has eight million stories. Accessing those stories involves understanding trial length, numbers of instances of poisoning, and rates of bigamy. But being stories, they find their more salient expression in the weightier motifs of the human condition: justice, revenge, dishonor, loss, trial. This is what the humanities are about.[29]

14 Through text analysis and other computational methods, scholars can detect patterns in vast digital collections, discover details that might be otherwise invisible, and bring their own interpretive expertise to bear.

Understanding the Historical Weather: Visualizing Emancipation

15 With digital tools, we can explore patterns in space and time as well as in text. No longer are we confined to static documents such as printed maps and data tables. As Ed Ayers suggests, we can create "historical weather maps" that allow us to "comprehend the historical weather, tracing where the currents led, how the storms brewed, and

how the unpredictable somehow came to pass."[30] For example, Visualizing Emancipation, a project that Ayers developed with colleagues from the University of Richmond's Digital Scholarship Lab, allows users to explore the complex history surrounding the emancipation of slaves during the American Civil War. Visualizing Emancipation places over 3000 emancipation events on a dynamic map and timeline, chronicling incidents such as escape, capture, orders and regulations, and abuse. Researchers can view these events in relation to the movements of Union troops, as well as to geographical features such as bodies of water and railway lines. By using this tool, researchers can observe and examine different phenomena, for instance the fact that slaves who lived close to the coast, major rivers or railroad lines were more likely to secure freedom.[31] Further, researchers can examine brief accounts from the historical records used in creating Visualizing Emancipation. As Ayers notes, "The digital medium allows us to *see* what we could not see before," such as the uneven ways in which Emancipation proceeded, the mixed opinions of White Northerners, and the complex, even contradictory role that the Union Army played.[32] Instead of being restricted to static evidence distributed across multiple volumes of text, researchers can view this data in spatial and temporal dimensions, interact with it, query it, devise their own interpretations, and generate visualizations that can support their arguments.

Small Data: Neatline

16 Not all data is big. Digital humanities scholarship likewise values the small—stories, experiences, interpretations. Scholars can use digital tools to hone in on particular objects, study their features, test different interpretations, and locate these stories even more richly in time, place, and human experience. Indeed, a dynamic emerges between the macro and micro views as researchers both survey vast digital collections and zoom in on particular patterns, features, or works. As Bethany Nowviskie observes,

> The big-data discoveries that have most excited me, as a scholar, haven't been expressions of large-scale trends or conclusions drawn from human experience in the aggregate. They've been the chances we've had to drill down, through large collections, to individual objects and stories. My curiosity is often deeply localized to a certain artifact (or document, or set of concepts) as encountered in a certain time, at a certain place—and the closer you look at it, the more the edges of that certainty become the interesting thing. You get provoked to tell a story, or better yet, to figure out what kind of story it's possible for you to tell.[33]

17 Nowviskie serves as the principal investigator for Neatline, a geotemporal tool that enables researchers to craft stories that locate events in space and time and provide interpretative annotations.[34] For example, David McClure's "My Little Nelly" contextualizes a letter that Confederate cartographer Jedediah Hotchkiss wrote to his daughter in which he describes and maps the Battle of Fredericksburg during the US Civil War.[35] This Neatline exhibit places pages from the letter on a map of the area around the battleground, offers additional details about observations in the letter, and draws lines connecting passages in the letter to details in the landscape, such as the location of rivers and other landmarks. Through these spatial annotations, the viewer can develop a deeper understanding of geographic references and examine the landscape described in the letter. Using Neatline and similar tools, researchers can explore the messy details of human experience and offer multi-layered interpretations.

Participatory Humanities: HyperCities

18 Participatory humanities initiatives enable the public to share their insights, experiences, and labor using digital platforms. For example, HyperCities provides scholars and citizens "a collaborative research and educational platform for traveling back in time to explore the historical layers of city spaces in an interactive, hypermedia environment."[36] This platform invites open participation, allowing community groups, individuals, and scholars to create their own narratives and arguments by placing markers on a Google Maps interface with an embedded timeline. They can also embed media in the markers, such as photos, videos, and audio. Since the stories co-exist, it is possible to explore an historian's dynamic, multimedia account of the history of Los Angeles on one layer, then interact with another layer containing stories of LA collected by members of a Filipino youth group. Hypercities' principal investigator Todd Presner compares this platform to a city in its diversity and the richness of experience it offers.[37] While participatory initiatives raise questions about scholarly authority, recognition and incentives for participation, they also dissolve some of the barriers between humanities scholarship and the public that it ultimately serves.

Transforming Scholarly Communications

19 The digital humanities is devising new ways not only to conduct research, but also to communicate it. Ultimately, scholars do research in order to make a contribution to the scholarly conversation, but the current system unfortunately poses several challenges to that goal. Publication often occurs at a seemingly glacial pace, slowed down by a journal's or publisher's backlog as well as by the process of review, editing and production. Although double-blind peer review is regarded as crucial to filtering work and establishing its credibility and value, it has flaws, including the potential for bias and the reinforcement of traditional views, the lack of accountability (and credit) for reviewers, and the limits inherent to relying on only a few people to evaluate a work's worth. Whereas work published on the open web is available to anyone with an Internet connection, most work published by a traditional academic publisher is gated, available only to those with access to a good academic library or enough funds to procure academic books and journals themselves. Furthermore, it seems that much work in the humanities is not being cited—or even read. For example, a 2010 study by Cornell Library found that approximately 55% of books in its collections acquired after 1990 have never circulated.[38]Academic publications often resemble a monologue, as authors have their say in discrete articles or books, yet without being able to engage in the back-and-forth supported by blogs and online forums.

20 Web-based publishing promises to address some of these problems, speeding the circulation of ideas, providing open, interactive models for peer review, enlarging access, and fostering dynamic conversations among authors and readers. In *Planned Obsolescence*, Kathleen Fitzpatrick offers an apt diagnosis of the problems plaguing scholarly communication and puts forward smart recommendations for reform.[39] She began thinking about the book because of her own difficulties in getting her first book published—not because of the quality of her work, but because university presses lacked the financial resources to take on books by first-time authors. *Planned*

Obsolescence represents an innovative approach to scholarly communication both in its arguments and in the way that it was made available. Fitzpatrick suggests that scholars should experiment with emerging forms, including blogs and multimodal publications that incorporate the media that they are discussing (images, audio, video, etc.). She also argues that we should re-envision authorship, so that the aim of authorship is not so much delivering a finished product as it is engaging in community conversation. Embracing a "peer-to-peer" review process, Fitzpatrick posted a draft of the book using CommentPress, a WordPress plug-in that allows readers to provide to comments at the page and paragraph level.[40] Through this open review process, Fitzpatrick was able to get granular feedback from a wide range of reviewers—44 people commented, making 295 comments in total—and to engage in conversation with them.[41] Moreover, she was able to circulate her ideas more quickly, refine them based on reactions from people whose perspectives she could identify, and build an audience. The book also went through a traditional peer review process—which is where I have a bit part, as one of the commissioned external reviewers. Fitzpatrick made such a compelling case about the problems with anonymous reviewing, such as the lack of accountability and the inability to discuss the author's work that I felt had no choice but to reveal my own identity as a reviewer. Coming out into the open increased my own sense of accountability and responsibility—I can tell you that I worked very hard on my second review—and it also gave me a sense of pride to have contributed (in a small way) to such an important project.

21 In the digital humanities, most of the scholarly conversation now occurs online, through blog posts, digital projects, and other online publications. Unfortunately, much of this work does not get full credit from tenure committees, and keeping up with the flood of publications challenges even the keenest observer. Enter PressForward, an initiative of the Center for History and New Media at George Mason University, which seeks to bring recognition to significant scholarship on the open web by engaging the community in curation and evaluation.[42] Twice a week PressForward's *Digital Humanities Now* features key recent works in digital humanities as selected by Editors and community Editors-at-Large. These editors monitor blogs included in the Digital Humanities Compendium, tweets, and other social media sources to discover new work. Only 5% of the content considered by the editors appears as an Editors' Choice publication.[43]*Digital Humanities Now* also circulates helpful information such as news (CFPs, jobs, resources) and DHNow Unfiltered (feeds from authors considered for inclusion).[44] The top Editor's Choice works in *Digital Humanities Now* are eligible for publication in the quarterly *Journal of Digital Humanities*, an open access journal edited by Dan Cohen and Joan Fragaszy Troyano.[45] In determining what will appear in the *Journal of Digital Humanities*, the editors evaluate the work's impact and contribution, weighing factors such as how frequently it is shared (through Twitter and other means) and commented upon as well as more the traditional criteria of ideas and presentation. Thus the Journal of Digital Humanities merges the wisdom of the community (a more selective group than the crowd) with the discernment of the editors, applying a multi-phased filtering process to recognize the best of digital humanities scholarship.

22 Projects such as Visualizing Emancipation and HyperCities themselves represent new model publications that leverage the digital medium to enable readers to explore the data for themselves. Such projects often provide layers of context and interpretive support and can help arguments emerge from the data. Ayers calls this approach "generative scholarship": "scholarship built to generate, as it is used, new questions,

evidence, conclusions, and audiences."[46] Rather than resolving issues, generative scholarship promotes the humanistic act of spinning out interpretation and engaging in conversation about how to understand evidence. According to Ayers, generative scholarship encourages ordinary people to contribute evidence and explore patterns, but it also requires experts to build it and ground it in disciplinary questions. With Visualizing Emancipation, users can add events to the underlying database, which can then be brought into the main interface following review by the project team. With HyperCities, all registered users can create their own stories located in space and time. It offers a platform for what Todd Presner calls "geotemporal argumentation," as "the visual elements, spatial layouts, and kinetic guideposts guide the 'reader' through the argument situated within a multi-dimensional, virtual cartographic space."[47] For example, a special issue of the journal *Urban History* focusing on "Transnational Urbanism in the Americas" used HyperCities as a platform for a series of interactive tours.[48] These tours enable readers to explore commentary and digital objects linked to location, thereby providing a richer context.

Challenges Facing Digital Humanities

23 While the digital humanities have great potential, aspiring digital humanists face significant challenges. Depending on the type of work they want to do, researchers need to develop new skills, such as an understanding of text encoding, Geographical Information Systems, database design, text analysis and mining, programming, or 3D modeling. Fortunately, there are many ways to acquire such skills, including workshops, online tutorials such as *Programming Historian*, or working with knowledgeable collaborators. Many projects also face the challenge of gaining access to data, whether that means having to digitize resources or work with data providers. Once the data is secured, researchers must often do significant work to get it into the form that is needed. It is crucial to understand the data and its limitations. What does the digital collection contain and what does it exclude? How does the metadata reflect a particular view of the data? For some projects, copyright can be a huge obstacle (not many digital humanities collections focus on the twentieth or twenty-first centuries, since these works typically are not in the public domain). Given how many tools are available, digital humanists can also struggle to find the tool most adapted to their work—and to understand its limitations. (Let me put in a plug here for Bamboo DiRT, which I helped to develop and which catalogs tools based on different uses.)[49] Much digital humanities work is in an experimental phase, as researchers are exploring how to apply methods such as text mining to humanities data and discovering the potential pitfalls.

24 Perhaps most importantly, there are significant cultural and institutional barriers to digital scholarship. Although the digital humanities is attracting more attention, many tenure committees still aren't sure how to evaluate it, and junior scholars may jeopardize their careers in pursuing digital scholarship, at least at some institutions. Scholarly societies such as the Modern Language Association and groups such as NINES are developing guidelines for evaluating digital scholarship, but these need to be embraced by departments and universities.[50] Whereas much work in the humanities can be accomplished by solo scholars with access to a good library and perhaps funds to travel to a few archives, digital humanities work is often more complex, requiring a technical infrastructure and a team of collaborators.

Conclusion

25 The digital humanities marries the strengths of humanities inquiry with the open web, fostering scholarship that is dynamic, interactive, interpretive, and engaged with the community, while retaining scholarly rigor. As I've noted, DH makes available high-quality digital collections, thus enabling both scholars and, often, the public to explore rich cultural heritage materials. Further, DH helps scholars to ask new kinds of questions and devise new methods, whether by using geospatial tools to investigate change across space and time or text analysis tools to explore patterns in corpora. As we grapple with how to represent and interpret humanistic data, we become more conscious of our own methods as humanists. Much of this work is necessarily collaborative and interdisciplinary, thus enabling us to devise innovative approaches that draw on the insights of several disciplines. In addition, DH promotes web-friendly publication models, speeding the circulation of ideas and expanding the potential audience. These approaches—broadening access to digital information, creating tools and analytical methods, developing modes of scholarly communication that encourage conversation and experimentation—fuse together in an emerging approach to humanities that Burdick et al. call Generative Humanities: "a mode of practice that depends on rapid cycles of prototyping and testing, a willingness to embrace productive failure, and the realization that any 'solutions' generated within the Digital Humanities will spawn new 'problems'— and that this is all to the good."[51] In order for the humanities to thrive, we need to be willing to experiment, fail, learn, share and open up.

NOTES

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Museum Policies and Art Images: Conflicting Objectives and Copyright Overreaching

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AUTHOR'S NOTE

This article is an outgrowth of a research study of museum policies and practices funded by The Samuel H. Kress Foundation. I thank Max Marmor of the Kress Foundation for his steady support of this research initiative. Melissa Brown and Michelle Choe worked with me on various stages of this study as research assistants, and their contributions continue to influence my work on these issues. An early version of this paper was presented in November 2011 at a symposium on ―IP Bullying or Proactive Enforcement?‖ held at Fordham University School of Law, sponsored by the *Fordham Intellectual Property, Media & Entertainment Law Journal*. I thank the faculty and students for the invitation, and this project benefited from the insightful comments of Robert Clarida, Ron Lazebnik, Mary Rasenberger, Joel Reidenberg, and other panelists and participants. I have benefited from the privilege of exploring and testing arguments raised in this study with many good colleagues, including Elizabeth Townsend Gard, Ariel Katz, Lydia Loren, Virginia Rutledge, Matthew Sag, Christine Sundt, and Gretchen Wagner.

Introduction

1 Claims of copyright protection that overreach the bounds of justifiable legal rights occur in many different contexts. Indeed, in almost any copyright litigation, issues regularly surround the legitimacy of the copyright and the rightful claim to it. Although multitudes of copyright questions arise daily, few of them ever go before a judge. Most people struggle with their conflicts and decisions in the simpler context of

day-to-day transactions. One context where such decisions routinely arise is the use of images of artworks, especially high-quality images that museums and other organizations make of the original art in their collections. Though the law is unclear regarding copyright protection afforded to such images, many museum policies and licenses encumber the use of art images with terms of use and license restrictions.[1]

2 Quality reproductions are critical to creating art history books or museum exhibition websites, and high-resolution and accurate photographic images can be expensive to produce. Some museums find that supplying images can be an active and lucrative service, or at least the museum may strive to cover expenses. Museums often assert rights of control over the images by means of copyright or contract and licensing terms. This article explores the extent to which museums have strained the limits of copyright claims and indeed have restructured concepts of ownership and control in ways that curtail the availability and use of art images far beyond anything that may be grounded in copyright law.[2]

3 This analysis of museum policies examines the matter of overreaching by placing them in the context of copyright law. Part II sets forth the background of this study through the collection and analysis of policies and license terms from major museums in the United States. Part III lays a foundation of copyright law, including rights of use, duration of protection, and the limited protection of moral rights under American law. Parts IV and V explore the challenge of policymaking at museums. These sections identify the difficulties that museums face as they might seek to develop policies more conducive to meeting the needs of users, or that at least address the nuances of copyright law in service of the public interest in access to and use of art images. Part VI offers an original breakout of varieties of overreaching in museum policies. While this section provides specific examples of museum practices as forms of overreaching, it also highlights examples of alternative approaches that museums have used to address the issue in a manner that better responds to copyright and the interest of users. This study demonstrates that overreaching occurs in different forms, and that the pressures for overreaching are endemic in the law and in the exigencies of practical applications. Nevertheless, policymakers have realistic alternatives for better standards, as this article will show.

Background of the Study

4 One of the central problems motivating this analysis is the potential conflict between the terms of museum policies and the educational and public interest objectives of the institution.[3] On the one hand, the museum has a primary objective of informing the public about art and opening opportunities to understand and appreciate creative works. On the other hand, museums often feel the pressure to set restrictions that ultimately limit access and confine uses of art images. Policies reveal much about how museums choose to resolve that tension.[4]

5 This paper is one outcome of a study of museum licensing practices funded by The Samuel H. Kress Foundation.[5] The principal objective of the study has been to gather and analyze a sample of art museum policies and to examine their similarities and differences, producing a systematic inventory of the range of issues addressed in license agreements and the different ways in which museums respond to these issues. Through analysis of diverse terms and conditions, this project has the potential to

demonstrate options that museums have when drafting licenses, policies, and other terms of use to address specific concerns.[6]

6 The study analyzes policy terms from a sample of art museums in the United States. Fifty museums, each with a primary specialty in art were selected from the accredited members of the American Association of Museums. The selected museums were chosen with an aim toward achieving a diverse sample in terms of the size and nature of their collections, the staffing and budget, and the scope of their image licensing practices. The Kress grant supported the detailed project of locating policy terms from almost all of the fifty identified institutions and isolating and organizing the terms in a manner that allows for a comparison of the specific language used in each.[7]

7 This article focuses on selected provisions from the policies surveyed. This study does not attempt to identify quantitatively measured trends in policymaking or museum practices, although examination of the terms does suggest that some provisions are comparatively common, and museum practices appear to trend in certain directions. The methodology used in this study is aimed at identifying forms and varieties of policy practices and comprehending the substantive character and likely consequences of those provisions.

8 The provisions analyzed are substantive terms established by the museums as conditions or requirements that the museum expects users to follow in exchange for the museum's consent for their use of the art images in question. They are effectively the quid pro quo for permission to use. The provisions may be presented as ―terms of use‖ or as formal license agreements.[8] They may be labeled as ―policy‖ or as contractual language. One museum may ask for formal consent from the user, and the next museum may state that users are deemed to consent to the terms by virtue of using the collection or the website. In any event, the provisions reflect a decision by the museum that the terms are proper, and as a result the terms are akin to a policy choice. This article will often use the label ―policy‖ to encompass all of these possibilities.

Background of Copyright Law

Rights and Limitations

9 The museum policies analyzed in this article are responsive to copyright issues, or at the least they purport to set standards for uses that are otherwise governed by copyright law. Fundamentally, copyright law grants a set of exclusive rights to the owner of the copyright.[9] An artist, whether little known or world famous, may create a stunning new painting, and the law will generally grant automatic copyright protection to that artist with respect to that work.[10] While copyright protection is extensive in many respects, it is also limited in others. Copyright law grants the copyright owner a bundle of rights, such as the right to make reproductions and derivative works or to make public displays of those works.[11] These rights are implicated when a museum makes or reproduces a digital image of an original painting. The use of that image for a research study, a set of gift cards, or coffee mugs may also be considered a reproduction or a derivative work.[12] Simply putting the work on display in the museum may be a form of public display that violates the rights of the copyright owner.[13]

10 The rights of the copyright owner are limited in many important ways. First, not all rights apply to all works. Most notably, sound recordings do not have full rights of

public performance.[14] Second, the rights are subject to limitations and exceptions, most notably fair use.[15] The Copyright Act in the United States and in most countries includes several statutory provisions that create exceptions to the rights of copyright owners.[16] Many of these exceptions are important in the context of art. Fair use and some exceptions related to education and research can apply to artworks.[17] Third, the rights under copyright are also limited in duration. Copyrights do last for many years, indeed many decades, but they do eventually expire.[18] The artistic accomplishments of recent artists, such as Andy Warhol or Roy Lichtenstein are surely under copyright protection.[19] By comparison, Pablo Picasso began his artistic career in the late nineteenth century, and it extended until his death in 1973. Many of his works are recent enough to still be under copyright protection, but some of his earliest pieces may be in the public domain. We can be much more confident in concluding that the masterworks by Rembrandt, da Vinci, and other great artists from long ago are securely in the public domain and without any copyright protection.[20]

11 Apart from this structure of economic rights are concepts of moral rights.[21] While some countries have strong moral rights, the doctrine is sharply limited in the United States. Congress amended the Copyright Act in 1990[22] to add limited moral rights largely to seek compliance with the requirements of the Berne Convention, a multinational copyright agreement.[23] American moral rights do apply to some works of art, making the concept relevant to many of the works governed by the museum policies analyzed in this article.[24] Under U.S. law, moral rights give artists a legal right to prevent or recover damages for the intentional destruction or mutilation of some art works.[25] Moral rights also give an artist the right to have his or her name on a work, or to remove the artist‘s name if the work has been altered in a manner that harms the artist‘s reputation.[26] The statutory provision is rich with details, and it applies to only a narrow class of art works. In essence, it establishes rights aimed at protecting the identity of the artist and the integrity of the art.[27]

Copyright and Art

12 Except for the concepts of moral rights, the principles of copyright law apply to works of art in generally the same manner that they might apply to literary works, musical compositions, and even software programs.[28] In a few ways, however, copyright fundamentals do apply to art in some distinctive manner central to this study. Some of those differences are overt examples of real and clear differences in the law. Other differences arise from the context and the distinctive character of artworks. When a scholar analyzing a literary or musical work, for example, needs to reproduce and scrutinize a particular work, many different published versions of the work may exist, and they may exist in multiple copies allowing often for easy availability. Works of art are comparatively unique.[29] When Vincent van Gogh makes a painting of irises, sunflowers, or a starry night, he would usually make only one single painting of that image. Other artists often make multiple studies of the same subject matter, but each work has its own distinction separating one from the other. When the need for a particular work of art arises, a reproduction or an alternate version may not suffice.

