



Narrative Section of a Successful Application

The attached document contains the grant narrative of a previously funded grant application. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the Public Programs application guidelines at <http://www.neh.gov/grants/public/digital-projects-the-public> for instructions. Applicants are also strongly encouraged to consult with the NEH Division of Public Programs staff well before a grant deadline.

Note: The attachment only contains the grant narrative, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: Exploring the Four Elements: Toward a Digital Environmental History of the Americas

Institution: Brown University

Project Director: Neil Safier

Grant Program: Digital Projects for the Public, Discovery

Exploring the Four Elements: Toward a Digital Environmental History of the Americas

The John Carter Brown Library at Brown University

Providence, Rhode Island

Proposed Start Date: January 1, 2015

Proposed End Date: December 31, 2015

Principal Investigator: Neil Safier

APPLICATION NARRATIVE

Nature of the request:

This proposal, submitted to the NEH Division of Public Programs for a “Digital Projects for the Public” Discovery Grant, constitutes a request in the amount of **\$29,754** to support the exploratory phase of a project to bring a new humanities initiative at the John Carter Brown Library to a much broader public than has traditionally been the case for the Library’s exhibitions and scholarly projects. “Exploring the Four Elements: Toward a Digital Environmental History of the Americas” takes a simple concept – the cultural significance of earth, air, fire, and water to the diverse populations of the Americas, from the continents’ earliest indigenous inhabitants to the last waves of European scientific explorers at the end of the colonial period – and examines the ramifications of human engagement with these elements as a window onto changing ecological relationships throughout the pre-contact and early modern periods. From the use of fire as an ecological tool by early Amazonian populations to the theories and diagrams of the German polymath Athanasius Kircher about what was imagined to lurk beneath the surface of the earth, these four distinct exhibitions at the Library will trace the history of the ideas humans have applied, over time, toward knowing and manipulating our natural environment. Of particular relevance to the “Digital Projects for the Public” rubric, the project will not only reach beyond the traditional disciplines associated with the collection but will also explore the use of new technologies to assist the Library in bringing together rare materials, humanist scholarship, and technical savvy to extend the visibility of humanities projects and increase the viability of future collaborations in this emerging field. In the process, the Library will gather information and establish models for special collections libraries more generally, advancing our thinking about future programs in the United States and with international partners to the north and south.

Specifically, the goals of this project are: 1) to incorporate technical know-how into the planning stages of four environmentally-focused exhibits that will be held at the John Carter Brown Library (and online) from 2015 through 2018, with an eye toward assessing the hardware and technical programming needs for a much-expanded outreach agenda and moving beyond what have traditionally been static museum displays in the Library’s reading room and a modest web presence; 2) to hold a series of focused, practically-oriented workshops with humanities scholars, leading digital humanities specialists, and mobile application designers to discuss materials from the planned exhibitions – and from our collection more broadly – that could be incorporated into a dynamic platform for bringing environmental history and future exhibitions on any theme to a wider public; 3) to identify portions of our collection that relate directly to environmental history for use with the new digital platforms; 4) to make connections with museums and international institutions, in the US and in Latin America, that would foster new possibilities for connecting to underserved communities across borders through innovative technological solutions, making this project not only an environmental history *of* the Americas but one that reaches *across* the Americas as well.

Humanities Content:

As part of a new initiative in early environmental studies, the John Carter Brown Library, one of the world's leading rare book and map repositories on the history of the Americas, will be sponsoring a series of four major exhibitions and related programming on the cultural and symbolic history of the four elements: earth, air, fire, and water. One of the primary goals of these exhibitions is to emphasize the relevance of historical and humanistic scholarship to contemporary debates over climate change and questions of environmental history, exploitation, and degradation. Through the thematic prism of the four elements, the Library will explore ways of bringing its unique materials to a wider audience, including its world-renowned collection of books and maps, archival materials from early modern merchants and traders that are relevant to questions of maritime exploration, a growing archive of lectures and presentations in video format that treat relevant themes in the history of the environment, and a series of online exhibitions that it plans to carry out in conjunction with physical exhibits scheduled to begin in the spring of 2015.

Drawing inspiration from an exciting trend in historical scholarship that has sought to create strategic alliances between humanists and scientists, the Library hopes to bring together scholars from different humanities fields – history, literature, art history, and performance studies – together with disciplines in the social, applied, and hard sciences that focus on materials that emerge from a study of the library's collection. These fields would include geology, mineralogy, oceanography, public health, and archaeology, among others. The aim is to expand the constituencies and user base of the Library in order to reflect upon the role that historical sources can play in contemporary scientific and ecological debates, something that has not been achieved to great effect in many rare book and special collection libraries. The field of environmental history, in particular, tends to focus to a large degree on North American history in the post-industrial age, which all but excludes the dynamic fields that have grown around collections of early modern books and maps like those held at the John Carter Brown Library. Part of the environmental studies initiative at the JCBL is to explore new parts of our collection through different disciplinary prisms, and in the process to show the relevance of historical materials to a much wider set of cultural concerns. Our aim is to transform the JCBL's reading room into a living laboratory of new ideas, at the intersection of the humanities and the sciences, and facilitated by a robust engagement with new digital technologies.

The first exhibit contemplated as part of this four-part series, curated by former John Carter Brown Library Fellow Heidi Scott (assistant professor of history, University of Massachusetts at Amherst), is entitled “**Subterranean Worlds: Under the Earth in the Early Americas**”. The principal framework of this exhibit and accompanying programming is the idea that conquest and colonization have usually been imagined as processes that expand horizontally, through networks of knowledge, goods, and bodies that cross oceans and territories. In many regions of Iberian America, however, colonization possessed a powerful vertical dimension as colonizers pushed downwards beneath the surface of the earth in search of precious metals. In the Andes and New Spain in particular, where colonialism brought with it the establishment of large-scale mineral extraction, mining transformed physical environments and communities, triggered annual migratory movements, and produced new commercial circuits. What is more, ideas about what lay beneath the earth were far broader than what related to mining alone. Indigenous societies present in the Americas prior to the arrival of Europeans maintained deep connections with complex cave systems, and tended the earth to produce black earth deposits (*terra preta*) that reveal through archaeology deep engagements with the cultivation of New World plants and roots. By the early sixteenth century, European understanding of the underground as a liminal realm that could only be entered and exploited at great peril was giving way to utilitarian attitudes that perceived the subterranean as a repository of material resources to be systematically exploited for the benefit of human society. Anxieties also persisted well beyond the end of the Renaissance. Throughout the colonial era, images of imperial power and glory vied with moral worries over the pursuit of mineral wealth and the legitimacy of

forced indigenous or African labor. Just as northern European Enlightenment *philosophes* passed judgment on the desire for precious metals and pointed to the horrors of New World mines as evidence of Iberian barbarism, so too the interest of northern Europeans in acquiring those same metals constantly surfaced in travel accounts, illustrations, and maps. These colonial-era interests, finally, were connected to ideas that circulated between Europe and the Americas about the specific characteristics of New World nature. If Iberian America was considered uniquely endowed with subsurface mineral wealth, the continent was also unique in terms of other subterranean features, including volcanic and seismic activity, leading to other frameworks through which to view and understand the hidden dynamics of a newly discovered continent.

The subsequent exhibitions will explore similar themes related to the remaining three elements, although the details and scope of these exhibitions are still very much in the planning stage. In the spring of 2016, the Library will put on “**The Skies Above Us: Cosmos and Climate from Greenland to Patagonia,**” curated by JCBL Director and Librarian Neil Safier (also associate professor of history, Brown University). The exhibit will focus on the engagements of the earliest European astronomers to address the specific characteristics of the New World skies, such as the navigator Amerigo Vespucci or the German naturalist Georg Marggraf. Marggraf, often considered the “first” professional astronomer to have established an observatory in the Americas, accompanied Prince Maurits von Nassau during the Dutch invasion of northeastern Brazil in the mid-seventeenth century, and there established what was the first observatory on American soil. This exhibit will also draw on recent ethnoastronomical research to highlight the cosmological views of indigenous Americans, and will address as well early climatological understandings of air and salubrity, as colonial authors began to comment on the nature of the winds and their role in creating healthy environments to populate and control. The third exhibition, “**Lands of Fire: Volcanoes and Flammability from Tierra del Fuego to Cascadia,**” will bring together the remarkably broad array of rare materials dedicated to the study of volcanism in the Americas, beginning with the earliest views of volcanoes as perceived by New World explorers and ending with the work of Alexander von Humboldt and his focused study on the tectonics of the Andean cordillera at the end of the eighteenth century. It will also focus on the importance of fire as an ecological tool, used equally by Europeans and Amerindians in their attempts to harness and control nature’s otherwise expansive reach. This exhibition is slated for the spring of 2017. And, finally, an exhibit entitled “**Watery Ways: Fluid Itineraries and Fluvial Boundaries from the Waterfront to the Ocean Deep,**” focusing on maritime environments, riverine settings, and the origins of underwater exploration – including pearl fishing and other important economic activities, from the Arctic to Antarctica – will cap off this cycle in the spring of 2018, at which time we will convene a major interdisciplinary conference on the four elements and the contributions of humanistic scholarship to pressing ecological questions of the day. These exhibits will coincide with a set of parallel initiatives occurring at Brown University and directed by Visiting Professor Lenore Manderson as part of a new Institute for the Study of Environment and Society (ISES). The PI of this project, Neil Safier, is also a fellow of ISES.

While no project at present is focused specifically on the environmental history of the Americas as conceived hemispherically, there have been several important efforts undertaken in recent years to merge humanistic endeavors with environmental studies. The open-access journal *Environmental Humanities*, for instance, attempts to bring together disparate conceptual frameworks and merge them together in a freely available format {URL: <http://environmentalhumanities.org>}. Various scholarly journals have sponsored new approaches to Latin American environmental history and the history of technology (see, for example, the latest edition of *Isis: International Journal for the History of Science*, which focuses on Latin America and its nineteenth- and twentieth-century environmental and scientific histories). A new initiative at Harvard University on “The Science of the Human Past” brings together medieval historians and climatologists with medical doctors and computer scientists to discuss possible intersections between these otherwise disparate fields (one of our invitees, a professor at Harvard, is involved in this initiative). And a budding interdisciplinary group of scholars at the Chicago Center for Contemporary Theory have recently begun to explore the concept of the anthropocene in response to human-induced climatic shifts, raising

deep questions about the place of human activity – and their political engagement – in controlling and/or perpetuating significant environmental transformations.