13 Art is also different from many other types of copyrighted works because that one unique original is often in the possession of a party that maintains tight physical control over the work and access to it.[30] Thus, one‘s ability simply to enjoy or to make a

photographic reproduction of the work may depend on consent from the owner. The copyright owner may have legal rights with respect to the protected expression in the artwork, but the owner of the physical object has control over any realistic ability to access and utilize the original work. The control asserted by the owner of the physical object may bear no relationship to the copyright. It may be asserted while the copyright is still in effect, and it may be asserted indefinitely, long beyond the expiration of the copyright. The ability to reproduce images of a Picasso hanging in the Museum of Modern Art may depend upon cooperation from the Picasso estate and from the museum. The ability to reproduce medieval triptychs in the Metropolitan Museum of Art may not be constrained by copyright law, but it may well be controlled by the policies and practices of museum officials.

14 Another reason for the distinctive treatment of art images as opposed to original works of art under copyright law is the fact that many art images comprise two or more copyrights.[31] Copyright may or may not protect the original work of art, but copyright may subsist separately in a photographic reproduction of it.[32] Almost any photograph, from a casual snapshot to a professional work of artistic accomplishment, is protectable by copyright in any conventional sense.[33] For a photograph of a work of art, however, the court in *Bridgeman Art Library v. Corel Corporation*[34] found that such direct photographic reproduction of a work of art is not eligible for copyright.[35] The case was heard by the Southern District of New York, and the court labeled such two-dimensional copies as ―slavish‖ and determined that they lack sufficient originality and creativity to qualify for copyright protection.[36]

15 One can readily see the significant reach of the *Bridgeman* decision, as well as its limits. The ruling casts doubt on claims of copyright in the millions of photographic reproductions of two-dimensional works of art.[37] The case also undercuts the claims of legal protection to the livelihood of many professional photographers. The craft of making high-quality photographs of art, and capturing the color and lighting of an original painting is a technique that requires extensive training and preparation as well as expensive equipment. To deny the photographer legal protection for his or her labors may well erode the incentive to produce high-quality work and to make the resulting photographs widely accessible.

16 Moreover, *Bridgeman* is arguably of limited legal scope. A photographer would probably not have to add much to the photograph in order for it to be within the reach of copyright. Any adjustment of angles or shadows, as well as inclusion of the frame and surrounding setting into the photograph would probably be enough to take the photograph beyond being a simple reproduction of the painting. Further, the *Bridgeman* ruling was only about two-dimensional works of art. Almost any photograph of a sculptural work or other three-dimensional work will most likely include some background elements as well as choices of angles, shadowing, and lighting. Those choices are probably sufficient to qualify the work for copyright protection. For purposes of this study and its examination of the possible overreaching of copyright claims, the greatest interest lies with photography and other imaging of two-dimensional works of art. It is with these types of works that the law casts the greatest doubt about claims of copyright protection. It is also these types of works that are probably most in demand by scholars and researchers as they seek images to use in connection with their work.

Museum Claims of Copyright and Control

Rights of Ownership

17 Museums create a legal conundrum when they claim legal rights to control images, where copyright protection is doubtful at best. The works in question—both the artwork and the reproduction—may be completely in the public domain. Nevertheless, museums often assert claims of copyright protection to the images. If they are not in fact claiming copyright protection, they are often asserting levels of control over those works through contract or license terms associated with the work. Some museums go further and assert levels of control simply through terms of use that purport to be binding on anyone accessing the images from a website or other source. The museum that supplies the image is the party that is solely defining the terms of use, and it can do so based only on its ability to control access to the work. Yet the terms asserted are typically couched as if they were binding provisions of law. The museum is the gatekeeper of access to the art and to the images; in its role as a gatekeeper, the museum is devising claims that may be overreaching.

18 Controlling access to the original artwork is an outgrowth of the museum's possession of property, not of copyright.[38] The museum can control access to the original artwork by means as simple and as obvious as locking the front doors. The museum can decide who enters the premises and who can bring in the sophisticated photographic equipment to make the quality images. The museum then supplies those images at the request of researchers, teachers, publishers, and anyone else seeking to use it. A museum is certainly justified in asking for payment for services. Producing and delivering a quality image can be expensive. Contractual control over some uses is at least rational. A museum may be deterred by the risks of releasing one image only to find that it has been shared publicly with no restriction, thereby undercutting any further incremental sales.

Downstream Control of Images

19 The dynamic of the market transaction with the museum is actually much more complex. The terms of the transaction and the restrictions on the use are vastly more elaborate, as will be detailed later in this article. The transaction is deeply affected by the scarcity of access. That fact, combined with the apparent validity of legalistic controls, leads to the perception of downstream control of subsequent uses. In other words, an individual who acquires an image directly from a museum may in fact be contractually obligated to that museum and subject to any restrictive terms that the user accepted. Because those restrictive terms shape the work and therefore the way it will be seen and found by readers and other subsequent users, the terms carry with them a perception of the control of all uses of that image—not only by the party in privity with its agreement with the museum. Once establishing that perception of immediate and downstream control over the uses of the image, the continued control becomes operationalized in the language of museum priorities and the museum mission.

20 The process of downstream control may be examined in more methodological steps. First, the museum has control over the physical object. By establishing and maintaining

that unquestionable control over the unique physical artwork, the museum can clearly control the access to it. The notion that the museum, which we assume for this purpose does not hold the copyright in the original artwork, is able to determine this level of control creates a perception that it has all rights. In fact, the museum can, with few limits, demand that a photographer or other user of the work comply with all of its conditions and restrictions before it is permitted either to receive the image from the museum or be allowed to enter the premises in order to make a quality reproduction.

21 Second, because the museum controls the making and release of the initial reproduction of the artwork, it exercises that authority in turn to define restrictions in its terms of use applicable to subsequent users. The terms in the agreement may define not only what the immediate user can do but also sharply restrict the ability to release the work for others. If the terms of use define how the work may be presented in a textbook or other resource, those restrictions further limit the ability of downstream users to find, acquire, and use versions of the work that they may need for their own purposes. Because the first user needs the work and has resolved that having the work is sufficiently important, that user often finds himself or herself willing to accede to these restrictive terms.

22 Third, the restrictive terms are then articulated and reinforced by the museum in a manner that relates them to the mission of the institution. The mission of a museum may be defined differently by each organization, but in general, most museums will define their purpose in terms of acquiring, preserving, and protecting the integrity of original art, while also facilitating the ability of the public to enjoy and learn from the cultural objects. The restrictions on uses of images are arguably in furtherance of that museum by preventing uses that may be derogatory or otherwise detract from the preservation and promotion of the original artworks.

Bridgeman and the Persistence of Copyright

23 Although the *Bridgeman* ruling is more than a decade old, some museumos continue to assert outright copyright protection. It is not unusual in almost any industry for a provider of information resources to claim some form of protection or constraint on uses of the materials, as museums often do. Yet bold statements of copyright protection run directly contrary to the decision in *Bridgeman*.[39] The Art Institute of Chicago hosts a website that is rich with images that anyone with an Internet connection may access and enjoy. However, the policy statement on the website explicitly provides, ―the text, images, data, audio, video, and other content on the site… are protected by copyright . . . .‖[40]

24 This statement from the Asia Society Museum is even more explicit and more adamant: ―All material, including text and images, appearing on the Society's World Wide Web Site (the Site') are the property of the Society, or used by permission, and are protected by United States and International Copyright Law and do not constitute material in the public domain.‖[41] Generic assertions are also not uncommon, but these blanket provisions have the effect of concealing the public domain as identified in *Bridgeman*.

25 Claims of copyright that might be called false, erroneous, or misleading are not unusual. Recent scholarship has stirred fresh examination of ―copyright fraud‖ as a questionable technique used by claimants to make unjustified claims of legal protection in order to deter or discourage users at the least, or to collect royalties at the worst.[42]

On the other hand, one could rationalize these museum positions in a legitimate but technical manner by resolving that the *Bridgeman* decision, as a ruling from only one district court, applies only inside the jurisdiction of that district.[43] The willingness of a claimant in another district to challenge that ruling by staking out a contrary position is a completely legitimate approach to testing the law.

26 Thus, the Art Institute of Chicago may conclude that, because it is not in the same federal district as the *Bridgeman* court, a court in Chicago's district could resolve the issue differently and, until then, the museum will take its own position on copyright matters. This explanation of museum policy, however, does not hold up in the case of the Asia Society Museum, which is located in New York City. That museum is located inside the boundaries of the jurisdiction of the Southern District of New York. It is therefore inside the jurisdiction of the *Bridgeman* court. One has to wonder if the Asia Society has taken its position specifically to challenge the law.

The Risks of Constructive Policies

27 What would motivate a museum to run counter to reasonably clear principles of copyright law? Risks associated with noncompliance with the law have been examined in many other general contexts. Many possible motivations could lead to this institutional decision. For example, the museum may be continuing with old policy and simply has not taken the opportunity to give it a fresh review in the years since the *Bridgeman* decision. Another possibility is that the museum believes that the *Bridgeman* ruling does not apply, and that its works and the circumstances are significantly different from the context of the *Bridgeman* decision.

28 The one statement on the Asia Society website also broadly applies to all materials found on the site. One can easily imagine that some materials on the site are in the public domain under the *Bridgeman* doctrine, while many other photographs and images may be legitimately protected under copyright. The museum did not create an elaborate or detailed statement that sorts differences among the many images available on its website. Instead the museum chose to make a broad statement up front, leaving details to be addressed later as needed.

29 An additional and likely possibility is that the museum has been compelled to make a sweeping statement of strong copyright protection as a result of its relationships with artists, photographers, and other third parties. Many copyright owners and creative individuals make their works available through museums and other organizations, but subject to rigorous conditions and restrictions. A museum may choose to include on its public site strong statements of copyright protection in order to satisfy the requirements of donors and other individuals who have made their works available on that site. Thus, accuracy in copyright standards becomes a bargaining chip in the decisions related to the acquisition and availability of art images.

30 Consider one more example. The Peabody Essex Museum provides images for purchase by individual users, with this general statement:

31 [T]he purchase of a photograph, or scan, or a photographic image, or the transmission of an electronic image, or the rental of a color transparency does not itself carry with it the right to publish, nor make a reproduction, scan, or transmit, broadcast, digitize, or otherwise make available in any form.[44]

32 The sentence may be convoluted, but the point is clear. The museum evidently is willing to sell photographic images of works of art and to creatively make them available through transmission, or scan, or rental, but any acquisition by any of these means does not include the right to publish an image or to make it more widely available in any form.

33 The museum is not necessarily claiming copyright, but it is asserting an obvious restriction on subsequent uses and sharing of that image. Apparently, the person acquiring the image may utilize it for personal or local uses such as teaching an art history course. However, if the person is seeking to use it in connection with any kind of publication or further sharing, then the user is expected to secure an additional license. It may not be explicitly a claim of copyright, but it is absolutely a claim of rights and control akin to copyright and perhaps expected to trump copyright.

34 The difficulty of drafting more precise or open museum policies is especially evident when considering policies that could actually confirm that users have rights to use the materials in question. Examined later in this article is a technique used by The Getty to specify that it has found ―No Known Copyright Restrictions‖ with respect to specific images. Such conclusions are enormously beneficial to users, but could pose formidable challenges for policymakers. On the one hand, identifying a work as public domain is honest and helpful. Yet making such a public statement is to offer a legal conclusion; thus museum lawyers may at least hesitate when considering the possibility of a legal challenge should the determination prove wrong.

35 The dilemma is quickly exacerbated in the online environment, where a statement of ―public domain‖ could prove false under the laws of a country with different rules and laws, but where many users may be located.[45] One can easily see that the temptation to be simple and even overreaching grows as the law becomes more complex, as the environment becomes more international, and as beneficial statements hold the prospect of generating new responsibilities and potential liabilities. Against these challenges, museums must strive to find the right course.

Rationale for Restrictive Policymaking

Convergence of Causes

36 While this article is clearly critical of museum policies that are overreaching, the pressures leading to such policies are not without some rationale. The previous section of this article noted the legal reasons why a museum might be reluctant to soften its approach and make more definitive statements about the public domain status of a work. Yet the terms of museum policies often embrace more than whether or not a work is copyrighted. The same legal reluctance about clarifying rights does not explain why a museum would choose to actively create new restrictions related to formal credit or alterations of the image.

37 Why would a museum want to make a policy that sets restrictions regardless of what the law allows?[46] This study suggests that the motivations largely center around four concepts. First, museums have an interest in protecting the integrity of art.[47] Many museums primarily see themselves as effectively the trustee of the aesthetic works. The museums see the need to control uses including alterations and variations on the

artworks by subsequent users in order to protect the integrity of the image as the artist may have conceived it.[48] Second, restricted uses can drive researchers and others back to the museum for consent to subsequent uses, with additional fees payable to the museum.[49] Licensing of images and the sale of posters, note cards, and other products based on the artworks within museum collections can be essential sources of income.[50]

38 These financial prospects are not to be dismissed lightly.[51] Museums are an anchor of our cultural heritage and should be supported. Further, the museum should also be supported with our contributions, our donations, and our purchases of worthwhile products at the gift shop.[52] Controls and restrictions over uses of the images have the possibility of not only protecting the integrity of the works, but also allowing uses that are monitored by the museum and that have the prospect of coming back to the museum, benefiting its bottom line.[53]

39 As important as these first two reasons may be to the museum and possibly to the artists, this article will center on a third and fourth reasons. The third is that museums, like libraries and other organizations, want credit for their collections and other good work.[54] A museum policy can condition use on credit to the artist and to the institution. The fourth reason is for adherence to donor requirements. Many collections come to museums as donations or sales with conditions in the original transaction; a policy can extend those agreed conditions to the user. In reality, an individual museum policy may be shaped by a blend of different motivations and justifications. This paper offers a closer examination of these last two justifications.

Donor Restrictions and Museum Policies

40 Museum policy restrictions are often justified as required by donor agreements. Museum benefactors sometimes set terms of use for artworks and other materials that they donate or sell to the museum. If the museum accepts the terms, the restrictions are then contractually passed along to users. Museums should view donor restrictions as a price paid for the materials in question, and it is a price often borne by the public in the form of limited access or uses. Like any price, the museum should actively seek to keep it as low as possible.

41 Museum policies frequently refer explicitly to donor and third party interests. Consider this statement from the Huntington Library: ―permission to reproduce images . . . is granted when the use of the materials in publications, in any format . . . complies with any donor agreements attached to the materials.‖[55] If the underlying work is in fact protected by copyright, such as many modern artworks surely are, then museums are acting wisely to caution users that permission from the museum is not sufficient to address any need for permission from the artist or any other rights holder.

42 Giving users a word of caution is actually good policy, yet the role of donors is more complicated. If an artist holds copyright in a work, that copyright can be researched and confirmed. If a painting dates from the 1950s, and the artist died in the 1980s, we can undertake basic research and conclude with a high level of certainty that the work is currently protected by copyright, and the copyright will expire typically seventy years after the death of the artist or perhaps as of some other date depending on whether or when the work may have been published. The research may be a bit complicated. The legal conclusion may be a set of choices. Nevertheless the user has at least narrowed the possibilities and can proceed with the next steps.

43 By sharp contrast, the rights and claims and obligations associated with donor agreements are strictly private matters between the donor and the museum. An outside user of the image has no ability to know the facts of the donor transaction, and the museum may have reasons not to share that private business transaction with all of its details. The user‘s only recourse when faced with the possibility of donor restrictions on the use of images is to ask the museum and accept the response and conditions that the museum may provide. This is not to suggest that museums are somehow being insidious or devious in their approach to these matters. The reality is often quite the contrary.

44 In furtherance of the museum mission to preserve and make certain artworks available, the museum may have little realistic choice but to accept some of the conditions asserted by donors. If the donor puts restrictions on reproductions and uses of the image, and insists that the donor‘s name or other statement be used in association with the images, the museum may find itself willing to comply with the restrictions in order to obtain important collections. One can wish that donors would not set severe restrictions, or that museums could convincingly make the case to the donor about the resulting problems, but unfortunately the final transaction is often subject to conditions and restrictions which in turn get passed along to the individual users.

Credit and Reputation

45 An additional motivation for a museum‘s conditions on the use of images goes to the identification and reputation of the museum or of the artist. Creative people often and understandably want credit for their work. Without question, good practice associated with the uses of images in teaching, scholarship, or publishing would almost always call for properly identifying the work, the artist, and in most instances the museum and other source of the photographic reproduction. Due credit is often one the highest priority concerns of a museum and artist. Little in the law, however, addresses the issue in any direct way.[56]

46 One aspect of moral rights—the paternity right—is the right of an author or artist to be identified in connection with uses of the copyrighted work. That requirement exists in American copyright law for some works of art in a tightly limited fashion. For example, moral rights apply only to works of visual art that are produced in 200 copies or fewer.[57] The law ultimately gives the artist the legal right to call for his or her name to be on the work, but it places with the artist the duty to bring a legal action in order to enforce this right.[58] Few artists have the wherewithal to hire lawyers and bring an action. One would like to expect that most users would also gladly add the appropriate credit if the lack of an artist‘s identification is brought to the user‘s attention.

47 Rather than relegate this issue to the nuances and the expense of copyright law, artists and authors sometimes include a requirement of attribution in contracts for the sale, transfer, or other use of the work. Such attribution requirements appear in publication agreements, and they are a staple of Creative Commons licenses.[59] Museums—as well as libraries and other organizations—similarly condition many of their services on receiving credit in return from the user. While moral rights are statutorily binding on all users, contractual obligations are generally binding only on the parties to the transaction.

48 Moral rights may also be asserted only by authors, but contractual obligations can at least be pressed or negotiated by anyone.[60] Museums typically do not own the copyright in the individual items held in the collections, and moral rights are not transferrable in any event. Without a legal right to expect credit, museums sometimes make statements of credit part of the exchange for access to the collections and use of the images. Museums clearly want the world to know that they possess collections of research value and use those materials to support further scholarship.

49 The desire to enhance one‘s reputation can easily migrate from asking for credit to asserting control over exactly how credit is ascribed. If a museum were to borrow concepts from the doctrine of moral rights, the museum may ask for appropriate credit and identification of the museum as the source of the work. The museum may also ask for the right to remove its name from a use to which the museum may object. Removal of one‘s name is also consistent with a moral rights doctrine that seeks to preserve or promote the good reputation of creative individuals.

50 The Georgia O‘Keeffe Museum takes what appears to be an extra step into the hazardous arena of control and supervision of the downstream uses of the art images. According to the museum‘s policy: ―The Georgia O‘Keeffe Museum will be generous in granting permission to reproduce works it controls, particularly if the request is for an article or book that will promote Georgia O‘Keeffe‘s art and the worldwide knowledge of it.‖[61] On its face, this statement is positive in various respects. The museum will be generous. The museum will grant permission for potentially diverse uses. The museum will be especially generous when the uses support knowledge and understanding of O‘Keeffe‘s work.

51 On the other hand, the suggestion of a substantive standard for the museum‘s permission opens the policy to a negative reading as a possible interference with critical examination of O‘Keeffe. The policy does not explicitly provide that the museum will interfere with uses that are inconsistent with a particular perception of O‘Keeffe‘s art. Yet the policy does suggest that the museum will be much more willing to grant permission if the use is in connection with a study that advances O‘Keeffe‘s art and understanding of it—perhaps advancing that understanding in a manner consistent with the museum‘s views. At the least, the museum has tied its willingness to grant permission to the substantive context of the use of the work. This step is an overt stride by the museum to foster studies that are subject to review by museum officials when permission is requested. At its core, this provision exposes a museum‘s interest in using the control of images to enhance the reputation of the museum as the source of the work as well as the reputation of the artist as the creator of important cultural contributions.

Implications and Varieties of Overreaching

Practical and Legal Consequences

52 Overreaching and assertion of rights and control through museum policies can have multiple adverse practical and legal consequences. From the perspective of legal policy, these standards from museums are often an extension of copyright protection beyond the limits of the law. Copyright law is a form of legal rights, subject to limitations, that is developed slowly and meticulously by Congress and the courts, exploring the

competing interests of rights holders and users. The result may be a complicated and nuanced law, but it is also a law that reflects decisions made by lawmakers as they struggle with individual cases and are held accountable to the public in general for the implications of their decisions in the next situation. Probably no one would declare the body of copyright law perfect, but by having been cultivated through legislation and litigation, copyright at least has the promise of reflecting diverse interests and pressures.

53 When individuals or organizations unilaterally set policy terms regarding the use of materials, they are in effect crafting rules and restrictions that are not necessarily accountable to anyone other than themselves. If the realistic ability to obtain images of unique works of art is within the museum‘s control, then the museum‘s unilateral restrictions become quasi-copyright standards for the public‘s ability to use a specific image. If a large number of museums set widely divergent rules and standards, as is in fact the case, the result is not merely the diminished usability of an individual work, but instead an array of diverse and befuddling barriers that conspire to confuse researchers and further complicate the pressures on researchers who are drawing upon images from several museums for a single project.