The “Exploring the Four Elements” Project seeks to bridge the gap that exists between these kinds of cutting-edge humanities scholarship projects and the broader public by encouraging popular access to historical materials through the innovative use of digital technologies. Whether through crowdsourcing, “citizen science”, or some other form of technological engagement, the aim of the discussions supported by this project would be to incorporate new forms of technology at the site of the exhibits – possibly through interactive participation similar to Gallery One and ArtLens at the Cleveland Museum of Art or the participation in the transcription and/or analysis of historical texts on the spot – as well as using new platforms to make materials available in off-site environments, attempting to move beyond platforms that are merely a website. This could be through mobile apps or perhaps other forms of support not yet envisaged. Of course, the book itself is a technology in codex form that has been in use for hundreds of years, and one of the tasks of a rare book collection is to contemplate and experiment with ways of maintaining the effectiveness and value of this historical form as the world transitions into a new technological environment that privileges the digital for a host of forward-thinking reasons, especially the ease of access that such a medium allows, a hallmark value for libraries like the John Carter Brown Library in the service of history and the humanities.

Our experience and desire to explore these digital possibilities beyond what the Library already does in this regard are informed by the observation that static online exhibits do not appear to be garnering the kind of traffic that might otherwise be desired. As a repository primarily of printed books, our hope is that increased traffic to our exhibits and to interactive platforms will excite a new user base and will stimulate greater, and deeper, engagement with the materials from our collection. Because the Library holds a significant amount of Spanish- and Portuguese-language materials related to Latin America, our collection could help to engage residents of Latin America outside of the U.S. as well as the significant, and growing, Latino population within this country. Because this is a moment of ongoing discussion about the relevance and vibrancy of the humanities, an effort to engage Latino and other non-English-speaking communities around questions of ecological significance and the use of historical materials in approaching these issues seems a potentially important way of reaching an underserved constituency through NEH funding, and remains a significant goal of the Library.

We see these four environmental exhibits as a particularly appropriate laboratory for exploring and experimenting with technological options that could be applied to many kinds of thematic exhibitions going forward. While there are especially exciting aspects of this particular array of exhibits and themes – and the opportunity to bring together historical sources from the JCBL’s collection as a way of responding to contemporary ecological concerns using cutting-edge technology is particularly stimulating – it is also certainly the case that the use of new technologies to explore traditional historical sources could be applied in many future contexts. As one example, the Library is currently in the planning stages of a show with the Rhode Island School of Design (RISD) Museum of Art in 2016, which will use visual materials from our collection, and the Library could apply lessons learned from this project in the online versions of this future exhibit, emphasizing the visual force of our materials as many leading museums of art have done.

Project format:

The “Exploring the Four Elements” project would involve convening **three exploratory meetings** – one in New York City and two in Providence, Rhode Island – to discuss plans to expand participation, engagement, and access to our rare materials through the use of innovative technological platforms. The emphasis in these meetings will be twofold. In the first instance, we will be examining how best to curate the *virtual* experience of our exhibits for a diverse range of constituencies, in an attempt to develop more exciting and engaging platforms – and, perhaps, ameliorating content accordingly – in a way that moves

beyond the normal bounds of a traditional exhibit format. The intention is to provide a dynamic framework for exploring historical materials that can reach out to a wider audience. Second, we will explore using technologies *inside* the walls of the Library in order to enhance the user experience of those who are visiting our collection, as a way of increasing interest on the part of high school and university students, scholars and researchers, and the general public alike. The desired outcome of these planning meetings will be to create a design document that will guide our future goals and assist us in identifying the individuals and resources necessary to continue moving forward with the use of new technologies. These meetings will also help us to clarify not only our particular institutional strengths in setting up a more open and technologically fluid program for engaging with our materials but also the challenges inherent in doing so from the vantage of a special collections library, including the tension between unfettered access to our collections through portals such as Internet Archive and the World Digital Library (two of the portals we use at present to showcase our materials) and the establishment of our own *curated* digital space that would inform visitors about the historic development of our collection and the specific features of particular books, maps, and prints as conveyed by our own curatorial staff. This is a particularly exciting and important area that we would look forward to discussing with humanities scholars and digital professionals alike. In addition to these collective meetings in New York and Providence, the proposal envisages **two site visits** by the JCBL director to museums and cultural institutions that have put into practice similar kinds of digital projects: the Pierpont Morgan Library in New York City (undertaken during the same trip as the first meeting, in March 2015) and a separate trip the Cleveland Museum of Art, one of the acknowledged leaders in digital museology. It is hoped that in addition to establishing a design document, these discussions would inform applications for more significant funding in future years as we solicit support from private foundations and public sources as well.

The first meeting, provisionally scheduled for March 2015, would take place in New York City – possibly renting space at the Morgan Library or at another appropriate venue with access to similar kinds of objects and materials that are found at the JCBL – and would bring together participants from the Library (the director and the coordinator for library special projects), humanities scholars involved in the first of the four exhibits, museum professionals, map librarians, and outside technology consultants. This preliminary day-long meeting would lay the groundwork for subsequent meetings by offering a broad panorama of the kinds of digital projects that are currently possible with today’s technology and would also constitute a brainstorming session between humanists and digital technology specialists about what might be possible in the future given the current technological horizons – and looking beyond them as well.

Participants would include: Neil Safier (Director and Librarian, The John Carter Brown Library); Kim Nusco (Coordinator for Library Special Projects, The John Carter Brown Library); Heidi Scott (Historian, UMass Amherst); Daviken Studnicki-Gizbert (Historian, McGill University); Joshua Greenberg (Director, Digital Information Technology Program, The Sloan Foundation); Doug Reside (Digital Curator for the Performing Arts, New York Public Library); Matthew Knutzen (Curator, Map Division, New York Public Library); Stuart Lynn (Citizen Science and Research Lead, Adler Planetarium, Chicago); Elizabeth Scott (Digital Media Specialist, Dunch Arts, NY); Joanne Pillsbury (Curator of the Arts of the Americas, The Metropolitan Museum of Art); and Martin Kalfatovic (Program Director, Biodiversity Heritage Library).

The second meeting, provisionally scheduled for May 2015, would take place at the John Carter Brown Library in Providence. As a follow-up to the first meeting, the purpose of this meeting would be to explore some of the unique materials present in our collection, allowing for a deeper engagement with the challenges of transposing a three-dimension exhibition of books, maps, and prints into a two-dimension digital platform. Participants would be able to tour the “Subterranean Worlds” exhibition, which would be on display in the Library’s Reading Room at that time, and explore the physical qualities of the materials used. Immersed in the material world of these and other objects from the collection, the group would then spend a day-and-a-half contemplating the possibilities for projecting these materials to a wider audience through the digital medium. This would include a critical assessment of our online exhibitions – there

would already be an online version of “Subterranean Worlds” up on our site – with an eye toward developing a new model for digital engagement that would move beyond the traditional web presentation. It would also be an opportunity to begin developing ideas for user experience mockups and possible storyboarding, since we would not only have the presence of designers but also undergraduate and graduate students who could speak to the potential for reaching new kinds of audiences. Because this meeting would emphasize the materials present at the Library, the composition of participants would be weighted toward those who have a deep knowledge of the humanities and the JCBL’s collection, and would include those associated with the “Subterranean Worlds” exhibit as well as participants in future exhibits on the Four Elements theme.

The proposed participants are: Neil Safier (Director and Librarian, The John Carter Brown Library); Kim Nusco (Coordinator for Library Special Projects, The John Carter Brown Library); Heidi Scott (Historian, UMass Amherst); Joyce Chaplin (Harvard); John McNeill (Department of History, George Washington University); Júnia Ferreira Furtado (Department of History, Federal University of Minas Gerais, Brazil); Lenore Manderson (Professor, School of Public Health, University of the Witwatersrand and Visiting Professor, Brown University); Molly Warsh (University of Pittsburgh); Ivonne del Valle (UC-Berkeley); Joshua Greenberg (Director, Digital Information Technology Program, The Sloan Foundation); Jean Bauer (Digital Humanities Librarian, Brown University); Martha Fleming (Collections-based Research Consultant, University of Reading, UK [as of August 1, 2014]); Chris Freeland (Associate University Librarian, Washington University Libraries); and Robert Preucel (Director, Haffenreffer Museum of Anthropology, Brown University). In addition to these professional participants, the Library would invite one Brown University undergraduate and one JCBL graduate student fellow to provide feedback from a student’s perspective on the potential outreach possibilities toward new audiences inherent in the digital ideas presented.

The **third and final meeting** of this project cycle would take place in Providence in September, 2015, and would involve a smaller number of key project participants working together over a two-day period to come up with a final design document that could be used to lay out some of the medium-term goals for the Library’s future digital agenda, and which would also serve as a template for procuring long-term funding from private foundations and public sources. The (b) (4) would be one target of such a request; an (b) (4) would be another. This written document would clearly enumerate the steps to follow in order to integrate the outreach goals of the Library’s exhibition program with a practical plan of execution, including the technical challenges, their solutions, and the costs associated with this plan.

The proposed participants for this final meeting include: Neil Safier (Director and Librarian, The John Carter Brown Library); Kim Nusco (Coordinator for Library Special Projects, The John Carter Brown Library); Joyce Chaplin (Harvard); Lenore Manderson (Professor, School of Public Health, University of the Witwatersrand and Visiting Professor, Institute for Study of Environment and Society, Brown University); David Rumsey (Cartography Associates and Member of the Board of Governors of the John Carter Brown Library); and Martin Kalfatovic (Program Director, Biodiversity Heritage Library). By this point, it is hoped that the Library will also be able to include in this meeting a dedicated digital humanities specialist that could spearhead the execution of future projects; such a position is contemplated to begin in July, 2015.