54 A further critical consequence of restrictive policies is the threat to the public domain. Museum images may be in the public domain because, among other reasons, the copyrights eventually expire or the photographic reproductions are not copyrightable at all under *Bridgeman*. Any assertion of control by the museum is a threat to core principles of the law: copyright protection is limited, and the public domain also supports creativity. Copyright law exists to encourage the promotion of creating and sharing new works. The law operates on the theory that granting legal rights to authors encourages authors to create new works and to make those works publicly available. Similarly, the public domain enables other members of the public to benefit from and use those works in ways the author may not have anticipated and may not have wanted. The public domain fosters innovation by allowing the public at large to use the works and to create the next generation of knowledge and aesthetics.

55 Sometimes the use of a public domain work is straight reproduction, which can serve the purpose of educating and informing readers about the materials. In other situations, especially involving art, the works may be altered or modified in their next incarnation. New art rarely exists in isolation. Instead, new art is routinely built upon the creative work of artists who came before. When a museum constrains the public domain, it is inhibiting new creativity and scholarly exploration. Any burden on the public domain is also in direct defiance of a central premise of copyright law. The museum may very well be fulfilling a mission of preserving the integrity of existing art, but it is not serving the public interest in the advancement of either art or the law.

56 While the conditions on single images may be manageable in isolation, the reality is that scholarly pursuits often require multiple images from multiple sources. Each restrictive museum policy thus adds to the immediate burden on scholarship, publishing, and other means for the public to find and appreciate works of art that are vital for understanding culture and aesthetic development. The fees alone that many museums charge for the use of works can be modest on an individual basis, but collectively they can impose an extraordinarily high cost for a publication that includes multiple images.

57 If images are removed from the publication because of costs, the loss to readers and scholars is obvious. If the restrictions and conditions from museums prevent scholarly inquiry, then the study of art history and technique are inhibited. For example, art scholarship often calls for the use of detailed excerpts from the larger work, or the experimentation with color and lighting to achieve new understandings of the elements of a painting or a sculptural work. Many museum licenses would bar exactly these activities.

Varieties of Overreaching

58 From the museum‘s perspective, the license and policy terms may be simply an effort to prevent undesirable uses and perhaps to collect revenues in exchange for permissions. From the perspective of copyright standards, by sharp contrast, the policies often represent multiple forms of overreaching. Of course, not every museum is susceptible to charges of overreaching, and some restrictions on use might be justified in different ways.

59 Nevertheless, any restrictions beyond the reach of copyright are in defiance of the law and the social and intellectual objectives that copyright aims to serve. An examination of selected standards in effect at major museums suggests patterns among documents, but also distinct forms of copyright overreaching. Four types are especially prevalent and have critical implications for users. They are identified here, with examples. While such an examination of museum policies is inevitably a challenge to and critique of them, this article also strives to give examples of museum standards that address issues in a constructive manner and that avoid negative consequences.

Asserting Rights to the Public Domain

60 Copyright claims to works that are or may likely be in the public domain occur in at least two common situations. A museum may assert claims that are beyond the scope of copyright. Examples arise when a museum claims copyrights that are cast in doubt by the ruling in the *Bridgeman* case. A second situation would arise when a museum places a generic statement of copyright on a website or image collection, taking the efficient route to claim the copyright, but in the process sweeping with it elements and pieces that even the museum would agree are outside the bounds of copyright law. The clearest form of this assertion would be an all-encompassing policy statement that disregards the basic fact that copyrights expire. A general claim that embraces ancient works obviously ignores copyright fundamentals. Such assertions are unfortunately common practice.

61 Consider a few examples of broad assertions of copyright. The Harvard Art Museums website includes a statement that is a staple among many museums policies:

62 The Site and much of the text, images, graphics, audio and video clips, information and other content of the Site (collectively, the ―Content‖) are protected by copyright, trademark and other laws. We and applicable third parties own the copyright and other rights in the Site and the Content. You may use the Site and the Content only in the manner and for the purposes specified in these Terms of Use.[62]

63 The Museum of Fine Art Boston offers a more succinct and explanatory version: ―Text and images on the MFA‘s Web site, mfa.org―created as a public educational resource―

are the property of the MFA and are protected by copyright.‖[63] Chances are good that some image in an extensive and dynamic collection is in the public domain, which would technically disprove the museum‘s statement and convert it into a form of overreaching. Even without a quest for some elusive example, such statements are overreaching if in fact the *Bridgeman* doctrine applies. The MFA confronts that possibility directly: ―The Images depict objects from the MFA‘s collection in a manner expressing the scholarly and aesthetic views of the MFA. The Images are not simple reproductions of the works depicted and are protected by copyright.‖[64]

64 This statement from MFA makes clear that the museum sees its images as much more than the ―slavish‖ reproductions envisioned by the *Bridgeman* court. The MFA has gone even further than the Asia Society; where the Asia Society claims only a copyright, the MFA uses its terms in an apparent attempt to rationalize the claim by evidently distinguishing the *Bridgeman* case. A museum is not likely to concede that its policy is overreaching, and the MFA could, from its perspective, view its policy as merely reiterating the law: if the images are not mere reproductions, and include some creative expression, they are distinguishable from the images in *Bridgeman* and ultimately protectable.

65 A more helpful policy would not necessarily assert rights, but would instead identify when works enter the public domain.[65] Guidance about the duration of copyright protection can give users a clear signal that the public domain exists and may apply to the particular work in question. The Getty takes this path and offers users a detailed set of terms related to the rights of third parties. In particular, The Getty expressly adopts the ―No Known Copyright Restrictions‖ statement for some of the works that it has identified as likely to exist in the public domain.[66]

66 At the very least, the statement suggests that The Getty has investigated the work—implicitly under U.S. law—and that the museum itself is not asserting any claims. Users are not directly told that the work is in the public domain. However, the museum removed a few practical barriers to public uses of the works and likely alleviated a variety of risks and concerns. Although this statement is not quite a declaration that the work is in the public domain, some museum policymakers may be reticent to make even this suggestion about the legal status of the work, as explored earlier in this article.

Asserting Legal Rights that the Museum Does Not Hold

67 In some respects, this form of overreaching may be the most difficult to identify among the policy provisions, but it may be the most justifiable.[67] The previous category of overreaching involves assertions of rights where no rights exist. This category entails assertions by the museum to rights that may be legitimate, but are held by others. On the surface, if any party holds a legitimate copyright, and the museum standard calls for adherence to the legal rights, then the terms of use are little more than a reiteration of the status quo. If the museum‘s terms include broad statements of copyright protection, then assertions on behalf of third parties within may be merely an expedient way to articulate possible diverse claims of rights.

68 The assertion may arise indirectly whenever a museum stipulates that users need permission from the museum solely because the museum possesses the artwork or other object. The Guggenheim Museum explicitly requires permission from the

museum in addition to any legal permission that may be necessary from the copyright owner:

69 The Guggenheim Museum is a contemporary art museum and therefore most of our works are still in copyright as an artwork remains the intellectual property of the artist and/or artist‘s estate for 70 years after the artist‘s death. This means that permission to use the artwork must be obtained from the copyright owner as well as from the Guggenheim and that additional fees may apply.[68]

70 If the goal is to assure recognition or credit to the museum, more direct and efficient alternatives are available. If the goal is to assure that all necessary permissions are sought—and occasionally the museum does hold the copyright—a less sweeping approach is possible. Some museums do employ more flexible provisions that call users‘ attention to the copyright issues without risks of overreaching. A statement that materials may have copyright, and that clearance from the rights holder may be in order, is not overreaching. It is a simple and helpful statement of fact. The Carnegie Museum of Art takes this approach: ―Carnegie Museum of Art does not hold copyright for most images in the collection; copyright clearance must be obtained by the applicant.‖[69] The implied message is that copyright permission must be obtained—if legally warranted.

71 The Carnegie statement is easily defensible as a matter of fact. If copyright clearance is needed, the user has to obtain it. The Georgia Museum of Art (―GMOA‖) seems intent on taking a similar stance, with a bit more explanation:

72 [GMOA] can grant permissions only to the extent of its ownership of the rights relating to the request. Certain works of art, as well as the photographs of those works of art, may be protected by copyright, trademark, or related interests not owned by [GMOA]. The responsibility of ascertaining whether any such rights exist and for obtaining all other necessary permissions remains with the applicant. Written notification of permissions granted by other copyright holders must be submitted in advance to GMOA.[70]

73 GMOA goes to some detail to clarify that it may not hold all legal rights associated with works and images from the collections. That explicit clarification is an important step toward explaining the application of the law. However, GMOA equivocates by including the final sentence which does not state that permissions are necessary; it requires any written permissions to be submitted to the museum, presumably for some form of review, critique, or approval. Whatever the purpose, the last sentence quoted above interjects the museum into the permissions process, even after acknowledging that the museum may not hold rights.

74 In some respects, a policy calling for permissions is the mirror image of the ―No Known Copyright Restrictions‖ statement described in the previous section. It is a way of suggesting that some copyright restrictions do apply. Even without details, simply making that declaration—presumably accurately—is a constructive heads up to users that copyright investigation and clearance may be warranted. The policy becomes overreaching when it requires permission in all cases, and when that permission must be from the museum that does not necessarily hold the legal rights.

Asserting Rights Beyond Copyright

75 Copyright law grants broad rights of control, but it does not grant all rights. It is not unusual in any industry to leverage finite intellectual property rights for additional gain. For example, copyright generally does not provide a right to payment, but copyright owners routinely license or transfer their legal rights in exchange for money. Similarly, authors and other rights holders frequently grant copyright licenses in exchange for meeting a range of conditions—from precise statements of credit to restrictions on territory, duration, quantity, or other circumstances of use. These limits become problematic when they unduly burden customary and beneficial uses of art images, or when the conditions are so complex or wide reaching that they distort a conventional sense of the copyright trade off. Difficulties are further compounded when the terms cannot be negotiated and purport to rigidly burden researchers and other users.

76 Museum policies often set forth ostensibly non-negotiable terms that attempt to limit uses in ways far beyond what copyright law specifically allows. Even some of the most conventional terms, borrowed from years of experience with licensing and publishing, are in this category. The Brooklyn Museum of Art stipulates: ―Permission fees are applicable for one-time reproduction rights in one language, one edition only unless otherwise negotiated.‖[71] Similar clauses are standard in licensing practice. Viewed another way, these clauses are an inherent barrier on the advancement of scholarship.[72] If an author or publisher needs to return to the source for renewed permission with each edition or translation, the ability to move ahead with updated and revised versions of a publication is obviously circumscribed.[73]

77 Restrictions are also commonly drafted around technological specifications. The Carnegie Museum of Art provides: ―Digital reproductions must be low-resolution . . . and/or password protected . . . ; CD-DVDs must employ encryption protections.‖[74] Several museums state exact limits on the resolution or size of images used in printed works and on websites. The Brooklyn Museum of Art stipulates: ―Digital reproductions must be low resolution. When permission is granted for web sites, the image can be no larger than 800 pixels on the longest side.‖[75]

78 The Ringling Museum of Art requires approval of any color reproductions of image proofs from the museum.[76] It is hardly alone in requiring oversight of coloring. The Frick Collection sets standards for color and even paper: ―No reproduction may be printed on colored stock, and black-and-white photographs may not be printed with colored ink.‖[77] The Portland Art Museum adds further conditions: ―The reproduction must not be cropped, bled off the page, printed on color stock, or with colored ink, nor have anything superimposed on the image.‖[78]

79 These examples are hardly uncommon. They are indicative of the ability of museums to use one element of control to bargain for more. They also reveal that copyright law itself is far from addressing many of the issues that concern museums. This article has argued that some art images are correctly in the public domain. Even assuming that the images are not in the public domain and that the museum holds the copyright, the policy statements affirm that many museums are looking for a specific set of standards that the law does not provide. Hence the motivation to reach beyond the law and craft innovative rules of practice—but rules that in turn can hinder the use and enjoyment of art.

Asserting Simulated Claims of Moral Rights

80 Although the scope of moral rights in the U.S. is exceptionally narrow, it does apply to some works of visual art.[79] Moral rights allow artists a legal right of paternity—the right to have the artist's name on the work. Moral rights also give authors a right to prevent the intentional destruction or alteration of many works. These rights have given artists an occasional legal victory as they seek to protect the integrity of their works.[80] Nevertheless, the American doctrine of moral rights applies narrowly to relatively few works and does not prevent many uses of art images that a rights holder might find objectionable. As with so many aspects of copyright, if the law does not provide what you want, look instead to contractual obligations. Hence, museum policies and practices often establish terms and conditions that are akin to moral rights.

81 As with many terms, requirements in museum policies to credit the source are based on facially understandable desires. Including the name of the artist in connection with the use of the image is consistent with well-established principles of moral rights. By contrast, museums as the owner of the original work of art or the supplier of a photographic image generally do not have claims of moral rights in the United States or in other countries. Nevertheless, a policy request from a museum to include credit to the institution is not unusual and is often not unduly burdensome.

82 Indeed, generously citing sources is ordinarily welcomed as good practice in any scholarly study.

83 Some museums go far beyond simple requests for credit and call for various statements of identity and control. The Fine Arts Museum of San Francisco allows uses of images with this caveat: ―Your product must be copyrighted and contain general notice of copyright which includes the following language . . . .‖[81] First, this policy statement is a direct, yet odd, interference with the independent decision of the user to claim or not claim copyright protection for an article or other project that might include the art image. The museum's policy seems to be directly undercutting any notion that the author of the study may have about either making the work available in the public domain or possibly even interfering with the selection of a Creative Commons license.[82] This claim of credit and assertion of downstream rights is brazen at best.[83]

84 Moral rights can protect against destruction or alteration of artworks, and policy statements from museums often incorporate this concept in extraordinary detail. Policies often prohibit the use of images to create derivative works. Also barred under the standards of many museums is any alteration of the work or bleeding of the image off the printed page. Policies sometimes prohibit cropping or masking of the image, or superimposition of any text on top of the image. Perhaps most pernicious for scholarly study are policies which constrain the use of detailed excerpts from art images.[84]

85 Examples of confining and deleterious policy language are legion. The Frick Collection policy stipulates: ―Permission to reproduce is granted so long as the image is reproduced in full. Requests to copy, bleed, tone, silhouette, superimpose type matter, or alter an image in any way must be included in the application with the exact layout of proposed alteration.‖[85] Details are a mainstay of scholarly inquiry, and they allow experts to examine specific aspects of the artwork more closely in order to better understand the technique and the message of the painting.

86 Similarly, the Detroit Institute of Arts makes this provision: ―Any color manipulation, alteration, cropping or addition to the image is prohibited and will automatically render the license void. Overprinting of text on an image requires specific permission.‖[86] An artist may reasonably have concerns about any such uses of his or her creative work. The dilemma in the context of museums, however, is that very often the artist is no longer alive to express concerns or assert any rights. Under U.S. law, the right of the artist to assert any such moral rights is in most instances limited to the lifetime of the artist.[87] The copyright may survive seventy years after the death of the artist, but the moral rights generally do not.

87 Thus this assertion of quasi-moral rights runs counter to two general principles of concern to this study. First, the policies are used to assert a roster of rights that exceed the equation of copyright law as developed by Congress. Second, to the extent that the museum is asserting these rights with respect to works of deceased artists and works in the public domain that no longer have copyright protection, the museum policies are functioning as an extension of copyright-like claims far beyond the reach of protection that was carefully crafted in the shaping of actual copyright law.[88]

Conclusion

88 Copyright overreaching comes in many forms, and museum policies and licenses are but one version. An examination of policies from U.S. museums suggests four varieties of copyright overreaching by museum standards: assertions of false copyrights; claims to copyrights not held by the museum; assertion of control beyond rights of copyright; and claims of quasi-moral rights. Isolating discrete forms of overreaching can help clarify the relationship between museum standards and the norms of copyright law. Recognizing that nexus can help one understand how far some policies have moved from the principles of copyright law.

89 Analysis of museum policies can also aid in a comparative understanding of terms and practices, opening exploration of alternative approaches for policymaking on similar issues. While this article is critical of overreaching policies, the examination of museum practices also highlights proactive alternatives that some museums have employed to prevent or at least reduce risks of overreaching. Consider this statement from the Guggenheim:

90 In order to further support the work of teachers and educators, in accordance with our own charitable and educational mission, we therefore consent to the following additional uses of our Site: . . . reproduction, distribution, display, transmission, performance, and use of the Content . . . by individual teachers and other educators if done for the limited purpose of classroom or workshop instruction (including online instruction) in a school, museum, or other educational organization . . . .[89]

91 The Guggenheim‘s policy statement is a proactive step to assure public rights of use and to facilitate beneficial activities whether or not they are established in copyright law.[90]

92 Despite the availability of options, many museums continue to assert claims that do no comport with the law and that impose burdensome restrictions on users of art images. This article identifies some of the root causes of these conventional practices. Some of the causes may be described as legal inertia. For a museum to take a position that

works are actually in the public domain or otherwise available for use is to take a public legal position, and with it go responsibilities for errors and misconstructions. Museums are also themselves burdened by restrictions that they sometimes are obliged to pass along. A collection may come to the institutions with conditions and limits imposed by the donor or artist. If the museum accepts those terms, it may have no choice but to further impose them on subsequent users.[91]

93 More philosophically, many museums see themselves as responsible for the integrity and reputation of the art and the artist. That is an admirable vision, and it is consistent in some respects with the aims of moral rights. However, museum policies often become a detailed litany of specific credit lines, permission requirements, and specifics about cropping, coloration, alterations, and even whether the image may run over the edge of printed pages in a book or other study. Art is a noble venture, and museums are crucial for advancing the public‘s understanding and appreciation of it. Yet sometimes creative exploration, comprehension, and advancement of art comes from alteration, manipulation, and mashup. Museums that set limits on innovative pursuits risk setting limits on experimentation and promotion of art itself.

94 This article offers a new analytical means for better understanding how museums overreach their copyrights. One practical outcome of such an examination of museum policies could be to encourage museum officials and others to focus more clearly on individual policy terms, their consequences, and the possible alternative standards. The most important practical objective, however, would be to encourage a reconsideration of policy terms at individual museums. Much of this article is shaped by a copyright perspective; the more important perspective is the encouragement of public knowledge and appreciation of art. To that end, the time has come for a rethinking of museum policies.[92]

95 At a time when visual images are becoming a more important means of communication, and museums are making vast and diverse collections available online for access worldwide, the need for reevaluation is imperative.[93] The opportunity for improved policymaking never has been as possible or as important.

NOTES

1. Whatever the terms and conditions of use, museum policies can ultimately drive users to secure permissions for many uses, burdening research and the sharing of enjoyable and important works of art. Christopher LYON, “The Art Book's Last Stand”, *Art in America*, September 2006, p. 51 (calling the process "Permissions Purgatory").

2. For a study of the problem before the Bridgeman case reshaped much of the discussion about related copyright law, see generally Kathleen CONNOLLYBUTLER, “Keeping the World Safe from Naked-Chicks-In-Art Refrigerator Magnets: The Plot to Control Art Images in the Public Domain through Copyrights in Photographic and Digital Reproductions”, *Hastings Communications and Entertainment Law Journal*, vol. 21, 1998, p. 55.

3. The tension was expressed in another way: As museums and cultural institutions throughout the world utilize multimedia technology to _open up' their collections to a worldwide public in an effort to promote universal cultural development, directors of these institutions must balance new rights in valuable digital information assets with demands of an international audience and the ability of that audience to copy easily from digitale media. Marilyn PHELAN, "Digital Dissemination of Cultural Information: Copyright, Publicity, and Licensing Issues in Cyberspace", *Southwestern Journal of Law and Trade in the Americas*, vol. 8,2001, p. 177, 180.

4. One study lays out the "paradox" for museums: "a situation characterized by competing impulses to broadcast images in furtherance of educative missions (and perhaps a reputation for high-tech sophistication) and to restrain the distribution of t'ose images in order to preserve their economic value by reducing the risk of pirated copies." Mitch TUCHMAN, Note, *Inauthentic Works of Art: Why Bridgeman May Ultimately Be Irrelevant to Art Museums*, *Columbia Journal of Law & the Arts*, vol 24, 2001, p. 287-288.

5. For another publication resulting from the project, see Kenneth D. CREWS and Melissa A. BROWN, "Control of Museum Art Images: The Reach and Limits of Copyright and Licensing", *in* Annette KUR and Vytautas MIZARAS (eds.), *The Structure of Intellectual Property Law: Can One Size Fit All?*, Cheltenham: Edward Elgar Publishing, 2011 (Atrip Intellectual Property), page 269.

6. Details about the background and other aspects of the Kress study are set forth in Kenneth CREWS, *Interim Report: Art Image Copyright and Licensing Study* (June 29, 2010), URL: http://academiccommons.columbia.edu/catalog/ac:128139. Accessed January 27, 2014.

7. See Melissa A. BROWN and Kenneth D. CREWS, *Art Image Copyright and Licensing: Compilation and Summary of Museum Policies*, March 8, 2010. URL: http://academiccommons.columbia.edu/catalog/ac:128159. Accessed January 27, 2014.

8. This article presumes that the provisions are enforceable, while one must acknowledge that there is an open question about the legally binding nature of ―terms of use‖ and related license terms. See generally, e.g., ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996); see also infra note 73 (regarding a lawsuit filed against the Berkeley Historical Society).

9. Copyright Act of 1976, 17 U.S.C. § 106 (2006).

10. *Ibid.*, § 102(a).

11. *Ibid.*, § 106.

12. The Copyright Act defines a derivative work as ―a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted.‖ *Ibid.*, § 101.

13. The concept of public display is defined broadly in the Copyright Act. The most relevant part of the definition states, ―to perform or display it at a place open to the public or at any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered . . . .‖ *Ibid.*, § 101. However, the public display right is sharply limited by an exception that allows the display of an authorized copy of the work, at the place where the copy is located, such as at a museum. *Ibid.*, § 109(c).

14. Copyright Act of 1976, 17 U.S.C. §§ 106 & 114 (2006).

15. Fair use is codified at Section 107 of the U.S. Copyright Act, but other exceptions continue in Sections 108–22. See *Ibid.*, §§ 107–22.

16. Most countries have multiple statutory exceptions. Often the exceptions apply to familiar activities, but the details of the statutes vary greatly from one country to the next. The author of this article conducted a study for WIPO, demonstrating that statutory exceptions for libraries are common in worldwide copyright laws, but the detailed provisions are hardly consistent. See generally Kenneth D. CREWS, *Study on Copyright Limitations and Exceptions for Libraries and Archives*,

WIPO, August 26, 2008. URL: http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=109192. Accessed January 27, 2014.

17. For example, Section 108 allows libraries to make copies of certain works for preservation and replacement and for personal study and research. The preservation and replacement provisions can apply to art and visual images; the research and study provisions do not apply to art, except art images that may be part of or an adjunct to a textual work. Copyright Act of 1976, 17 U.S.C. § 108(i) (2006). Section 110 allows performances and displays of works in the classroom and in distance education, and with some conditions the statutes apply to art and visual images. *Ibid.*, §§ 110(1), 110(2).

18. For the statutory provisions related to copyright duration, see *ibid.*, §§ 301–05.

19. Warhol and Lichtenstein died in 1987 and 1997 respectively. Given that copyrights in their works last for either seventy years after death, or ninety-five years after publication of the works (if publication occurred before 1978), then paintings by these artists are surely under copyright protection. *Ibid.*, § 302.

20. Rembrandt van Rijn, lived from 1606 to 1669. Leonardo da Vinci lived from 1452 to 1519. It would be an unusual law, indeed, that found continued copyright protection for their paintings. However, copyright protection for works from centuries ago is not impossible. Peter HIRTLE, *The Search for the Oldest Copyrighted Work in the U.S. Goes on ..*, Library Law Blog, URL: http://blog.librarylaw.com/librarylaw/2010/04/the-search-for-the-oldest-copyrighted-work-in-the-us-goes-on.html Accessed January 27, 2014. Exploring the possibility of current copyright protection for a diary of John Adams from 1753.

21. Principles of moral rights are examined in detail in other sources. See, e.g., Megan M. CARPENTER, *Drawing a Line in the Sand: Copyright Law and New Museums*, Vanderbilt Journal of Transnational Law, vol. 13, no. 3, Spring 2011, p. 463, 483–491.

22. Visual Artists Rights Act of 1990, Pub. L. No. 101-650, §§ 601–10, 104 Stat. 5089 (1990).

23. Berne Convention for the Protection of Literary and Artistic Works, S. Treaty Doc. No. 99-27 (1986), 1161 U.N.T.S. 3.

24. The scope of ―works of visual arts‖ is defined in detail to include only some works created in single copies or in numbered and signed print runs up to 200 copies, but also to exclude extensive categories for works, such as all works made for hire, and advertising materials, among other works. Copyright Act of 1976, 17 U.S.C. § 101 (2006).

25. *Ibid.*, § 106A(a)(2).

26. *Ibid.*

27. *Ibid.*, § 106A.

28. The principles of copyright and art are examined in other publications. See, e.g., Marilyn PHELAN, "Digital Dissemination of Cultural Information: Copyright, Publicity, and Licensing Issues in Cyberspace", *op. cit.*(note 3), p. 180–94.

29. The concepts of ―original‖ and ―copy‖ are the subject of considerable scholarly scrutiny. See generally Jeffrey MALKAN, *What is a Copy?*, Cardozo Art and Entertainment Law Journal, vol. 23,.2005, p. 419.

30. ―In tangible terms, traditional memory institutions [including museums] were governed mostly by a paradigm of control over original authentic tangible cultural objects.‖ Guy PESSACH, "[Networked] Memory Institutions: Social Remembering, Privatization and Its Discontents", Cardozo Arts & Entertainment Law Journal, vol. 9, no. 26, 2008, p. 71, 77.

31. Guy PESSACH, "Museums, Digitization and Copyright Law—Taking Stock and Looking Ahead", *Journal of International Media and Entertainment Law*, vol. 1, no. 2, 2007, p. 253, 276–277. Sometimes the interests of the museum are in tension with the interests of the artist or other holder of the copyright in the original work. One major association has offered a definition of fair use intended to encourage museums to exercise fair use of artworks, while acknowledging the right of the

copyright owners. ASSOCIATION OF ART MUSEUM DIRS., "AAMD Policy on the Use of 'Thumbnail'. Digital Images in Museum Online Initiative", URL: https://aamd.org/sites/default/files/document/Thumbnail%20Images%20Policy.pdf. Accessed January 27, 2014.

32. A photographic reproduction could also, arguably at least, be a derivative of the original artwork. See Marilyn PHELAN, "Digital Dissemination of Cultural Information: Copyright, Publicity, and Licensing Issues in Cyberspace", *op. cit.*(note 3), p. 190–92.

33. The U.S. Supreme Court ruled in the nineteenth century that photographs could be protected under copyright law. Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53, 60 (1884).

34. See Bridgeman Art Library v. Corel Corp., 36 F. Supp. 2d 191, 200 (S.D.N.Y. 1999) (holding that photographic painting replicas are not protected by copyright).

35. For a work to be copyrightable, it must include some minimum amount of creativity. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 355 (1991).

36. Bridgeman, 36 F. Supp. 2d at 197. In 2008, the United States Court of Appeals for the Tenth Circuit, an appellate court with much greater legal jurisdiction, adopted the principles of Bridgeman in Meshwerks, Inc. v. Toyota Motor Sales U.S.A., Inc., 528 F.3d 1258, 1270 (10th Cir. 2008). In particular, the court held digital images of the basic design of existing automobiles did not have copyright protection. Id.; see also Oriental Art Printing, Inc. v. Goldstar Printing Corp., 175 F. Supp. 2d 542, 546–48 (S.D.N.Y. 2001) (holding no copyright protection for photographs of familiar Chinese dinners on a restaurant menu).

37. See generally Karen D. WILLIAMS, "Disparity in Copyright Protection: Focus on the Finished Image Ignores the Art in the Details", *American University Law Review*, vol. 58, no. 1, 2008, p. 169 (recommending a more nuanced form of scrutiny of originality in different forms of graphical art works).

38. One museum director made this candid assessment: ―We control how our collection is used not through enforcement of copyright but by limiting access to reproducible images of it. We can deny use to a publication that we think will not use the image appropriately.‖ Lyndel KING, *The Fair Use Dilemma*, Museum News, no. 75, July/August, 1997, p. 36, 37.

39. See generally Mary CAMPBELLWOJCIK, "The Antithesis of Originality: Bridgeman, Image Licensors, and the Public Domain", *Hastings Communications and Entertainment Law Journal*, vol. 30, 2008, p. 257, 276 (2008) ([I]mage licensors will persist in using the precedential ambiguity surrounding Judge Kaplan's decision to intimidate image users into submission).

40. Terms and Conditions, ASIA SOCIETY, URL: http://asiasociety.org/util/terms-conditions. Accessed January 27, 2014.

41. Terms and Conditions, ASIA SOCIETY, URL: http://asiasociety.org/util/terms-conditions. Accessed January 27, 2014.

42. ―Copyfraud by archives, museums, and other not-for-profit institutions is especially troubling. These entities are publicly supported through tax benefits, and often government grants, because their collections benefit the public. We should be able to expect in return that public domain works be left in the public domain. Jason Mazzone, *Copyfraud and other abuses of Intellectual Property Law*, Stanford, Calif.: Stanford Law Books, an imprint of Stanford University Press, 2011, p. 18.

43. Most notably, the Tenth Circuit adopted the reasoning of Bridgeman in a case involving the imaging of automobile designs, *op. cit.*(note 36).

44. Melissa A. BROWN and Kenneth D. CREWS, *Art Image Copyright and Licensing: Terms and Conditions Governing Reproduction and Distribution*, *op. cit.*, at 10 (note 7).

45. See Lara ORTEGA, "How to Get The Mona Lisa in Your Home Without Breaking the Law: Painting a Picture of Copyright Issues with Digitally Accessible Museum Collection", *Journal of Intellectual Property Law*, vol. 18, no. 2, 2011, p. 567, 580–582 (examining an exception in the Australian Copyright Act allowing cultural institutions to make some reproductions, but only

within severe constraints); Emily HUDSON and Andrew T. KENYON, "Digital Access: The Impact of Copyright on Digitisation Practices in Australian Museums, Galleries, Libraries and Archives", *UNSW Law Journal*, vol. 30, no. 1, 2007, p. 12, 13. (finding that Australian copyright exceptions support some digital reproduction of works by museums and galleries, but do not facilitate a general public framework for online access to copyrighted materials); see also Keith WOTHERSPOON, "Copyright Issues Facing Galleries and Museums", *European Intellectual Property Review*, vol. 25, 2003, p. 34–39 (suggesting that the United Kingdom would follow the reasoning in Bridgeman, in which reproductions of artistic images that museums create and market to third parties would not garner copyright protection).

46. In many other disciplines, copyright owners have in fact chosen to relinquish rights that they clearly have under the law to make the work more widely available. The movement towards open access of scientific literature and the adoption of Creative Commons licenses are innovations in the management of intellectual property that seek to reduce barriers to access and use of creative materials. The tendency of many museums to assert greater control on copyrighted materials is contrary to the growing open access perspective on intellectual property rights. Some museums have embraced open access for images. The National Gallery of Art in Washington, D.C. announced in March 2012 a new policy of open access for images of artworks that are in the public domain. NGA Images, a New Collection Image Resource, and Open Access Policy Launched by National Gallery Of Art, Washington, URL: https://images.nga.gov/en/page/show_home_page.html. Accessed January 27, 2014.

47. See Megan M. CARPENTER, *Drawing a Line in the Sand: Copyright Law and New Museums*, *op. cit.* (note 21), p. 468–70 (describing museums as keepers of history).

48. Robin J. ALLAN, "After Bridgeman: Copyright, Museums, and Public Domain Works of Art", *University of Pennsylvania Law Review*, vol. 155, 2007, p. 961, 982–983.

49. Colin T. CAMERON, "In Defiance of Bridgeman: Claiming Copyright in Photographic Reproductions of Public Domain Works", *Texas Intellectual Property Law Journal*, vol. 15, no. 1, 2006, p. 31, 59–60 (—An assumption implied in construing the motivation to claim copyright in photographic reproductions of public domain paintings is that the additional control creates an opportunity to generate more revenue.).

50. See generally Richard SHONE, "*Copyright, Fair or Foul?*", Burlington Magazine, vol. 148, no. 659, October 2006.

51. The leading museum association in the U.S. has done extensive surveying of member practices and fees from licensing. See American Associations of Museums (AAM), *AAM Member Museums Rights and Reproductions Survey*, 2004. URL: http://www.panix.com/~squigle/rarin/RCAAMSurvey2003-4.pdf. Accessed January 27, 2014.

52. See Megan M. CARPENTER, *Drawing a Line in the Sand: Copyright Law and New Museums*, *op. cit.* (note 21), p. 475.

53. See Simon TANNER, *Reproduction Charging Models and Rights Policy for Digital Images in American Art Museums: a Mellon Foundation Study*, p. 40, 2004, URL: http://msc.mellon.org/research-reports/Reproduction%20charging%20models%20and%20rights%20policy.pdf/view. Accessed January 27, 2014. Questioning the prospect that museums can or should make significant income from licensing.

54. The U.S. Supreme Court clarified that there is no right under the law of unfair competition for the original author to be credited as the sources of materials that have entered the public domain. Dastar CORP. v. *Twentieth Century Fox Film Corp.*, 539 U.S. 23, 32, 37 (2003).

55. Permission to Publish Policy, Huntington Library, Art Collections and Botanical Garden, available at http://huntington.org/WebAssets/Templates/content.aspx?id=590. Accessed January 27, 2014.

56. Concepts of credit seldom appear in copyright law. One example other than moral rights is the prohibition against removal of ―copyright management information,‖ which is defined in part to include the identity of the author of a work. See Copyright Act of 1976, 17 U.S.C. § 1202(c) (2006).

57. For the definition of ―works of visual art‖ that have the benefit of moral rights, see *ibid.*, § 101 (2006).

58. Few court rulings on moral rights have been handed down since the law was enacted in 1990. One significant ruling is Martin v. City of Indianapolis, 192 F.3d 608, 611–12, 615 (7th Cir. 1999) (holding that the intentional destruction of a public sculpture on city property was a violation of moral rights, but did not amount to a ―willful‖ violation of VARA).

59. About, Creative Commons, URL: http://creativecommons.org/about. Accessed January 27, 2014. Providing more information regarding Creative Commons licenses.

60. Under American law, only the artist has moral rights. See Copyright Act of 1976, 17 U.S.C. § 106A(e) (2006). Providing that moral rights may not be transferred.

61. Press/Media Guidelines, Georgia O'Keeffe Museum, URL:http://www.okeeffemuseum.org/requests.html. Accessed January 27, 2014.

62. Terms of Use, Harvard Art Museums, URL: http://www.harvardartmuseums.org/terms-use. Accessed January 27, 2014.

63. Web Use and Gallery Photography, Museum of Fine Arts Boston, URL: http://stage.mfa.org/collections/mfa-images/web-use-and-gallery-photography. Accessed January 27, 2014.

64. Terms and Conditions, Museum of Fine Arts Boston, URL: http://www.mfa.org/collections/mfa-images/terms-and-conditions. Accessed January 27, 2014.

65. According to an official at The Getty, ―For reasons that seem too frequently unexamined, many museums erect barriers that contribute to keeping quality images of publiques domain works out of the hands of the general public, of educators, and of the general milieu of creativity.‖ Kenneth HAMMA, *Public Domain Art in an Age of Easier Mechanical Reproducibility*, *D-Lib Magazine*, vol. 11, no. 11, November 2005, URL: http://www.dlib.org/dlib/november05/hamma/11hamma.html. Accessed January 27, 2014.

66. Terms of Use/Copyright, The Getty, http://www.getty.edu/legal/copyright.html. Accessed January 27, 2014.

67. Museums typically do not hold the copyrights in the works of art, and occasionally a dispute arises between the museum and the rights holder. See Mary CAMPBELLWOJCIK, *The Antithesis of Originality: Bridgeman, Image Licensors, and the Public Domain*, *op. cit.*(note 39), p 257, 271–275.

68. To Use Guggenheim Images, Guggenheim, URL: http://www.guggenheim.org/index.php. Accessed January 27, 2014.

69. *Rights and Reproductions,* Carnegie Museum of Art, URL: http://web.cmoa.org/?page_id=69. Accessed January 27, 2014.

70. *Rights and Reproductions*, GA. Museum of Art, URL: http://www.georgiamuseum.org/art/rights-and-reproductions. Accessed January 27, 2014.

71. *Image Services Fee Schedule*, Brooklyn Museum, URL: http://www.brooklynmuseum.org/uploads/Image_Services_Fee_Schedule.pdf. Accessed January 27, 2014.

72. An early study of museum licenses stated, ―The one-time license method of acquiring rights to reproduce images is outmoded in an age of rapidly advancing technology. Kim L. MILONE, "Dithering Over Digitization: International Copyright and Licensing Agreements Between Museums, Artists, and New Media Publishers", *Indiana International and Comparative Law Review*, vol. 5, no. 2, 1995, p. 393, 396.

73. A lawsuit was filed against the Berkeley Historical Society testing the enforceability of a restriction of one-time use with respect to public domain images supplied by the society. The case was reportedly settled. Some reflections from individuals close to the case are included in

comments at Mary Minow, Berkeley Historical Society Lawsuit, Library Law Blog (Aug. 25, 2005), URL: http://blog.librarylaw.com/librarylaw/2005/08/index.html. Accessed January 27, 2014.

74. Fee Schedule, Carnegie Museum of Art, URL: http://web.cmoa.org/?page_id=253. Accessed January 27, 2014.

75. Melissa A. BROWN and Kenneth D. CREWS, *Art Image Copyright and Licensing: Terms and Conditions Governing Appearance & Composition of Images*, *op. cit* (note 7), at 15. Includes summary of policy obtained from the Brooklyn Museum.

76. Application for Reproduction Rights and Request for Photographic Materials, The John & Mable Ringling Museum of Art, URL: http://www.ringling.org/rights-and-reproduction. Accessed January 27, 2014.

77. Application for Reproduction of Archival Materials for Publication, The Frick Collection, URL: http://www.frick.org/sites/default/files/pdf/archives/archives_pub_app_2004.pdf. Accessed January 27, 2014.

78. Copyright, Portland Art Museum, URL: http://www.portlandartmuseum.org/page.aspx?pid=564. Accessed January 27, 2014.

79. Some scholars have argued strongly for greater moral rights, applicable to a wider range of works. See generally, e.g., Roberta ROSENTHAL KWALL, *The Soul of Creativity: Forging a Moral Rights Law for the United States*, Stanford, Calif.: Stanford Law Books, 2010.

80. Prior to the passage of the Visual Artists Rights Act (VARA), various U.S. states provided for the protection of moral rights under ―theories of copyright, unfair competition, defamation, invasion of privacy, and breach of contract. *Waiver of Moral Rights in Visual Artworks, U.S. Copyright Office*, URL: http://www.copyright.gov/reports/exsum.html. Accessed January 27, 2014. In Gilliam v. American Broadcasting Companies, Inc., 538 F.2d 14, 23–24 (2d Cir. 1976), the court found that ABC's unauthorized edits of a Monty Python television program created an actionable mutilation of the work derived from the concept of droit moral and protected under the Lanham Act.

81. Conditions for Print and Electronic Publication, Fine Arts Museums of San Francisco. URL: http://deyoung.famsf.org/conditions-print-and-electronic-publication. Accessed January 27, 2014.

82. Creative Commons, *op. cit.*(note 59).

83. The same policy also requires that the use of the image be accompanied by the following language: ―Warning: All rights reserved. Unauthorized public performance, broadcasting, transmission, or copying, mechanical or electronic, is a violation of applicable laws. This product and individual images contained within are protected under the Laws of the U.S. and other countries. Unauthorized duplication, distribution, transmission, or exhibition of the whole or of any part therein may result in civil liability and criminal prosecution. The downloading of images is not permitted.‖ Conditions for Print and Electronic Publication, *op. cit.* (note 81).

84. Museums do not often outright bar the use of detail, but they do subject them to review and consent. This statement is from the North Carolina Museum of Art: ―Each object must be reproduced in its entirety on all or part of a single page unless otherwise approved by the Museum in advance. An approved detail must be identified in the caption.‖ Melissa A. BROWN, *Art Image Copyright and Licensing: Terms and Conditions Governing Appearance & Composition of Images*, *op. cit.*(note 7). Includes summary of policy obtained from the North Carolina Museum of Art.

85. *Ibid.*, at 33

86. *Ibid.*, at 25.

87. Copyright Act of 1976, 17 U.S.C. § 106A(d)(1) (2006). In an odd variation on the rule, if the work of art is in existence at the time of passage of the act in 1990, but title to the physical work was as of that date still with the artist, then the moral rights last for the full term of copyright protection. See *ibid.*, § 106A(d)(2).

88. Leveraging legal rights to gain contractual obligations beyond the term of copyright protection has been grounds for claims of ―copyright misuse,‖ a doctrine that can result in a loss of the copyright. See, *e.g.*, Lascercomb Am., Inc. v. Reynolds, 911 F.2d 970, 979 (4th Cir. 1990).

89. *Terms and Conditions of Use*, Solomon R. Guggenheim Found., URL: http://www.guggenheim.org/terms-conditions. Accessed January 27, 2014. Many education and research uses of images could be within fair use. See Marilyn PHELAN, "Digital Dissemination of Cultural Information: Copyright, Publicity, and Licensing Issues in Cyberspace", *op. cit.*, (note 3), p. 197–202. Fair use in American law is codified at Copyright Act of 1976, 17 U.S.C. § 107 (2006). The question of whether particular uses are fair is outside the scope of this article. The key point of this study is the extent to which museum practices support or hinder public uses of art images. For an insightful and recent statement about fair use of art images, see ASSOCIATION OF ART MUSEUM DIRS., "AAMD Policy on the Use of 'Thumbnail'. Digital Images in Museum Online Initiative", *op. cit.* (note 31).

90. Some other museums have similarly helpful language in their policies. From the Milwaukee Art Museum:

Fair use of copyrighted material includes the use of protected materials for noncommercial educational purposes, such as teaching, scholarship, research, criticism, commentary, and news reporting. Unless otherwise noted, users who wish to download or print text, audio, video, image and other files from the Milwaukee Art Museum's Web site for such uses are welcome to do so without the Milwaukee Art Museum's express permission. Users must cite the author and source of this material as they would material from any printed work; *Rights & Reproduction*, Milwaukee Art Museum, URL: http://www.mam.org/info/policies/rights-reproduction.php. Accessed January 27, 2014.