The lifecycle of this stage of the project, then, would last approximately six months, but the impact of this initial phase would extend for at least four years, and hopefully longer. This project is envisioned to grow each year, with each successive exhibition, adding new functionalities and new layers of design and outreach such that at the end of the cycle, we will have developed a platform for the display and appreciation of rare books collections that can be used and sustained over time.

User-generated content:

One foreseeable possibility for user-generated content would be to enable users to “mark up” historical texts and maps as they relate to environmental questions and as they reveal themselves to readers. This could be achieved in ways similar to the Old Weather platform (www.oldweather.org), where “citizen scientists” create a log-in and can participate in forums and blogs to discuss the collective work they are undertaking. At present, the “Exploring the Four Elements” platform might require a slightly more engaged end-user – especially given the many non-English languages in which our material will be available – but the principle would essentially be the same. This is, however, only one possibility, and any user-generated content would ultimately depend on the nature of the platform to be developed.

Audience and distribution:

The targeted audience for the “Exploring the Four Elements” project stretches beyond scholars in residence at the Library. In the first instance, we would be targeting scholars and advanced researchers who use our materials in the United States, Europe, the Americas, and beyond. According to our latest statistics, close to 30,000 of our digitized documents are downloaded throughout the world every month. We would hope that by providing a curated space where the possibility for engaging more deeply with our materials is made available to an even greater number of users, it might be possible to expand the number of users who would choose to read and study our texts and maps directly through our own portal (as opposed to accessing our historical materials directly on Internet Archive, for example). What is more, we would hope that by creating an innovative platform, we would be able to reach beyond our traditional end-users and find other individuals to engage with who may not be familiar with the John Carter Brown Library or, even more likely, who never had the opportunity to engage directly with a historical text or map.

Project Evaluation:

At this stage, the evaluation of the project would be based on a successful design document being produced and, eventually, on the successful funding of the second stage of this project: the development of a useable design prototype. A more qualitative metric for evaluating the project would be based on the responses to mockups and storyboards that will be shown to a diverse range of possible end-users, in order to determine the ultimate shape and direction of the digital project being contemplated and receive immediate feedback on the proposed platform.

Rights, permissions, and licensing:

The rights and permissions of the materials belong to the Library and, ultimately, its Board of Governors. However, the Board has been extremely open about the possibility of providing universal access to even exceedingly rare materials through the Library’s online interface. At present, the Library’s materials are available, free of charge, for consultation online through the Internet Archive, the Archive of Early American Images (Luna), the World Digital Library, and the Brown University Digital Repository. Any technology that would be developed to showcase the Library’s materials would preferentially be open-source; likewise, the materials would ideally be made available free of charge, at high resolution, to all end-users.

Humanities Advisors:

The “**Exploring the Four Elements: Toward a Digital Environmental History of the Americas**” project relies on the participation of leading humanities scholars who are engaged in key projects related to

the natural history and ecology of the early modern world. In addition, we have included several museum and library professionals who can help to bridge academic scholarship, museum practice, and new media environments.

These scholars and professionals include (in alphabetical order):

Joyce E. Chaplin is the James Duncan Phillips Professor of Early American History at Harvard University. She is most interested in topics where humans and nature meet, including subjects in early American history, intellectual history, the history of science, and environmental history. An award-winning author, her major works include *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500-1676* (2001) and *The First Scientific American: Benjamin Franklin and the Pursuit of Genius* (2006).

Ivonne Del Valle is associate professor in the department of Spanish and Portuguese at the University of California, Berkeley, where she specializes in the colonial history of Latin America, and particularly, Mexico. Her broader research interests include Jesuits, religion and globalization, water history, borders and frontiers, and indigenous knowledge. Recently, she has turned to environmental history, in an article entitled “On Shaky Ground: Hydraulics, State Formation and Colonialism in Mexico,” focusing on the Mexicans who founded Tenochtitlan on a small island in 1325, creating over time a very complex hydraulic system that allowed them to manage their aquatic environment.

Martha Fleming received her MA in the History of the Book from the University of London and her PhD, entitled *From Le Musée des Sciences to the Science Museum: fifteen years of evolving methodologies in the art/science interface*, from the School of Art, Architecture and Design of Leeds Metropolitan University. She has worked in management, research, teaching and creative capacities; in museums, universities and scientific institutions; and inside disciplines ranging from biomedicine and astrophysics to the history of science and technology, as well as design and the fine arts. Over several decades in several countries, the three salient features of her career are: collaboration and partnerships; interdisciplinary practices; and, institutional cross-pollinations.