91. These pressures and others are part of the fundamental transformation that museums are experiencing. See Megan M. CARPENTER, *Drawing a Line in the Sand: Copyright Law and New Museums*, *op. cit.* (note 21), p. 466–67 (―The very identity of the museum has come into question over the last couple of decades. Not only have museum professionals increasingly questioned the function and purpose of museums, but donors, artists, politicians, business people, and the public have done so, as they are asked with greater frequency to support museums through donations, financial sponsorships, legislation, policy decisions, and attendance.‖).

92. Some backlash has begun. A statement from the Max Planck Institute challenges the constraints and claims from museums and urges, ―[r]epositories should define access to cultural heritage objects solely as owners, not as copyright holders.‖ See *Best Practices for Access to Images: Recommendations for Scholarly Use and Publishing*, Max Planck Institute for the History of Science, January 5, 2009. URL: http://www.mpiwg-berlin.mpg.de/PDF/MPIWGBestPracticesRecommendations.pdf. Accessed January 27, 2014.

93. See Lara ORTEGA, *How to Get The Mona Lisa in Your Home Without Breaking the Law: Painting a Picture of Copyright Issues with Digitally Accessible Museum Collections*, "How to Get The Mona Lisa in Your Home Without Breaking the Law: Painting a Picture of Copyright Issues with Digitally Accessible Museum Collection", *op. cit.* (note 45), p. 582–584.

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The Experiments in Art and Technology Datascape

Christophe Leclercq and Paul Girard

EDITOR'S NOTE

This paper is based on the talk given by Christophe Leclercq and Paul Girard at the REWIRE conference, September 29, 2011, the FACT, Liverpool.

AUTHOR'S NOTE

We would like to thank the Rewire committee for selecting our project, without which we would have never initiated this work.

1 The Experiments in Art and Technology (E.A.T.) organization was set up in 1966 by the artists Robert Rauschenberg and Robert Whitman, in association with the engineers Billy Klüver and Fred Waldhauer. Its purpose was to facilitate collaboration between artists, engineers, and scientists by producing art systems and projects outside the art sphere in a strictly defined sense. Between 1966 and 1970, E.A.T. was thus at the root of more than 600 joint projects[1] in the United States and abroad, most of which, rightly or wrongly, are largely unknown.

2 Billy Klüver and Julie Martin, the organization's last two directors, undertook the task of archiving their activities in a particularly conscientious way, classifying and preserving a collection of documents related to the production of projects that were the organization's brainchildren. They also worked toward developing these records, in particular through the making from the 1990s onward, of documentary films using hitherto unpublished archival documents. This work was undoubtedly affected by the emergence of a certain critical recognition by the art world, as gauged by the increase, in the 2000s, of works made and exhibitions held by exhibition curators, researchers, and art critics.[2]

3 Yet the partial use made of these archives makes it impossible to take the full measure of the organization. In fact, it inadequately reflects both the diversity and the proliferation of the structure's activities, including its systems and methods, its exhibitions and shows, its lectures and, not least, its publications—in other words, its complexity. The collaborative dimension of E.A.T.'s activities (often reduced to technical assistance schemes), of which the creation of systems is just the tip of the iceberg, adds to the problem. Elaborating a response to the seemingly simple question "What is E.A.T.?" therefore calls for the availability and collective use of a great deal of information related to the organization's many activities. Examined in this way, E.A.T. emerges as an exemplary case study for the burgeoning fields of digital humanities and design alike. Based on this case, it is actually possible to identify, within areas of aesthetics, of art history and social art history, new, practical ways of making use of archives not only by providing access to digitized resources, but also—especially—by focusing on the organization of these resources so as to provide answers to issues raised by the scholars engaged in these different disciplines and in the areas where they overlap.

E.A.T. Archive

The presently existing archives

4 Researchers interested in E.A.T. have to deal with a whole host of resources located in different geographical places. The identification of a corpus that can be utilized is therefore the first difficulty facing scholars. The organization's main archives are held essentially in two places: the Daniel Langlois Foundation in Montreal, Canada, and the Getty Research Institute in Los Angeles, California. E.A.T.'s director, Julie Martin, also holds two boxes of E.A.T. archives at her home in Berkeley Heights (New Jersey), for the most part containing documents listed in the publication produced by the organization, the so-called E.A.T. bibliography.

E.A.T. bibliography: documents and references

5 The social art historian Julie Martin and the engineer and scientist Billy Klüver, two leading E.A.T. figures who served successively as director, have painstakingly archived various documents associated with collaborative projects undertaken (or not, for want of funding) by the organization. Not only has this documentation been preserved, but it has also been organized with the intention of further developing it, as is shown by the publication of a bibliography by E.A.T. on E.A.T.[3] Comprising a collection of resources on E.A.T.'s activities, the bibliography provides an initial corpus defined by people actually involved with the organization. This bibliography singles out two types of resources, divided into two sections: Documents and References. While the first segment encompasses documents written and published solely by E.A.T. members—correspondence, notes, project descriptions (pre-project, text, budget, diagram, list, final report), printed matter (flyers, post cards, advertising, posters, edge-notched cards, lecture program), publications produced by E.A.T. (newsletters, magazines)—the References are for the most part made up of press articles and other critical and academic literature.[4] The latter section actually seems more homogeneous than the first, which may be likened to a "Prévert-type inventory." It is nevertheless helpful to

be able to group the resources on the basis of their author's identity and to separate those produced strictly by people involved in the organization (present, willy-nilly, in both sections) from those generated by individuals outside the organization (only present in the References). This is an advantage that the print edition, favoring one classification method—albeit a relevant one—at the expense of others, cannot easily provide.[5]

6 The available E.A.T. archives are not, however, limited to the corpus included in this bibliography. The archives housed by the various structures previously mentioned contain a range of other documents, including sound recordings and films. In cooperation with Julie Martin, the archivists at the Daniel Langlois Foundation have taken on the task of dividing these resources into three major categories, based on their function, while specifying both the format and the nature of the information conveyed.[6] The "archival documents" include the following formats and types: Correspondence; Letter, Manuscript, List; Inventory, File, Budget; Finance document, Grant application, Program, Advertisement document, Invitation card, Press kit, Press release, Communiqué; Memo, Speech, Report; Memorandum, Bibliography, Essay. Also featured are "published text documents": Book, Text in book, Periodical issue, Text in periodical, Proceedings, Thesis, Solo Exhibition catalogue, Group exhibition catalogue. Lastly, there are video documents (interview, documentary/report), audio documents (interview), visual documents (photographs, and the like), and digital documents (CD-ROMs, etc.).

7 At this stage, scholars already have two equally interesting sources at their disposal: the E.A.T. bibliography, which, though not exhaustive (it stops in 1980), forms a relatively coherent whole whose significance derives in large part from the fact that it was composed on a historical basis by actors from within the organization; and a more thorough, rigorous collection of archives that is descriptive and exhaustive—the Langlois Foundation's archives.

An "activity"-oriented approach: works and projects

8 The respective approaches of the Daniel Langlois Foundation and of the main E.A.T. member, Billy Klüver, to this common material reveal two different ways of organizing these primary sources.

Thematic and activity-oriented approaches

9 The Daniel Langlois Foundation offers a thematic approach to bibliographical references according to groups of projects, for example the "Nine Evenings."[7] It should be possible to develop this work in-depth in order to obtain a still finer texture by proposing an "activities"-oriented approach in the broad sense of the word, meaning related to any production having a clear beginning and end carried out in collaboration with E.A.T. or with its support.

10 Norma Loewen's dissertation, published in 1975, is invaluable precisely in that it demonstrates the diversity of the organization's activities and compiles a first list of works and projects produced by E.A.T.[8] She singles out several groups of activities that are often connected: lectures and demonstrations; technical services and edge-notched cards; joint projects with a view to producing an artistic system or a project going

beyond the artistic framework; fund-raising to back a project; exhibitions; editions and publications of technical, scientific, and artistic newsletters aimed at the community, or press dossiers and exhibition catalogues aimed at as broad an audience as possible (*E.A.T. News*, *Information*, *Techne*, *E.A.T. Clippings*, etc.).

11 To these various undertakings—information and training, networking, fundraising and project management, development and promotion (publishing, exhibitions, etc.)—we should add those activities related to the reception of projects by the artistic and engineering communities,[9] established on the basis of critical writings and press reviews (essentially brought together in the "References" section of the E.A.T. bibliography). It is thus possible, for certain works and given projects, to recreate the whole sequence of a program, from its conception and production to its distribution and reception.

The story of E.A.T. by its members

12 The main members of E.A.T. themselves made a selection among the organization's activities in view of constructing a more eloquent narrative than the one offered by the aforementioned bibliography. *The Story of Experiments in Art and Technology* is the title given to both a series of lectures presented by Klüver and to a film made by Anne-Olivia Le Cornec[10], as well as to various exhibitions. These included a show "in two suitcases," composed of a set of easy-to-transport panels displaying the E.A.T. program, and another, more important, event held at the InterCommunication Center (ICC) that associated this first set of panels with an exhibition of systems and documents and the screening of archival films. The catalogue *The Story of Experiments in Art and Technology 1960-2001* is a printed version of a sequence of oral presentations that Klüver gave in several universities and other venues, consolidating a story that had hitherto existed in different, variable versions.[11] Klüver succinctly describes a series of project-related works, each in a short essay generally accompanied by an illustration. Presenting them in a descriptive and technical manner, he reserves any judgment on their aesthetic value.

13 The narrative of E.A.T. nonetheless remains a (hi)story, at once experienced and observed by its main coordinator, Klüver, who above all highlights the theme of collaboration dear to the engineer and to the artist Robert Rauschenberg alike. This approach makes it possible to record certain chronological and thematic decisions. The story begins with the decisive collaboration between Klüver and the artist Jean Tinguely for the performance *Homage to New York*, staged in the garden of the Museum of Modern Art (MoMA) in 1960, i.e. well ahead of the founding of E.A.T. in 1966. It ends with the archival activity of *Nine Evenings*, in 1996. This narrative arc requires that a selection be made from among the much larger set of productions presented in the E.A.T. bibliography and in Norma Loewen's dissertation. The comparison between this story and the other sources mentioned effectively highlights the choices made and authorizes a critical reading thereof. Klüver selected some thirty activities[12] out of the six hundred collaborative projects made possible by E.A.T. In this story, understandably enough, Rauschenberg has pride of place.[13] The inclusion of prestigious names such as Jasper Johns, John Cage, Merce Cunningham, and Andy Warhol bolsters their "symbolic capital." It is more surprising, however, that there is no mention whatsoever of the winner of the artists' and engineers' competition organized by E.A.T. to mobilize the community of engineers, then less present in its ranks—namely *Heart Beats Dust*,

produced by the artist Jean Dupuy in collaboration with Ralph Martel—while a large role is given to the kinetic work of Lucy and Nancy Young, *Fakir in ¾Time.* Lastly, this story totally sidesteps the problems encountered within joint projects and with companies, thus laying the way wide open to criticism.

14 The E.A.T. story plotted by Klüver does indeed represent an unusual trajectory within a much broader series of activities, whose thread remains the collaboration between artist and engineer. Its main merit lies in the possible re-reading of a history of art based on thematic groupings by movement, making leaps between works of art and projects lying outside the sphere of the visual arts, from one medium to another (from the visual arts to dance, etc.), and dealing with figures traditionally associated with Pop Art, Minimalism, Land Art, and the like. What is indeed involved here is a heterogeneous range of practices and approaches. Several stories may thus end up side by side, or even rival one another, some of them written by the players themselves and others by scholars outside the organization.[14] Thanks to the digital project, it is not a question of having to choose one or the other but rather of managing to identify them, comparing them with the sources, and appraising their relevance. It may be possible to increase the number of stories and open up other prospects capable of responding to issues stemming not only from art history, but also from the sociology of art, innovation, and aesthetics.

What is E.A.T.? What is collaboration?

15 The scholar studying E.A.T. thus has at his or her disposal a set of resources scattered in various places, an uncertain number of interlocutors and activities, and unusual or special trajectories. The space-time outlines of the organization are, to say the least, blurred, and the documentation relating to E.A.T.'s activities—i.e. carried out or simply initiated by the organization—is both significant and partial. It focuses essentially on those activities instigated and realized by the E.A.T. team and, more modestly, on the collaborative projects made possible through their system of networking.[15] Moreover, the activities and history of the "E.A.T. Local Groups[16]" spawned in different cities in North America, as well as in other countries (Europe, India, Japan) remain to be specified. Lastly, we can note an uneven use of the archives by researchers: the resources referred to are often promoted and developed by E.A.T. members themselves as well as by the institutions holding collections. Priority has thus been given to the distribution, in differing formats, of the *9 Evenings* and, to a lesser degree, to the Pepsi-Cola Pavilion at the Osaka World Fair of 1970, in Japan.[17]

16 For these varied reasons, the E.A.T. program is hard to define and difficult to appraise, a point echoed in different areas of research.[18] Scholars encounter problems adjusting their equipment in order to focus on the organization's overall activity and on more local initiatives undertaken on a cooperative basis, as well as on the specific trajectories of individuals and works. Overall views, trajectories, and special points form the E.A.T. network, just as they define its complexity.

17 E.A.T. rightly raises a certain number of issues having to do with the historical, social, and aesthetic fields. Where art history is concerned, attention is focused on the means, technologies, and materials used in the execution of a project, as well as on artistic practices and the forms in which these projects are presented. What were the most widely used technologies, and why? How does the incorporation of technology alter a given artistic practice (sculpture, dance, etc.)? What is the situation with

interdisciplinarity? And, above all, how does one qualify a collaborative project involving an artist and an engineer? What possible impact can such collaboration have on an artist's career? And what was the life of a specific work such as Rauschenberg's *Oracle*?

18 Regarding the social history of art, what matters stems from the development of an "art world" peculiar to E.A.T., raising questions of agency and of the collaborative context of production[19]. Attention is focused on the delegation process: who is mobilized in each one of the projects? Who are the artists, engineers, and organizations most involved in E.A.T.? What does an artist engage an engineer to do, and vice versa? Have these collaborative efforts born fruit from a scientific angle? In other words, to what extent have they been the object of a transfer or of patent applications (a strategy often used by Klüver and Rauschenberg to attract the attention of industry)?

19 Finally, aesthetics has to do with the genesis of the work of art and the autonomy and the heteronomy of art, like the distinction between art and non-art. It is concerned with the relations between the E.A.T. theory about the collaborative principle between artist, engineer, and industry and its social scope, and the reality of heterogeneous practices. The E.A.T. "object," which is especially complex and reticular, stands to benefit from the diversity of methods of exploration offered by a digital platform for managing the organization's digitized archives.

A digital method to work on E.A.T. archive?

20 This work was born from the meeting between an art historian and an Information Technology engineer. We tried to imagine how digital means could help a historian working on the E.A.T archive by equipping her with the tools necessary to explore it. Our approach didn't use any advanced data mining techniques to automatically extract information from the archive. We focused on data modeling and exploration. Our tool is a notebook of a new kind to help archive analysis. In this work, the only algorithms we rely on to interpret the vast heterogeneity of the documents are the reading and interpretation skills of the researcher. Our tool addresses the research steps following data extraction: data modeling, data visualization, and data exploration. We call this a tool a datascape.

What is a datascape?

21 A datascape[20] is a set of digital methods and tools that provides social scientists with a means of exploratory data analysis.[21] It is an Information System (back office, database, data engine, data visualization) designed collaboratively by social science researchers, IT engineers, and information designers. It provides a method for modeling information from archival documents and a navigable set of interactive information visualizations.

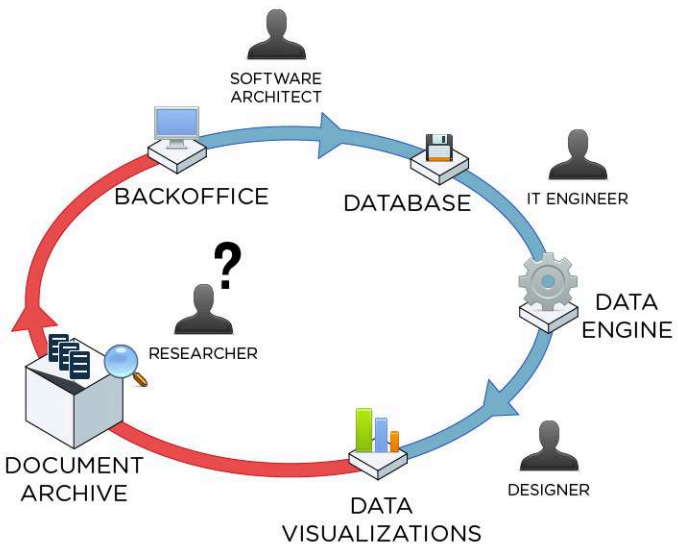

Figure: datascape iterative method.

22 Researchers, the targeted users of datascapes, are required to fulfill two tasks: data modeling (feeding the database) and data exploration (through data visualization). Those two sequential actions are to be repeated in many successive iterations: harvesting data (manually) from the archive to feed data models; exploring the visualization automatically updated by harvesting; gaining insights from the exploration process and detecting patterns in the data structure; returning to the archive to check the patterns' origin; possibly correcting the database when the pattern actually comes from a modeling bias; going back to exploration...

23 The whole process is managed by the researcher himself. Understanding and participating in the construction of the database is crucial to the researcher's understanding of the visualizations. By being both data provider and data explorer, the researcher is situated at the center of a virtuous cycle: provide data to explore, explore to check the data. Alternatively cartographer and explorer, the researcher surveys the corpus using the datascape as a map (reference tool through the corpus), as a notebook of his exploration (writing new data discovered in the archive), and as a field (finding data patterns in the data visualizations).

First step: data modeling

24 Designing a database requires a data model, a structure in which to store the data.

25 We started by designing a very structured model (the easiest way). We then tried to reduce the specificity by finding a way to describe identical cases with a more generic schema. Our data model—*in extenso* our system—has to provide the essential simplicity that allows it to express complexity, complexity in this case being the plethora of actors and projects and the relationships between them.

26 Designing a data model is a tradeoff between accuracy (specificity) and quantification (generality). The archive represents the highest level of accuracy. By trying to amplify the information hidden in the many documents, we have to reduce the specific documents to structured data. It is a process of both reduction and amplification.[22] The raw data provided by archives can be used to generate observations, which are then normalized and stored in a database. Once the raw data has been streamlined in this way, it can then be amplified through visualization.

27 Ensuring the amplification by reduction requires documentation: we included items to indicate the archival documents from which researchers had harvested data. Even as the archive is transformed into a database, a link remains between the two in the form of documentation, and the archive will always remain the reference to consult.

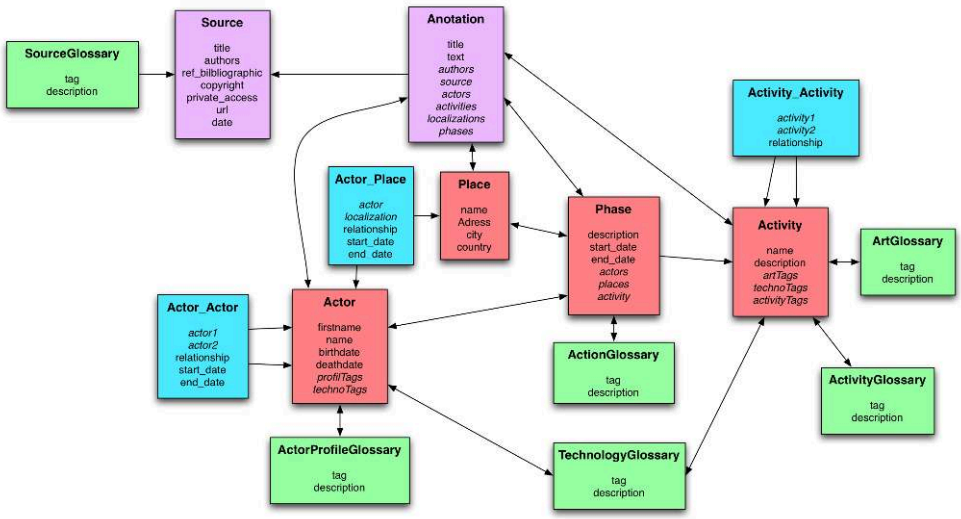

Figure: E.A.T. datascape's data model.

28 Finally, after many iterations between the Art Historian and the Information Technology Engineer, the final data model we created focused on four main items: Actors ("Who?"), Activities ("What?"), Phases ("When?" and "How?"), Places ("Where?"). The relationships between those objects are coded in three linked items: the Actor_Actor link (social network), the Actor_place link (home, workshop...), the Activity_Activity link (a performance linked to a festival...).

29 References to the archive are described in 2 references objects: the source item describes the archive document with precise bibliographic reference; the annotation gives researcher the possibility to point a quote part of a source where information were extracted to fill in the database. It's an important mechanism to let the researcher trace his codification work back to the raw database material.