Júnia Ferreira Furtado is Professor of History at the Universidade Federal de Minas Gerais, Brazil, where she teaches courses in colonial history, environmental history, the history of the book, and the history of ideas. She is also, since 2012, the Director of the Rare Books Collection of the same university. She holds a Master’s degree and a PhD in Social History from the Universidade de São Paulo. She has written and edited over a dozen books, including her most recent book *Os Oráculos da Geopolítica Iluminista*, which won the Prêmio Odebrecht de Pesquisa Histórica, one of Brazil’s most important historical prizes. She is currently working on a project related to islands, volcanism, and fire in the early modern Atlantic world, and has been invited to participate as curator of the exhibition on fire at the John Carter Brown Library, scheduled for 2017.

Lenore Manderson is a visiting Professor of Anthropology at Brown University, working on the Environmental Change Initiative. She hails from Australia where she is an inaugural Australian Research Council Federation Fellow and a Professor of Medical Anthropology in the School of Psychology and Psychiatry, Faculty of Medicine, Nursing and Health Sciences, and the School of Political and Social Inquiry and the Faculty of Arts at Monash University. She has also worked at the University of Queensland as a Professor Tropical Health and at the University of Melbourne as a Professor Women’s Health. She is a Fellow of the Academy of Social Sciences of Australia and the World Academy of Art and Science.

John R. McNeill is an award-winning environmental historian, author, and professor at Georgetown University. His research interests lie in the environmental history of the Mediterranean world, the tropical

Atlantic world, and Pacific islands. He has held two Fulbright awards, a Guggenheim fellowship, a MacArthur grant, a fellowship at the Woodrow Wilson Center, and a visiting appointment at the Ecole des Hautes Etudes en Sciences Sociales. He has published more than fifty scholarly articles in professional and scientific journals. His most recent book, *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620-1914*, won several prizes, including the American Historical Association's Beveridge Prize. He is currently working on a global environmental history of the industrial revolution.

Kimberly Nusco is Reference and Manuscript Librarian and Coordinator for Library Special Projects at the John Carter Brown Library. She has extensive experience as a reference and archive Librarian, having worked at the Massachusetts Historical Society, the University Archives and Special Collections, University of Rhode Island, the Rockefeller Library at Brown University, the Rhode Island Historical Society and as a Children's Specialist and Curriculum Consultant at the Providence Public Library in Providence, RI. Nusco has curated a number of exhibitions at the Library, including "Mind Your Business: Business papers at the John Carter Brown Library", "The China Trade in Rhode Island", and "A Key into a 17th century Mystery: Roger Williams' Shorthand Writing."

Joanne Pillsbury is Andrall E. Pearson Curator in the Department of the Arts of Africa, Oceania, and the Americas at the Metropolitan Museum of Art in New York. A specialist in the arts of the ancient Americas, and an advocate for the use of digital technologies in the traditional art museum, she served as Director of Studies for the Pre-Columbian Program at Dumbarton Oaks Research Library and Collection, Harvard University, from 2005 to 2012. Before arriving at the Met, she was Associate Director of Research at the Getty Research Institute, and earlier Assistant Dean of the Center for Advanced Study in the Visual Arts, National Gallery of Art (1995-99). Ms. Pillsbury received her B.A. in anthropology from the University of California, Berkeley, and her M.A. and Ph.D. in art history and archaeology from Columbia University.

Robert W. Preucel is Director of the Haffenreffer Museum of Anthropology and Professor of Anthropology at Brown University. He is particularly interested in the relationships of archaeology and society and has a special interest in the digital curation of archaeological artifacts. The Haffenreffer Museum and the Rhode Island School of Design Museum of Art have received a major grant from the Mellon Foundation to pursue research at the intersection of Art and Anthropology. Preucel's fieldwork projects include the archaeology of a utopian community in Massachusetts (the Brook Farm Project) and a post Pueblo Revolt community in New Mexico (the Kotyiti Research Project).

Neil Safier is Beatrice and Julio Mario Santo Domingo Director and Librarian at the John Carter Brown Library and associate professor of history at Brown University. He is the author of *Measuring the New World: Enlightenment Science and South America* (Chicago, 2008; paperback edition, 2012), which was awarded the 2009 Gilbert Chinard Prize from the Society for French Historical Studies and the Institut Français d'Amérique. He has held numerous research fellowships at libraries and archives, including the Huntington Library, the Max Planck Institute for the History of Science in Berlin, and the Institute for Research in the Humanities at the University of Wisconsin. His current research relates to the environmental history of the Amazon River basin. Director of the JCBL since October, 2013, he is principal investigator for this proposal.

Heidi Scott is a faculty member in the History Department at the University of Massachusetts, Amherst where she focuses on Latin American Studies (especially Bolivia and Peru), Latin American History, Cultural Geography, History, and Cultural Historical Geography. She is the author of *Contested Territory: Mapping Peru in the Sixteenth and Seventeenth Centuries*. Professor Scott's work draws from archival records and sources such as cartographies, offers a richly nuanced view of the complexity of colonial relations. She will be curator of the "Subterranean Worlds" exhibition in 2015.