30 Six glossaries handle the descriptions of the database objects. Each glossary is a free multi-tagging system: non-controlled sets of tags, multiple description values. This choice is inspired by the Folksonomy techniques, using an open tagging system in order to avoid having to foresee all tags that might be needed in the future or to bend reality to a closed tagging system.[23] Although more complex to maintain, this system allows alternative descriptions for new cases and lets new researchers apply their own coding system.

Still a manual task: entering data in the back office

31 A database is set up according to the data model. We use the web application framework DJANGO to manage a MySQL database. This application provides an automatic way to build data entry interfaces in order to edit the database.

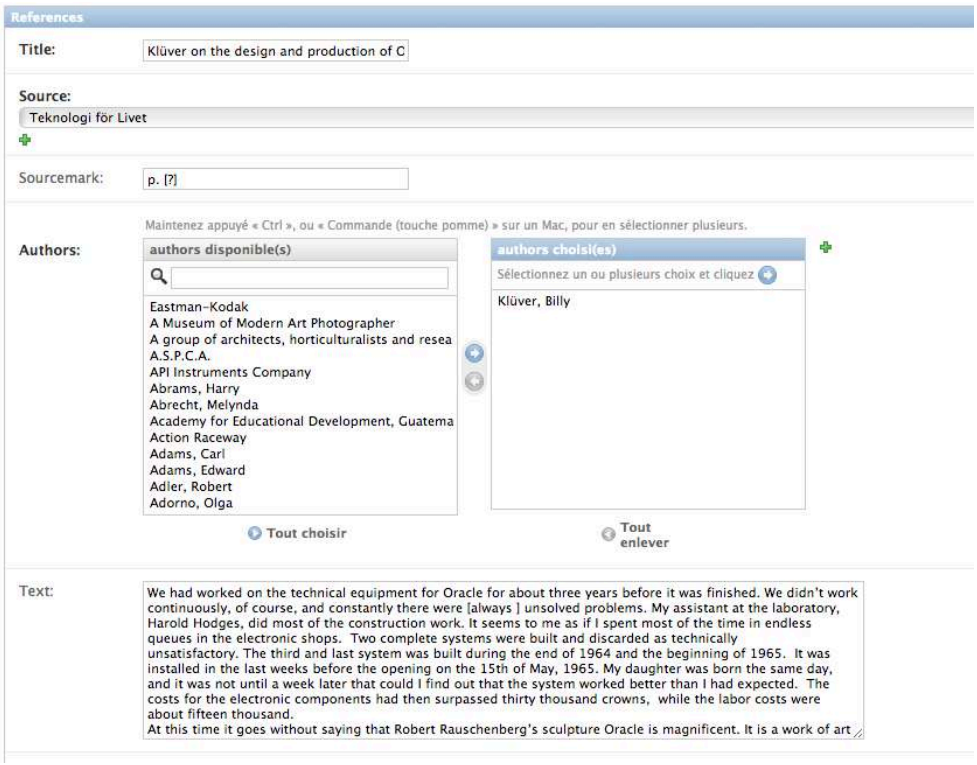

Figure: database interface for Reference.

32 The researcher can then describe E.A.T. activity from the archive documents by feeding new data into the database. All the previous notes the researcher had written were translated as data to be imported into the database (list of actors, projects...). Digital means are used only as a repository for human work.

Visualization and exploration

33 The manual work of data extraction is motivated by the opportunity to build a set of data visualizations. Once structured in a database, data can be represented as graphs and schemas: timelines, maps, collaboration charts, tag clouds, etc. Dynamically updating, this set of visualization creates a datascape, to be explored through:

34 - projection facets: on time with timelines, on geographical space with maps, on relationships through social networks;

35 - aggregation levels: to allow the researcher to switch from macro (aggregated view) to micro (specific actor view) levels with the same instrument;

36 - the reversibility of actor-network: to consider any actor as sets of attributes (tags, activities...) and reciprocally to consider any attributes as sets of relationships of actors[24].

37 This exploratory data analysis enhances the reading-coding experience of the archive through an interactive environment, with the objective of confirming known patterns or discovering new ones through quantification.

38 The E.A.T. Datascape contains three pages (Overview, Actor and Project) composed of several visualizations:

39 - Overview page: an aggregation of all data on time (curve representing the number of activities and people involved), space (places) and categorization (clouds of tags used sorted by occurrences);

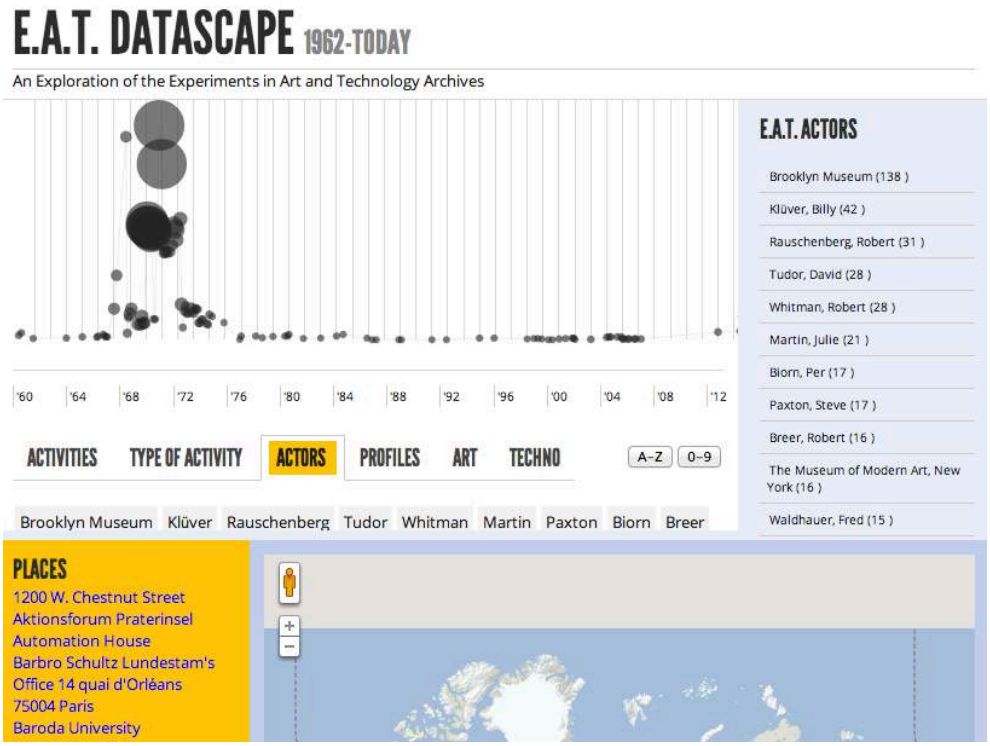

Figure: the overview page.

40 - Actor page: a page per actor modeling phases of activity, collaborators, and where the actor participated in E.A.T.;

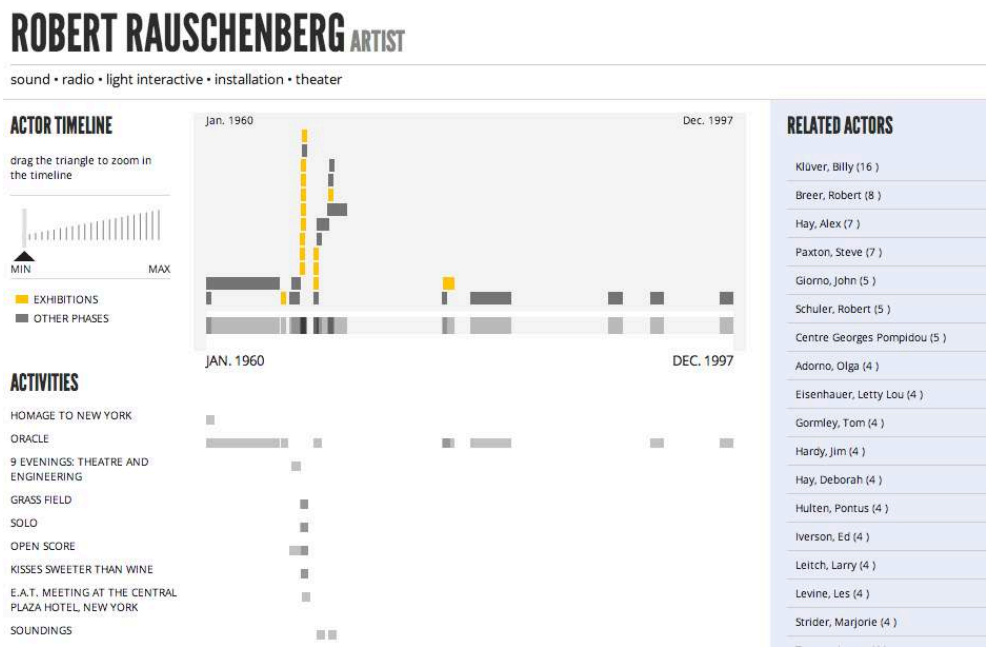

Figure: an actor page - Robert Rauschenberg.

41 - Activity page: a page per project showing the history of the activity by phase, actor participation, and place.

42 On both Actor and Activity pages, a sidebar shows all annotations referencing information contained in documents in the archive.

Figure: an activity page - Oracle.

Explore an actor network

43 The identification of the different players, their relations, and their involvement in especially heterogeneous activities poses a particular challenge for art history, whose interest in the figure of the artist makes it difficult to include engineers and mediators,

more often favored by the social history of art and the sociology of art. But we do have all the information necessary for defining a particularly precise "art world.[25]" This can take the form of a social cartography, or sociography—to wit, a representation of the players and their relations where it is possible to be interested in artists[26] and/or engineers solely or in all the players involved. The network is construed as an interaction of different individual protagonists (artist, engineer, exhibition curator) and organizations (gallery, museum, foundation, etc.). The use of several additional data, like the frequency of collaboration between players or the various hierarchic links is likely to alter the appearance of the relational graphs.[27]

44 The exploration interface must above all permit a search by player, whatever the definition (artist, engineer, mediator, or organization) in order to identify all the activities in which he or she has been involved and the people with whom he or she has worked, and visualize their importance in the organization. The story of E.A.T. by Klüver makes it possible to partly establish the network peculiar to the engineer who was joint founder of E.A.T.; yet it should also be possible to follow the different involvements of a Bell Labs engineer such as Per Biorn, and thus gauge the significance and multi-faceted nature of his involvement within E.A.T. If the activity of the two artists who co-founded E.A.T., Robert Rauschenberg and Robert Whitman, merits our close attention, the more marginal involvement of artists like Robert Morris and Allan Kaprow, other major figures in the New York art scene of the day, is likely to interest the researcher. At any given moment, it is possible to decide to follow a player, or else abandon a defined player to follow another, and pass from a player to an activity, or vice versa. This flexibility can also lead to a useful reappraisal of certain art categories that are firmly established and often pigeonholed, in favor of considering the hybridizations, transfers, and exchanges on which their praxes are nurtured.

Explore a project: Oracle

45 In addition to the overall panorama, it is also helpful to more detailed views, oriented towards the various activities as such. Factual information regarding the activities, and the members' involvement therein, actually makes it possible to reconstruct a history of a given activity—i.e. a work, a project—from conception and production to communication (publication, lecture, exhibition) and reception, independently of whether the project actually took place. The work *Oracle*, initially conceived and developed by Rauschenberg and Klüver between 1960 and 1965, is an especially enlightening example, from their encounter and initial discussion in 1960, through the initial intentions, the re-formulation of the project, and its execution between 1962 and 1965, to its many shows and its conservation and restoration (phases) at the Centre Pompidou.

46 The visualization of the information—actors, timeline, places, sources—not only demonstrates that the development of the work was long and that many people were involved in its production, but its life story (the timeline associated with different sources, mainly texts and photos displayed in the source column) also reveals that radically different versions of the same work of art—which was at first interactive and immersive but not necessary afterwards—were exhibited through time, respecting more or less the original aesthetic statements of the artist. From another perspective, and considering the successive phases in the timeline of the work, one can also see that

the exhibition of the work at the Centre Pompidou and elsewhere was regularly—if not systematically—preceded by a restoration phase; one can see here how difficult it is to preserve and exhibit (formerly new) media art integrating technologies that are now obsolete.

Feedback on experience

47 This work is an attempt to implement the concept of a datascape and test its validity in a humanities case study.

From datascape back to the archive

48 Our tool was built to help the researcher explore an archive. It was first conceptualized as a movement from the archive to the datascape, from the document to the data, representing extracted information through visualizations. Yet, to explore the datascape, the researcher needs to reverse directions, going from the visualization back to the archive. Through sources and annotations, the researcher can return to the archive to check data, continue carrying out data extraction work...

49 More generally, if one imagines the use of the datascape by a larger audience, it can be envisioned as a gateway to the archive. Reversing the movement from the datascape to the archive reveals an alternative way to open up archive to a broader set of users by presenting a collection of documents as an interactive map of information. Exploration would be a first step into the archive, which could then be enhanced by accessing and reading the preserved documents. Although this would mean adding an editorial layer to guide exploration by users, the datascape could be used by preservation institution (museum, archive organism...) to propose his public interfaces to explore their collection.

Dive into data: an information laboratory

50 The research process described in this work places the researcher at the center of the data processing flow. In a single process, the researcher handles data in the form of manual extraction, modeling in a database, and visual exploration. He goes from documents to data by reading and noting important facts; from data to information by exploring the datascape that gives form to the database, it creates information (“derived from the verb "informare" (to inform) in the sense of "to give form to the mind"”[28]); and from information to knowledge, by analyzing and interpreting the forms of data obtained. By allowing researchers to be the main actors of those steps, we let them dive into data.

51 Diving into data signifies exposing oneself to data coding issues. Since the data model has been opened (the least *ex ante* structure possible) and the extraction is manual, the researcher has to decide how to transform his reading experience into modeled data. We engaged in many discussions on how to map a given fact into data. For example, the first phase of an activity has been modeled in this work as design and production, though these were initially two different phases. The decision to code design and production as one phase of activity reflects the difficulty of knowing, based on archival material, when and how design was separated from production. The decision depends

on the particular event and on the research question targeted. The researcher should therefore be the main actor of this process of coding facts into data.

52 With the concept of datascape, we try to reconcile qualitative and quantitative approaches to data analysis. While the data model forces a quantification of events within the confines of a database, designing a simple and open data model and letting the researcher decide how to code the data grounds this quantification into a qualitative environment. This hybridization continues with the exploration. The quantification of the database is used to create interactive visualizations. In this Exploratory Data Analysis approach, the researcher plays the crucial role of the explorer. The datascape lets him see the geography of the field through the lens of his own coding work. Using the database to create navigable interfaces gives him a tangible view of the necessary simplification of the quantification. The quantification of data is then reviewed by the qualitative work of exploration and interpretation by the researcher. The researcher can then confront and critique his own coding work.

53 In this way, the datascape becomes a tool to build a corpus of quantitative data from a qualitative perspective using the visual and interactive exploration as a bridge between the two. The corpus built can then be exported in a specific file format in order to process it using specific software. For example, in this work, we exported from the database a network of actors collaboration (i.e. actors linked by number of common activities). We then analyzed those quantitative data in a dedicated network statistics software.[29]

Toward collaborative work

54 With the documentation of the quantitative elements being incorporated into the database (both data and references to the archival documents) and directly accessible to any other researcher than the main one, we could imagine using the datascape as a collaborative research tool. We have not yet tested this, and the tool developed in this work is not ready to allow collaborations. Many missing features have yet to be developed, including providing private coding glossaries for each researcher, a bottom-up categorization system which would let the research community decide how to build a common ontology from the multi-tagging system, the possibility of adding to the visualization to identify who coded a data, etc.

55 Though we worked on a highly specific corpus to answer specific question, “What is E.A.T.?,” in the field of art and social art history, the first positive feedback proved that, as a digital tool and method, this work could help other humanities researchers who are working on an archive and who are confronted with a certain level of complexity—i.e. many players, activities, etc.—to test their own hypotheses and to examine future avenues of research.

NOTES

1. *E.A.T. Information*, New York: Experiments in Art and Technology, March 18, 1970, p. 1.

2. In France, the exhibition *Les Années pop : 1956-1968* (March 15 2001-June 18 2001) at the Centre Pompidou is a notable example.

3. Billy KLÜVER, *E.A.T. Bibliography: August 12, 1965-January 18, 1980*, New York: Experiments in Art and Technology, 1980. The classification and conservation of the archives owe a great deal to the archivist's spirit shared by Klüver and his wife, Julie Martin, who have a common passion for social art history and for those artistic communities that experienced a feeling of participating in a historical moment likely to be recorded in art history. (see Billy KLÜVER and Julie MARTIN, *Kiki et Montparnasse : 1900-1930*, Paris: Flammarion, 1998).

4. It should be said that the distinction can be muddled. Though, at times, one finds the same items in Documents and References, this method of classification is nonetheless very useful for an "activity"-oriented approach concerned with their production and reception.

5. The index at the end of the publication usually represents the only alternative search mode.

6. These distinctions of information format and type feature in the bibliography produced by E.A.T., with each bibliographical item being usually accompanied by a description specifying the nature of the information listed.

7. The Daniel Langlois Foundation gives bibliographical access to the following eighteen thematic groupings: 9 Evenings: Theatre and Engineering, Technical Service Program, Technical Information, E.A.T Competition for Engineers and Artists, Lectures-Demonstration Series, Pepsi-Cola Pavilion Project, Anand Project, Telex: Q&A, American Artists in India, New York Collection for Stockholm, Multi-Dimensional Scaling, Projects Outside Art, Children and Communication, Artists and Television Projects, Projects in Central America, Paris-New York-Paris, Island Eye, Island Ear, and United Nations Satellite Demonstration.

8. Norma LOEWEN, *Experiments in Art and Technology: A Descriptive History of the Organization*, New York: New York University, 1975.

9. It would be a mistake to be interested only in art magazines, because there are also interesting scientific publications (Bell Laboratories magazine, article for the IEEE, etc.).

10. At a moment when Klüver was no longer able to give these lectures, and thus with the aim of having himself replaced.

11. Klüver repeatedly wrote and rewrote this story, and we know of at least three different versions the two earlier ones being: Billy KLÜVER, "Rainforest", manuscript of a presentation, written on January 30, 1970, E.A.T. Archives/Julie Martin; Billy KLÜVER, *What Are You Working on Now? A Pictorial Memoir of the '60s*, New York: Experiments in Art and Technology, 1983.

12. Works and projects, like *Oracle* and the Pepsi-Cola Pavilion at Osaka, being described over several pages.

13. *Oracle* and *Soundings* are, in particular, each developed on two panels.

14. Sylvie LACERTE, "E.A.T. Experiments in Art Technology", *Leonardo/Olats*, 2002; URL: http://www.olats.org/pionniers/pp/eat/eat.php. Accessed January 27, 2014; Norma LOEWEN, *Experiments in Art and Technology: A Descriptive History of the Organization*, *op. cit.* (note 8).

15. A point raised by Christopher de Fay in his thesis *Art, Enterprise and Collaboration: Richard Serra, Robert Irwin, James Turrell and Claes Oldenburg at the Art and Technology Program of the Los Angeles County Museum of Art, 1967-1971*, Ph.D. dissertation, University of Michigan, Ann Arbor, 2005.

16. Subsidiary E.A.T. groups, which have sprung up all over the world.

17. Jennifer GABRYS, "Jennifer Gabrys: Residue in the E.A.T. archives", published by Fondation Daniel Langlois, 2004; URL: http://www.fondation-langlois.org/html/e/page.php?NumPage=522.

Accessed January 27, 2014. Sylvie LACERTE, "9 Evenings and Experiments in Art and Technology", published by Fondation Daniel Langlois, 2005; URL: www.fondation-langlois.org/html/e/page.php?NumPage=1716. Accessed January 27, 2014. Clarisse BARDIOT, "9 evenings: theatre and engineering", published by Fondation Daniel Langlois, 2006; URL: http://www.fondation-langlois.org/html/e/page.php?NumPage=572. Accessed January 27, 2014. Catherine MORRIS (ed.), *9 Evenings Reconsidered: Art, Theatre, and Engineering, 1966*, Cambridge, Mass.: MIT List Visual Arts Center, 2006; Frances DYSON, "And then it was now", published by Fondation Daniel Langlois, 2006, URL: www.fondation-langlois.org/html/e/page.php?NumPage=2144. Accessed January 27, 2014. Let us also mention the publication of performance films at Artpix and the cycle of lectures and screenings at the MoMA and the Centre Pompidou on the 9 Evenings.

18. Christopher DE FAY, *Art, Enterprise and Collaboration*, *op. cit.* (note 15).

19. Howard BECKER, *Art Worlds*, Berkeley, CA.: University of California Press, 1982.

20. Bruno LATOUR, Pablo JENSEN, Tommaso VENTURINI, Sebastian GRAUWIN and Dominique BOULLIER, "The whole is always smaller than its parts: a digital test of Gabriel Tardes' monads", *The British Journal of Sociology*, vol. 63, n° 4, 2012, p. 591-615.

21. John W. TUKEY, *Exploratory Data Analysis*, Reading, Mass.: Addison-Wesley, 1977 (Addison-Wesley series in behavioral sciences).

22. Bruno LATOUR, "Le topofil de Boa Vista ou la référence scientifique 🅱 montage photo-philosophique", *Raison Pratique*, n° 4, 1993, p. 187-216.