Daviken Studnicki-Gizbert is Associate Professor of Latin American and Global History at McGill University. He is the author of *A Nation Upon the Ocean Sea* (Oxford, 2007), which examined a highly dynamic and influential community of overseas traders, bankers and political economists. His current research is on the social and environmental history of natural resource extraction in Latin America. This includes projects on the environmental history of colonial mining, early Iberian discourses on the transformation of nature, the historical geography of mining in Mexico over the *longue durée*, and the history of autochthonous landscapes on the Isthmus of Panama.

Molly Warsh is Assistant Professor of History at the University of Pittsburgh. She was an NEH Postdoctoral Fellow at the Omohundro Institute of Early American History & Culture, where she carried out a project on global pearl fisheries and political geographies of labor and exploitation in the seventeenth century. In addition to several studies on the early modern pearl trade, Warsh has written about geography and mapmaking, including an ongoing project entitled “Mapping ‘The Richest Land on Earth:’ A Cartographic Perspective on Sixteenth-Century Spanish Florida”. She was, more recently, an invited panelist at the John Carter Brown Library for a workshop entitled “American Oecologies: A Roundtable on Environmental History,” and will participate in the Library’s exhibition on maritime environments, the fourth in a series of exhibits related to the four elements, currently scheduled for 2018.

Digital Media Team:

The digital media professionals with whom we propose to work on this project include staff at Brown University as well as digital professionals elsewhere in the US.

They are (in alphabetical order):

Jean Ann Bauer is Digital Humanities Librarian at Brown University and a PhD candidate at the University of Virginia. She was a finalist in the Nebraska Digital Workshop and served a Digital Humanities Fellowship at the University of Virginia Library. In addition, Bauer was a Presidential Fellow at the Graduate School of Arts and Sciences, University of Virginia and the winner of the Anna M. and George N. Barnard Memorial Prize in American History at the University of Chicago in 2004.

Christopher David Freeland is Associate University Librarian at the Washington University Libraries, where he leads the strategic planning and development of the University Libraries, including the areas of Special Collections, Digital Library Services, Instructional Support, and Scholarly Publishing. He has led the University’s Academic Computer Department and, in addition, has served as the Director for the Center for Biodiversity Informatics at the Missouri Botanical Garden where he directed project managers, system developers and technical staff on bioinformatics solutions for MBG’s Science and Conservation Division and international partners. Most relevant, Chris served as the Technical Director and Global Coordinator for the Biodiversity Heritage Library, where he coordinated international collaboration and development priorities.

Joshua M. Greenberg is the Program Director at the Alfred P. Sloan Foundation’s Digital Information Technology program in New York City. Dr. Greenberg received his BA in History of Science, Medicine and Technology from the Johns Hopkins University, and both masters and Doctoral degrees from Cornell University’s Department of Science and Technology Studies. He has broad experience and understanding of the content and research needs of traditional scholarly communities as well as digitally-networked services and tools to support myriad forms of public engagement and participation.

Martin R. Kalfatovic is Associate Director of the Smithsonian Institution Libraries’ Digital Services Division, responsible for the Libraries’ active Digital Library program. This program includes the creation of digital editions of library materials, online exhibitions, and new digital publications. Kalfatovic serves

as the coordinator for the Libraries' participation in the Biodiversity Heritage Library working with an international consortium of natural history and botanical libraries in the digitization of taxonomic literature. He holds an M.S.L.S. from the School of Library and Information Science, The Catholic University of America as well as a B.A. from The Catholic University of America.

Matthew Knutzen is the Curator and Geospatial Librarian of the Lionel Pincus and Princess Firyal Map Division of the New York Public Library. One of his goals is to innovate ways that the public can seek out, understand and use historical map information beyond the point of digital imaging through the transformative use of creative technologies and methods.

Stuart Lynn is Citizen Science and Research Lead at the Adler Planetarium. Prior to arriving at Adler, Lynn had a distinguished career at the University of Edinburgh, which culminated in a Beltan Fellowship for Public Engagement, and which saw him appointed Science Communicator at the Royal Observatory. While a Fellow of the James Martin School of the Twenty-First Century at the University of Oxford, he press-ganged thousands of crew members to transcribe historical climate-change data from ship's logs for the "Old Weather" Zooniverse project. More recently he has crowd-sourced the search for new planets (sifting radio signals from outer space), working with the Adler Planetarium in Chicago. He has expertise in C, C++, objective C, Java, Fortran, Python, Unix shell scripting, SQL, CVS, SVN, Perl, PHP, Javascript, Django for CMS, CSS, XML, XHTML, Ruby on Rails and MongoDB.

Doug Reside is the Digital Curator for the Performing Arts at New York Public Library. He holds a BS in computer Science and a BA, MA and PhD in English Literature. He has been a PI on three earlier startup grants (the Ajax XML Encoder, Music Theatre Online, and the Collaborative Ajax Modeling Platform) and the co-PI with Tanya Clement on the "Off the Tracks" workshop. Additionally, he is the original Project Director of the NEH Preservation and Access funded Text Image Linking Environment (TILE). His most recent project was to migrate and make sense of unprocessed data from the Larson collection at the Library of Congress. He is currently working on a system for serving born digital and digitized video of dance performance to NYPL's Reading Rooms and, where rights allow, to the wider world as well as on a blog called 'Musical of the Month', which each month makes available the libretto of an out-of-copyright musical in TEI/XML, PDF, and various e-Book formats.