23. Clay SHIRKY, *Ontology is overrated; categories, links and tags*, 2005; URL: http://www.shirky.com/writings/ontology_overrated.html. Accessed January 27, 2014.

24. Bruno LATOUR, *Reassembling the Social. An Introduction to Actor-Network Theory*, Oxford: Oxford University Press, 2005 (Clarendon lectures in management studies).

25. Howard BECKER, *Art Worlds*, *op. cit.* (note 19).

26. This is reminiscent of what the art historian Steven Watson proposes for Andy Warhol's factory in *Factory Made: Warhol and the Sixties*, New York: Pantheon Books, 2003, xvi-xvii.

27. The Gephi visualization and exploration platform (http://gephi.org) meets these needs.

28. Citation extracted from Wikipedia. Accessed January 27, 2014, http://en.wikipedia.org/wiki/Information.

29. Mathieu BASTIAN, Sébastien HEYMANN and Mathieu JACOMY, "Gephi: An Open Source Software for exploring and manipulating networks," *in International AAAI Conference on Weblogs and Social Media*, published by Gephi, 2009. URL: www.aaai.org/ocs/index.php/ICWSM/09/paper/view/154. Accessed January 27, 2014.

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Crossing Boundaries: Using GIS in Literary Studies, History and Beyond

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AUTHOR'S NOTE

The work on the Literary Mapping of the Lakes project was made possible by an award from the British Academy (SG46004). The work on the Spatial Humanities project was funded by the European Research Council (ERC) under the European Union's Seventh Framework Programme (FP7/2007-2013) / ERC grant "Spatial Humanities: Texts, GIS, places" (agreement number 283850).

1 Geographical Information Systems (GIS) have become widely accepted in historical research and there are increasing calls for them to be used more widely in humanities disciplines. The difficulty is, however, that GIS comes from a quantitative, social science paradigm that is frequently not well suited to the kinds of sources that are widely used in the humanities. The challenge for GIS, if it is to become a widely used tool within the humanities, is thus two-fold. First, approaches need to be developed that allow humanities sources to be exploited within a data model that is usable by GIS. Second, and more importantly, researchers need to demonstrate that by adopting GIS they can make significant new and substantive contributions to knowledge across humanities disciplines. This paper explores both of these questions focussing primarily on examples from literary studies, in the form of representations of the English Lake District and history, looking at nineteenth century public health reports.

2 A GIS is effectively a form of database. It differs from a conventional database in that every item of data within it is linked to a location on the map, thus a typical GIS will consist of a table of quantitative data where each row within the table is linked to a point, line or polygon (representing an area) that maps the location to which the row of

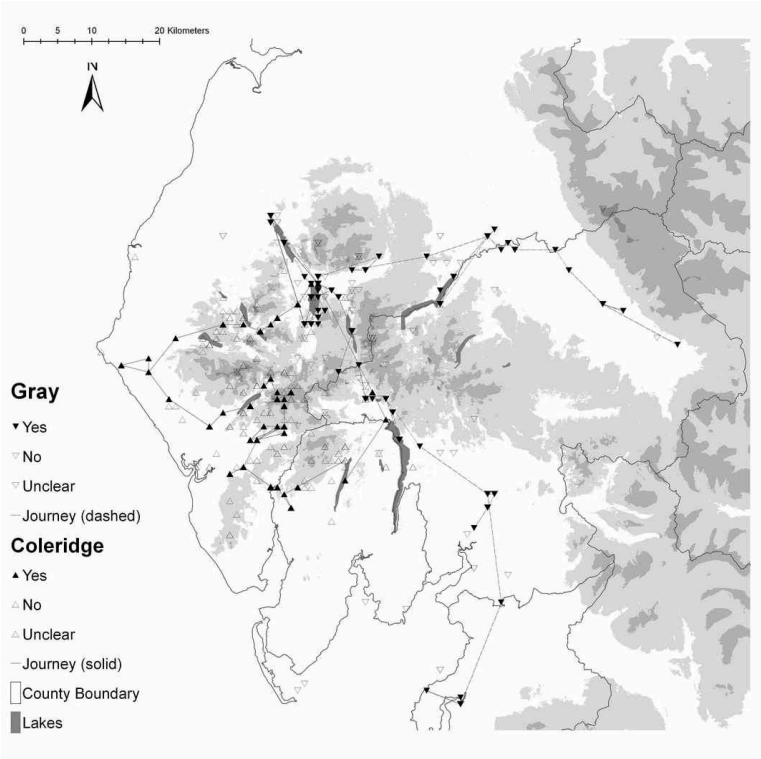
data refers. The key advantage of this structure is that it allows the user to explore not only what is occurring but also where it is occurring and, by extension, how things occur differently in different places. This structure has been very successful in quantitative history[1] but its use within the humanities is limited by its reliance on quantitative sources. To be an effective tool within the humanities, GIS must be able to manage non-quantitative sources and, since the major source used by humanities scholars is text, it must by definition be able to handle textual sources. This paper reports on two different examples of how this can be done using different types of digital texts, a small study using writings from literary studies and a much larger scale approach using sources from nineteenth century history.

The Mapping the Lakes project

3 Our initial work on using texts within GIS was called the "Mapping the Lakes" project.[2] This was deliberately small-scale and focussed on two early descriptions of tours of the English Lake District: Thomas Gray's proto-Picturesque tour of 1769 and Samuel Taylor Coleridge's 1802 "circumcursion". These tours were selected for two reasons. First, Gray's tour became well known as a precursor of the classic Picturesque tour, while Coleridge is closely associated with the Romantic movement. This distinction is important. The Picturesque movement is closely connected with the early development of landscape tourism. It is associated with an observer travelling around a landscape and observing it from defined beauty spots in a stylised manner. The Romantic movement, of which Wordsworth is the leading figure, both developed this and reacted against it. While continuing to stress the aesthetic quality of the landscape, the Romantic writer became part of the landscape rather than being a detached observer. From an intellectual viewpoint, therefore, the differences we can find between these two accounts is clearly important. From a more practical point of view, both of these accounts are relatively short, at around 10,000 words each, making them relatively easy to handle within the limitations of the project.

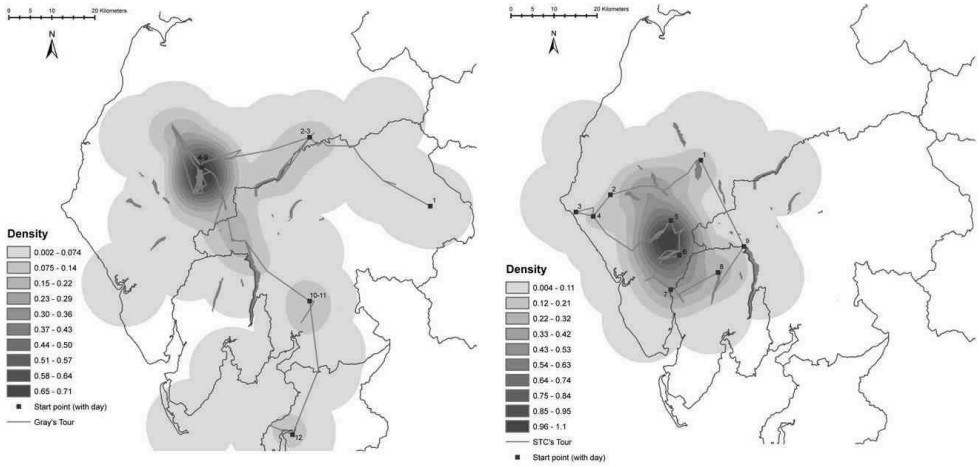
4 The texts were typed up by hand and, during this process, place-names were identified and tagged manually using XML (eXtensible Mark-up Language). Tagging the place-names in this way meant that subsequently extracting them from the text is relatively simple. To convert this into a GIS the essential next stage is to give a co-ordinate to every place-name. This can be done by using a relational join to link the raw place-names to a place-name gazetteer, effectively a database table that gives a coordinate for every name. In this project the Ordnance Survey's 1:50,000 gazetteer was used to provide a British National Grid reference for every place-name. One issue in doing this is the need to resolve spelling variations, such as the differences between "Bow-fell" and "Bow Fell". Names also need to be disambiguated where the same name can refer to more than one location. Given the relatively small size of the texts and the study area, neither of these presented a major challenge. There were also issues to do with the accuracy of the grid references, which are at best only to the nearest kilometre but for linear features, such as rivers, or vague features, such as valleys, may be somewhat misleading.

Figure 1: Simple dot mapping the tours' of Gray and Coleridge.



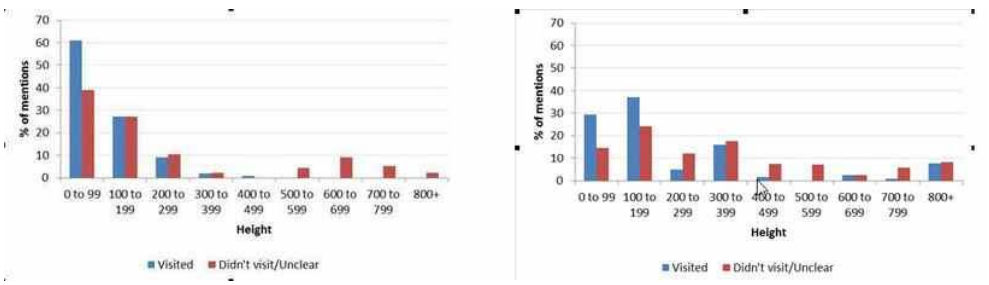
5 Once the place-names have been allocated to co-ordinates, converting these to point locations in a GIS is simple. Figure 1 shows both tours on a single map with straight lines being used to join the points mentioned together to help illustrate the route taken. Gray started at Brough to the east of the Lake District, moved on to Penrith where he spent two nights, going down to Ullswater for the day in between. He then journeyed on to Keswick where he spent six nights travelling out on day trips to the surrounding countryside. Leaving Keswick, he went south, over Dunmail Raise, the main route through the central Lake District, to spend two nights in Kendal, and finally on to Lancaster where the Lake District part of his tour finishes. By contrast, Coleridge started in Keswick where he lived and journeyed south-west through the Newlands Valley to spend three nights in and around St Bees on the coastal plain, west of what is now the National Park. He then went back into the Lake District up Wasdale valley and climbed Sca Fell, his account of descending this mountain is particularly famous. Once down he travelled on through the south-western Lake District and over to Coniston before going north over Dunmail Raise to return home.

Figure 2 : Density smoothed maps of (left) Gray and (right) Coleridge.



6 It is well known cartographically that maps such as those in figure 1 are difficult to interpret. For this reason spatial analysis techniques have been developed that attempt to simplify them and make them more readily comprehensible. One example of this, pioneered in disciplines such as epidemiology and crime mapping, is kernel density smoothing in which the density of events around each location is mapped with denser locations being shaded in darker colours. The density is calculated using a distance decay model in which near events have more impact than those that are further away. In this case an "event" is a place being named in a text. As well as simplifying the pattern, this has the second advantage of reducing the accuracy implied by the point map. Figure 2 shows density smoothed versions of the two tours. Figure 2 (left) shows the central importance of the area around Keswick to Gray's account although other clusters such as Penrith and Ullswater, Kendal, and Lancaster are all apparent. It is clear from this that urban centres and valleys are the most talked about areas within Gray's text. Coleridge, by contrast shows a very different pattern with the account being particularly clustered on the area around Sca Fell.

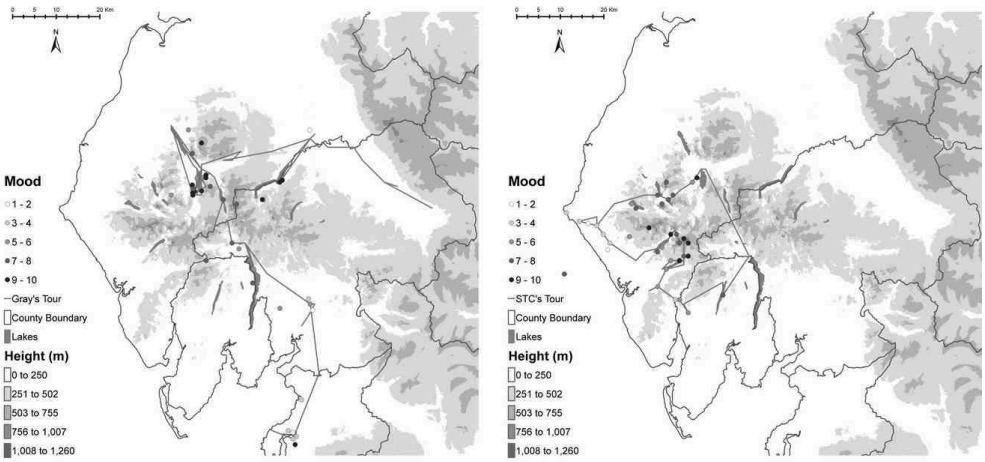
Figures 3: Heights of places mentioned by the two authors (left Gray and right Coleridge).



7 One of the big advantages of GIS is its ability to integrate data from apparently disparate sources. The previous maps imply that Gray concentrated on the more urban areas and valleys, while Coleridge consciously sought out the more remote and upland parts of the Lake District. Using location to integrate data from other sources can help us explore this further. A useful GIS-based source of information about height is a *Digital Terrain Model* (DEM), a representation of the Earth's surface that gives heights for every location. Integrating a DEM with the point data on place-name references allows us to allocate a height to every mention. Rather than mapping them, these can then be

graphed. The graph in figure 3 (left) shows heights of places cited by Gray distinguishing those places that he visits from those that he talks about from a distance. A clear pattern is apparent. He spends all of his time at low altitudes, with over 60% of visited places being under 100m and all being under 1000ft. Most of the places he mentions but does not visit are similarly low although some are at altitude, particularly over 600m which represent the higher Lake District peaks. He almost completely ignores places in mid-altitudes. This pattern seems to fit well with the concept of Gray as a Picturesque tourist: he spends his time in the valleys and passes, describing the areas around him and looking up to the high peaks. The similarities and differences between this and Coleridge's pattern, shown in figure 3 (right), are interesting. Like Gray, Coleridge spent much of his time at lower altitudes but not to quite the same extent. Coleridge also visits places across the height range including a cluster of references in the very highest intervals, over 800m when he climbs Sca Fell. It is interesting though that, while his account is famous for this ascent, it only occupies a relatively small proportion of the heights of the places that he visits. It is also noticeable that Coleridge does not ignore mid-height places.

Figure 4: The emotional response to places by (left) Gray and (right) Coleridge.



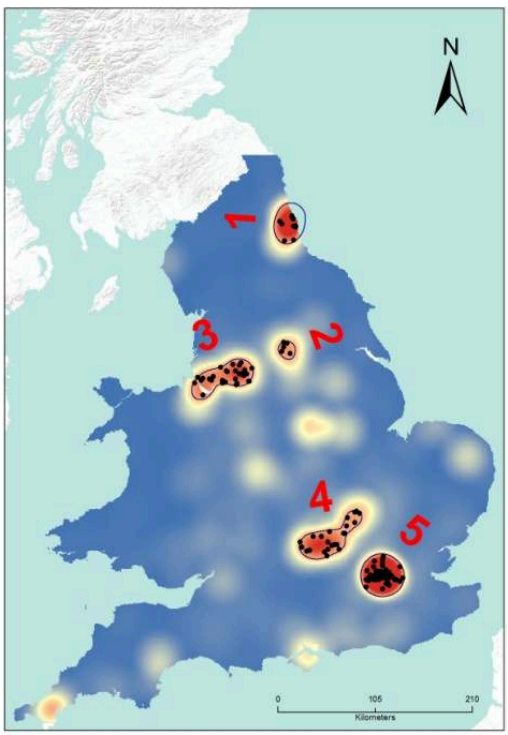
8 As well as mapping where the writers were talking about, we were also interested in what they were saying about the landscape. To do this a ten point scale was devised that associated the emotional response that the writers had to the places that they were talking about. At the bottom of the scale were words such as "dull" and "tedious" while at the opposite end, words such as "sublime" and "terrifying" were given a score of 10. As shown in figure 4, mapping these for the two authors gives a somewhat different pattern than the simple maps of where they were talking about. For Gray, rather than Keswick, the emotional centre is Borrowdale, the valley south of Keswick. Ullswater is also prominent. For Coleridge, perhaps more predictably, the area around Sca Fell is clearly the emotional centre, the area around the Newlands Valley also attracts him, but he seems indifferent to the coastal areas to the west where he spent much of the early part of his tour.

The Spatial Humanities project

9 The above project showed two things: first that we could create a GIS from texts, and secondly that this would allow us to explore the geographies within these texts in new ways and glean new knowledge from them. Its major limitation was that the two texts involved were only 20,000 words long in total and the place-names had to be identified by hand. To be truly effective in the emerging world of digital libraries and archives as well as born-digital material, these techniques have to be scaled-up such that they can be applied to corpora – large volumes of digital text – that consist of millions, if not billions of words.

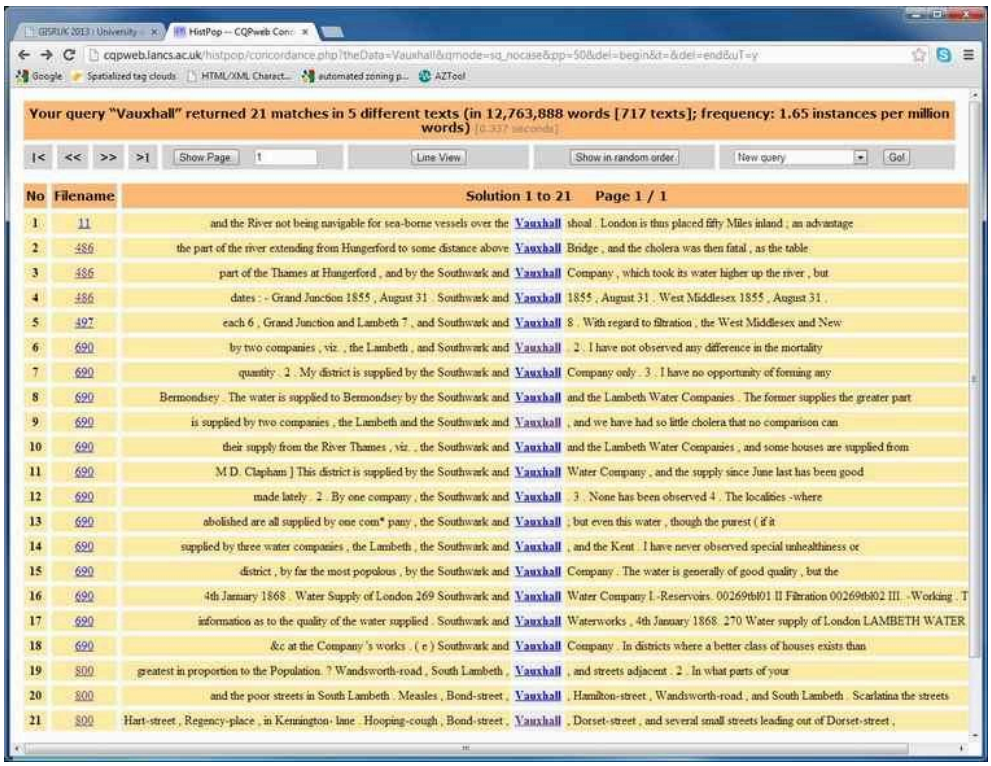
10 The first challenge in doing this lies in geo-referencing the text: identifying the place-names and linking them to a co-ordinate from a gazetteer has received attention from a number of authors. It is not the intention to describe this process here beyond saying that candidate place-names are identified using natural language processing (NLP) techniques. They are then extracted, linked to a gazetteer to provide coordinates, and disambiguated automatically.[3] Here we explore the second challenge: once we have a large georeferenced corpus how can it be analysed? The work is based on the Registrar General's reports from 1851-1911 for England and Wales, taken from the Histpop collection.[4] This source is particularly interesting as the Registrar General was commenting on, and influential in, the start of the period of mortality decline that was to characterise the 20th century. This corpus contains around 2.5 million words and was georeferenced by Claire Grover and colleagues at the University of Edinburgh (Grover et al, 2010).

Figure 5: Clusters of place-name instances from the Registrar General's reports for the 1850s.



11 Having geo-referenced the corpus, the challenge, as with Mapping the Lakes, was then to use appropriate techniques to explore both what places are being mentioned and what is being said about these places. As the corpus is 2.5 million words rather than 20,000, automated techniques need to be used to a greater extent than they were in the Mapping the Lakes project. Figure 5 shows an example of one of the ways this has been done. Kernel density analysis has again been used, this time to smooth the pattern of place-names from the 1850s. This example has gone further than this, the resulting densities have been used to identify clusters which are defined as those areas with a density more than one standard deviation above the mean. Place-name instances lying within these clusters are marked in figure 5.

Figure 6: Concordances on the word "Vauxhall".

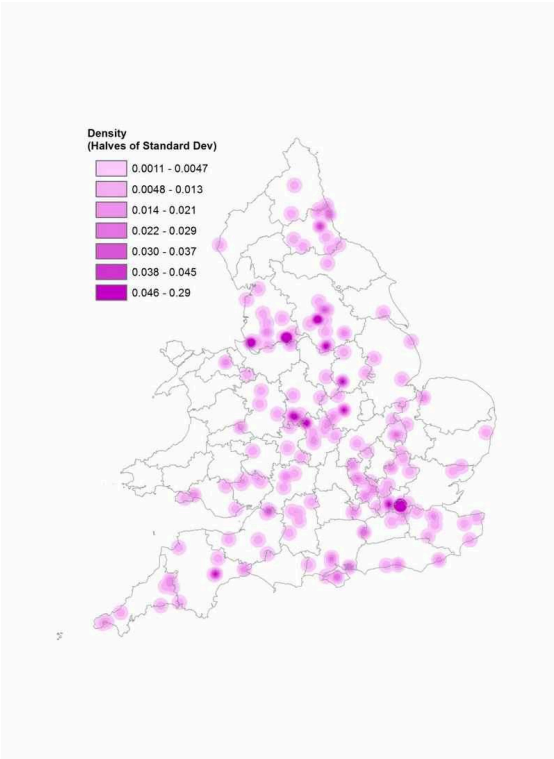


12 This enables us to identify *where* a corpus is talking about both in terms of the general map patterns and the specific place-names that make up these patterns. The next stage is to ask *what* the corpus is saying about these places. The simple approach of "mood mapping" used in Mapping the Lakes is not appropriate here as it only applied to a specific sense of place theme that was encoded by hand. Instead, techniques from corpus linguistics are used.[5] The most basic corpus linguistics technique for exploring what a text is saying about a particular theme or place involves using a *concordance.* This presents the text surrounding each instance of a particular search term which allows a quick assessment to be made about what is being said about a particular place-name. Figure 6 presents a concordance for "Vauxhall", one of the place-names that has among the highest densities of place-name instances surrounding it. The concordance reveals that most of the 21 instances of "Vauxhall" occur in relation to the Southwark and Vauxhall Water Company which in turn points to the Registrar General's interest in water quality and its link to health in London. The software that allows this, CQPweb[6]

allows the concordance lines to be investigated further by following hyperlinks to the full text.

13 This simple approach can be expanded further to create much more sophisticated queries. For example, we might want to create a concordance of all of the place-name instances from the clusters in figure 5 and explore what the key themes that are being discussed in relation to these clusters are and whether the texts are referring to similar themes for each cluster or whether there are differences between them. We might also want to compare the clusters, individually or as a group, with the background pattern.

Figure 7: The distribution of places that collocate with "measles".



14 This idea introduces another concept from corpus linguistics, that of *collocation* which asks the question "what words occur near this search term?" Collocation can be used to explore what themes are associated with a particular place or cluster of places using statistics that explore how significant the collocates are based on word frequencies in the corpus as a whole. It can also be used to explore what places are associated with a particular theme. The literature tells us that infectious diseases were among the major killers of infants and children in this period.[7] This is supported by a corpus linguistics analysis that showed that "measles" was among the most common disease terms found in the corpus for the 1850s. Figure 7 is thus a density smoothed map of place-names that collocate with the search-term "measles" This is a simple map of the places in which the Registrar General was most interested, in relation to this particular disease. It shows that there was a particular emphasis on the major urban centres of London, Birmingham, Liverpool and Manchester.

Conclusions

15 This work is in its early stages but it clearly has much potential. Firstly, we have illustrated that at a technical level it is possible to create GIS databases from large volumes of text. Secondly, we are developing techniques that draw on the geographical traditions of spatial analysis and the textual traditions of corpus linguistics to allow us to understand both where a corpus is talking about and what it is saying about these places. Thirdly, and most importantly, we have illustrated that this provides a useful scholarly tool in helping to understand texts from both literary studies and from history. The main conclusion is thus that GIS has much to offer to scholarship within the Digital Humanities.

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Building an open community: a new opportunity for scholarly projects

Julien Dorra

"However, the magnitude of our dream is too large for just us, and we need you"[1]

Introduction - Why build open communities today?

1 In the past decade, we have seen the rise of incredibly successful projects built by a new form of collective effort: the open community. Open Communities are different to traditional, locally anchored communities. But they are also different to multinational organizations. They are more akin to *consciously directed ecosystems* – ecosystems with a mission.

2 The most famous examples of successful open communities are Linux, Wikipedia, Drupal, and more recently OpenStreetMap.

3 My experience with open communities started in 2008 when I joined the French Drupal community. Drupal is an open source web-based content management system (CMS).

4 During the 2 years in which I participated in the Drupal France community, it grew from a dozen contributors to many more, allowing the community to organize a 900-person event in September 2009. The Drupal community is historically very horizontal, with no single company or individual being the main driver of the Drupal product.

5 We should note that this absence of centralized control is not a given for every open source product: Wordpress is another successful open source CMS, but its design and roadmap is controlled by the company that built it, Automattic. In that sense the Drupal ecosystem of individuals and organizations is closer to the Wikipedia or OpenStreetMap ecosystems than to the Wordpress ecosystem – even though the Wordpress and Drupal CMS are similar, competing products.

6 In 2011 I was part of a small group of seven that started Museomix[2], an event where people with a diverse set of skills and talents gather in a museum, and test new ways of experiencing museums in 3 days using a wide range of tools and technologies. For the

third Museomix edition in November 2013, more than 800 individuals participated in 6 simultaneous Museomix events in 3 countries. A total of 47 prototypes, new museum experiences made real, were built in just 3 days – all thanks to the decentralized, global effort of hundreds of people.

7 Launching and growing Museomix at such a fast pace would not have been possible 10 years ago, when most non-tech people were not connected to each other via the Internet. It would not have been possible before the large scale adoption of mainstream social networks. In retrospect, we realize that many projects did not take off because it was incredibly difficult to reach the right people.

8 The rise of public personal communication –individuals publicly communicating– makes it easier to reach out to potential contributors, and for potential contributors to find a community that suits their own purposes. As a consequence, new open communities that go beyond the historical mission of producing open source software are starting to appear.

9 Open communities make entirely new endeavours possible, as demonstrated by OpenStreetMap, Wikipedia or Museomix. They also make these endeavours sustainable: Linux is 23 years old and Wikipedia is 13. OpenStreetMap is 10 years old and as of early 2014 is still entirely volunteer-based. These projects are not as old as some century-old corporations or charities. But they are a continuous reminder that communities based only on desire and agency can last as long or longer than a closed project.

10 Building active local communities was, and still is, incredibly difficult. It involves going door to door, and engaging people one by one.

11 Starting an open community can be considered easier, because it is based on the realization that the community already exists in latent form. When I talk about this latent form of community with someone, I describe it like this: "There are people all over the world who want to build this project with you, but they just do not know it yet. Reach out to them."

12 At its most basic, building an open community is using the Internet and events to turn a latent community into a real community. It is not without effort, and many failures. One of the classic pitfalls is trying to *manage* the community when it first needs to be *built*.

A new framework for growing a project

13 Community building is a not new technique. Saul Alinsky has dedicated his life to building local communities that empower people, and his 1971 book *Rules for Radicals*[3] is the basis of contemporary community organizing techniques. Alinsky's techniques are based on conflict, but there is also a less conflictual form of community organizing, where the goal is oriented toward social reconciliation more than civic rights, as exemplified by the work of Christophe Jibard in Paris.[4]

14 As community building started to combine with the Internet and the web, it transformed into a way to launch and grow a new type of project: knowledge-oriented, technological, creative projects. Most of these are extremely useful in supporting research: maps, encyclopedias, content management systems.

15 The key to open community building is creating an ecosystem rather than an organization. It means fostering a balanced environment where both individuals and

organizations work together toward a common goal. It also means that agents of the ecosystem may have diverging interests.

16 What does *open* exactly mean here? It essentially means two things: first, the community is built with anyone who wants to be a part of it. Second, everyone, even outsiders, shares ownership of the community; or better said: no one owns the ecosystem.

The Open community compared to other ways to build a project

17 For a better understanding, we can contrast open communities with the most common methods used to start and frame the organizational aspect of a new project.

18 When starting a project, a creator tends to choose one of three ways to build it: the artist's way; the entrepreneur's way; the activist's way.

19 In the artist's way, the project creator acts mostly alone, maybe with some help from friends, a skilled craftsman, a computer programmer or other assistants. When acting in this way, you generally use your own resources and try to recoup some of that personal investment later. The artist builds the project, tries to give it exposure and mostly leaves it alone after that.

20 In the entrepreneur's way, the project creator starts with select partners, growing a single organization around the project – either a for profit organization, or a non-profit organization. The entrepreneur recruits people to help the project grow. The project is the organization – and the organization is the project.

21 The activist's way starts with a small group of like-minded peers, growing a group to support a cause or a social need. The activist's main job is to convince people that the project is important. Admission to and exclusion from the group are subject to rules, but also to the strict adoption of the group's message. There can be no ambiguity around the message (in contrast to the artist's way, where ambiguity is often found.)

22 The artist's way; the entrepreneur's way; the activist's way. These three ways of managing a project work well for a wide range of endeavours.

23 Interestingly, these traditional ways share a common premise: for the project to succeed, it is necessary to manage the scarcity of resources, probably for the entire life of the project. At any point in time there is a fixed budget and a fixed team. How could it be any other way? Thus certain goals might seem totally unattainable.

24 The open community introduces a new premise: the need to manage a surplus of resources. There will be too many people, doing too many things, in too many places. Some of this surplus work will have to be cancelled, deleted or gone back over. An example of this is the edits in Wikipedia: as much energy and time is spent deleting edits or reverting to previous versions as creating new ones.

25 This counter-intuitive premise changes the way resource scarcity is addressed. Successful open community builders are always thinking about how to actively create surplus by bringing in more people to the community.

Four principles for building your community

26 Many artistic, entrepreneurial, or activist projects fail. Like them, open communities can and do fail. It is still early in the life of open communities as a new social and ideological construct, and studies on how they start, succeed and fail exist but they are not comprehensive. However, there is enough history to draw lessons from the successes, giving new communities a better chance of starting up effectively.

27 Empirically, we can distinguish four principles: the open invitation; onboarding contributors; focusing the community; building a commons.

An open invitation to build together

28 For people to join your community they have to be invited publicly and openly.

29 You should publish a short, simple call. How would you invite people to join your project in a casual, but serious conversation? That's probably how you should write your manifesto.

30 Putting an open invitation out to join and build together is the first, necessary step to turn your project into an open community.

31 A good way to start would be to lay down the why, what and how of your community effort.

32 Why: The frustration, the issue you want to clarify. The current state of affairs, and what's lacking. You should be precise about the issue you want to solve, so that people that share your vision can self-identify with the issue. For OpenStreetMap it was the frustration of not being able to access public mapping data.

33 The *why* generally embeds both selfish and altruistic reasons. OpenStreetMap contributors are happy to build a better map of their own town, but also to share it with the world.

34 What: The events, the focal points. You want to focus people on the project, and you need to give the community a way to assemble. For OpenStreetMap it was Mapping Parties.[5]

35 The *what* provides a deadline for engagement. Active communities set up multiple production events during the year, as a way of focusing the community on deadlines and milestones.

36 How: The way people are going contribute. For OpenStreetMap, you can help by adding and correcting geographical data and you are encouraged to do so.

37 The *how* gives a clear picture of what people can do, what you invite them to produce together.

38 An invitation to join and contribute can take many forms. An open platform is an invitation, as in Wikipedia's case. Or the source code published can be an invitation, for example with Linux or Drupal. Depending on your project, you can accompany your call by something tangible, something you have already accomplished: source code, pictures, data, a common platform. Sometimes the most humble call starts a great, long lasting project, which is the case of Linus Torvald's first public emails about Linux: "I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu)".[6]

39 Whatever your project is producing, explicitly inviting people to contribute is the first step to making them care.

Users, Contributors

40 To understand community building, we need to understand the distinction between users and contributors and how they relate to our community.

41 People who contribute to the common goals of a community are contributors. They may contribute independently of any affiliation, or be part of various organizations that support their active contributions. Those that use the products built by the contributors are users. A healthy community will grow in number both in term of users and contributors, but users alone cannot sustain a community. Your community needs to grow in terms of contributors.

Paradoxical growth

42 A community is always growing and shrinking at the same time. Most people will leave the community at some point. And do not expect members of the community to tell you in advance: they will leave without notice, sometimes without even themselves realizing they are leaving the community for good.

43 We call this sudden change the baby effect – or more grimly, the bus effect. Things happen, lives change, and people's priorities change too.

44 Your goal is to continuously add new members to the community so it grows faster than it shrinks. Of course you also want to create an environment where active members stay long enough and do not suffer from community fatigue. To create such an environment, you should give everyone a view of what everyone else is doing, using tools such as forums and mailing lists, and always empower each member to act autonomously instead of deciding for them how they have to do things for the community.

Turn users into contributors

45 "The plural of 'user' is not 'community'. The former may grow in numbers, the latter does not grow by itself"[7]

46 To convert users of your project into contributors you have to treat each user as a potential contributor. That means leaving the door open to even the smallest of contributions. If a distant user of your community product is willing to go and talk about it in their own organization, encourage them to do so, and treat that action in every way as a contribution to the goals of your community. Publish a list of possible contributions, to help contributors self-identify with tasks at hand.

47 Another facet is the direct relationship you build with your early users. Do not try to act like you have one million users when you have just ten: email them personally, one by one, do not write bland templates to welcome your initial users. Nurturing personal relationships with your first users will create a culture of direct engagement and involvement.

Be radically inclusive

48 By definition, anyone can be a member of an open community: there are no barriers to entry.

49 To grow an active open community, you should try and include any person interested in contributing. You should judge a good community member on the member's actual actions toward the common goal, not on the member's age, professional credentials or even skills. Your mission as a community builder is to find ways to help each newcomer find his or her place and flourish in the community.

50 Sadly, every community creates both inclusion and exclusion dynamics. As an open community builder, your goal is to maximize the inclusion dynamics, minimizing the exclusion dynamics. To accomplish this, you will have to think explicitly about who your community includes and who your community excludes by default.

51 The most potent form of exclusion is self-identification. People will ask themselves if you are addressing them, if the community is for them. Think about how gender, ethnicity, age and class affect how your community is perceived. Of course the community discourse, texts, and calls are the first line. They should be particularly inclusive.

52 A simple example: if your language is English, it might be easier for you to address your current contributors, members and potential members in a gender neutral way. For example 'participant' in English works for a man and a woman. But I'm French and it is very easy in French to exclude women by using the male form for skills and functions, as this is the traditionally used default. So when I had to call for Museomix Ambassadors in French I took special care to call for "Ambassadrices et Ambassadeurs", not just the male form "Ambassadeurs". It turned out that the first 3 individuals interested in becoming ambassadors were women.

Be radically transparent

53 Transparency in open communities is not a political choice. It is a question of effectiveness.

54 Every conversation, every content created must be public by default. Do not necessarily publish your old private conversations in block, but at some point you need to switch to public as the default. The sooner, the better.

55 By having the conversation public and easily visible to all, you will give newcomers ways to listen. It will be easier to learn the culture.

56 Make your budget public. Make your contracts public. Sometimes it might feel like something should stay more confidential, for example lists of personal addresses or discussions with potential sponsors. In this case, always balance the need for confidentiality with the fact that hiding documents and discussions hurt your community by limiting the number of potential contributions.

57 The most common problem is having too few people looking at your conversations, not having too many people looking at them.

Onboarding, empowering and thanking

58 Wikipedia has a great community guideline page called "Please do not bite the newcomers",[8] or more casually "don't bite the newbies".

59 The essence of "don't bite the newbies" as a community guideline is the realization that trying to participate in an existing community is hard. Communities have many rules, some of them not fully explicit. Beyond the rules there are a culture, protocols, special people...

60 To ease this cultural learning curve, you can create the habit of introducing newcomers to the community at large and to select contributors that can act as mentors. Or even better, ask the newcomers to introduce themselves, giving them the legitimacy to talk and assume a role in the community.

61 Once the newcomers are comfortable, you have to empower them. Give the listener the opportunity to talk. Give the talker the opportunity to act. Give active participants the opportunity to tell everyone about their actions by encouraging them to talk as the voice of the community and by giving them publishing rights on the community tools.

62 Last but not least, thank people publicly. In an open community, the minimal reward expected is peer recognition, so never hesitate to thank people for their contributions.

Action by default, approval second

63 As the community grows from less than a dozen to several dozen contributors, formal approval of all decisions will be less and less practical. You'll want to favour both reaching consensus and not blocking action.

64 One way to favour action over approval is to let contributors announce publicly what they are going to do, for example in a forum, group or list. The expectation is that if nobody disapproves, the contributor or group of contributors can go ahead and implement the action.

65 This action-oriented mode can lead to slips. It is a small price to pay, as favouring formal approval would simply never allow your community to exist.

66 Another way is to have processes and tools in place that allow immediate action. For example wikis allow a web page to be corrected or created immediately, without the need for approval or even contacting anyone.

67 As time goes by, some actions will become so essential to your community culture that even new contributors will implement them without thinking twice.

Plan yourself as optional

68 As a community builder, your mission from the start is to build a community that can work without you.

69 Give your work to others and help them take over. Write a mission statement that embodies the shared values of the community, so the community can decide by itself what needs to be done.

Events and focus

70 Events are an effective way to attract new contributors to your community. Use an event to focus your latent community on the core issues you want to address.

71 I tend to favour local, physical events to start a community from scratch. Meeting and working together face to face is a powerful way to create links between people. But you can also build a community by launching an online event. WikiLoveMonuments, NaNoWriMo, Ludum Dare or the monthly Mozilla Dev Derby are interesting examples of a large community focusing on select goals: enriching Wikipedia with photos of monuments, writing a novel in one month, creating a game in just a few days, pushing HTML5 to the limits.

72 It's just harder to keep the community involved before and after a purely online event.

73 In contrast, when people have met around physical events where they have been active contributors, they tend to stay in touch online for a long time. For example, although the last OrsayCommons[9] event took place more than three years ago, members of the Facebook group continue to post regularly when the issue of taking pictures in museums arises in their lives.

74 Your main community events –online-only or in physical space– must involve people as contributors, not just consumers. As your community grows, you will have other, more frequent events, and some of them will only be organizational in nature, like community meetups.

75 Your first event is ideally a co-creative event, where all contributors-to-be gather and start *producing* what your community is about.

76 Aim to make your events central to your community. Use them as a moment where collective energy is used to create and enhance the community product. Gathering people just to talk to them would be a waste of time, theirs and yours.

77 Events that build up the product and focus contributors include: OpenStreetMap Mapping Parties, where contributors fix and update the geographical information database; the Museomix annual event, where participants and support teams create prototypes in museums; open source code and doc sprints, where coders and non-coders help fixing bugs, building and documenting features.

The deal: we are building a commons

78 The goal of your community is to build something that nobody can own, either individually or collectively. A real commons.

79 When you use Wikipedia content, you know as a user that you are protected from Wikipedia authors. No small print. Wikipedia is a commons because it is not owned by anyone, not even the community that is creating it. Wikipedia's goal is to create a global, universal encyclopedia, and it is perfectly fine if someone uses Wikipedia without ever making a contribution. Also, it is fine to make money using Wikipedia content as long as you credit the use.

80 That's the deal that makes open communities possible. Contributors will help to build the community because they know they cannot be denied access to community-built resources.

81 As a community builder, your goal is to protect the users of the communal product you are creating–not necessarily to protect the product itself or a group of people. It is important to keep this in mind when deciding on licenses, for example: the GPL and Creative Commons were created to protect end users first, not to protect the creations from users, and that's why they are favoured in many open communities.[10]

Conclusion - From inside out to outside in to outside out

82 Building an open community from scratch is possible. It's easier than ever – or better said, most open communities were impossible to launch just a few years ago. When successful, an open community allows a project to be scaled at an unprecedented ratio of impact-to-resources, as Wikipedia has best exemplified: it has very modest resources, and is the sixth most visited website in the world.

83 But... how can you start today?

Inside out

84 Get out. Not just of the building, but of your own community. Call for people outside your usual circles, reach out by publishing an open invitation. Share what you are doing, as you are doing it, so others can jump in and help. This might also draw you out of your comfort zone, for fear of pushing something unfinished out. You will find that most people want an excuse to help, not to judge. Show your project and talk about it, and more importantly, tell people that they are needed. The first sign that you are succeeding at being inside out will be when you have a total stranger coming from nowhere starting to work on your project unprompted.

Outside in

85 Constantly onboard newcomers. Bring new users in, and then turn them into contributors. You need more people than you think. You need ten times more people than you think. And then ten times that. Draw people from other communities, so in turn they can create bridges between communities. Keep people happy and intrinsically rewarded for their work in the community. When you have trouble welcoming newcomers fast enough, when you are submerged by too many contributors' ideas, it will be a good sign: the community will be attracting users and contributors from outside in.

Outside out. And where's the inside by the way?

86 You will know you are building an open, healthy, and growing community when the boundaries between who is an insider and who is an outsider are blurred. At that point, you will have a hard time explaining to journalists or grant makers exactly what a "member" of your community is. You may be able to count active contributors. But are users members? Are your blogger friends who follow and comment on the project also

members? Do the curious that attend events with passion but are undecided on how to contribute count as members?

87 Open communities challenge our ideas of organizations and of individual agency in a collective. A lot of quantitative and qualitative work lies ahead if we really want to understand the new social dynamics these communities are creating in the world. In the meantime, even before we understand them more fully, we can create new open communities, experiment and reap the benefits of openly producing a commons at web scale.

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