David Rumsey is President of Cartography Associates, a map collector, and a leading expert in the field of digital technologies as they relate to libraries and historical collections. Through his map website, www.davidrumsey.com, and based on his extensive collections of maps, atlases, globes, geographies, and maritime charts, Rumsey has made available thousands of high-quality digital images for use by scholars and the general public the world over. Recently, Rumsey announced that his entire collection would be donated to Stanford University, including 150,000 maps and their digital images, as well as the database used to track the images, as part of the new David Rumsey Map Center. Rumsey is a member of the Board of Governors of the John Carter Brown Library, and he also sits on the board of the Yale Library Association, the Samuel H. Kress Foundation, and the Council on Library and Information Resources (CLIR).

Elizabeth W. Scott is an Industry Advisor to cultural organizations, technologists, and the funding community at Dunch Arts, LLC. Her focus is on digital and media innovation. Formerly Chief Media and Digital Officer at Lincoln Center for the Performing Arts, Scott is a noted thought leader on media and technology's impact on the cultural sector, and has been a featured speaker at Harvard Business School, MIT, two Chief Digital Officer Summits, the League of American Orchestras, Dance/NYC, the American Orchestra Forum, and the IMZ International Music+ Media Centre's Avant Première Conference in Berlin. Elizabeth has practiced as an intellectual property and entertainment attorney and clerked for the U.S. Court of Appeals for the Ninth Circuit. She has a BA, magna cum laude, from Brown University and a JD,

cum laude, from the University of Chicago. She has also freelanced as a conductor with opera companies, festival and choruses in the Northeast.

State of the Project:

This project, as it currently stands, is still at the stage in which ideas are being generated about future directions but no explicit steps toward executing these ideas have yet to be taken. The PI (Director and Librarian Neil Safier) has spent a good portion of the last several years contemplating the possible interface between digital technologies and a historical collection of the breadth and depth of the John Carter Brown Library. What a Discovery award of the Digital Projects for the Public program would provide is the seed funding to begin to have concrete conversations regarding the considerable challenges – and immense opportunities – that exist in this burgeoning field. The Library is already considered to be a modest leader in the realm of digital curation, but recently hired staff members – including the Director himself – are convinced that there are many additional avenues to explore as rare book and special collections libraries like the JCBL explore how they might engage new publics through digital media.

Work Plan:

March, 2015: ** **First exploratory meeting** with humanities scholars, library and museum professionals, and digital media specialists, in New York City; visit by JCBL Director to Pierpont Morgan Library to discuss digital initiatives with Library staff.

April, 2015: Development and exploration of digital resources at the JCBL.

May, 2015: ** **Second substantive meeting** with humanities scholars, digital media specialists, library and museum consultants, and undergraduate and graduate students at the John Carter Brown Library, Providence, Rhode Island.

June, 2015: Visit by JCBL Director to Cleveland Museum of Art; continue to identify materials for future exhibitions on environmental themes.

July, 2015: Explore in greater detail possible platforms for use in exhibitions and book displays.

August, 2015: Make a *catalogue raisonné* of objects from the JCBL collection that would be particularly suitable for future digital projects and platforms, especially materials that would be used for second exhibition, “The Skies Above Us.”

September, 2015: ** **Third and final meeting** with humanities scholars and digital media specialists at the John Carter Brown Library in Providence, Rhode Island, with an eye toward the production of a design document that can be used for pursuing additional revenue and support for Phase II of the project. This second phase will produce a new set of platforms and interactive tools to coincide with the second of the four exhibits related to environmental history in the Americas, slated for the spring of 2016.

October through December, 2015: Preparation of applications for future funding to Mellon Foundation and NEH Public Programs for Prototyping Grant and conclusion of project.

Organization Profile:

The John Carter Brown Library is the preeminent research collection in the world for the study of the Americas before 1825. Since 1846, the Library has collected books, maps, and prints that document European expansion to the Western Hemisphere from 1492 to the end of the European colonial presence. As a private, non-profit, independently funded and administered institution for advanced research in history and the humanities, located at Brown University since 1901, the Library awards approximately 40

residential fellowships annually to scholars from the U.S. and abroad. It also publishes books and catalogues related to the collection and sponsors lectures, conferences, and exhibitions. Since 2002, with the inauguration of *The Archive of Early American Images* project, the Library has been actively engaged in digitizing, cataloguing, and providing free access to the books, maps, and prints in the collection. An acknowledged leader in digital exhibitions, the JCBL was awarded early this year the Katharine Kyes Leab and Daniel J. Leab American Book Prices Current Exhibition Catalogue Award in the category of electronic exhibition for its “Sugar and Visual Imagination in the Atlantic World, circa 1600-1850.” The judges noted that the exhibition “engages the viewer with its subject matter, sugar, and with its pure visual beauty,” going on to explain that the site is “technically very well done, [and] its navigation is excellent...” The award citation concludes that “combined with the very well written, interesting and knowledgeable text content, this is an aesthetically pleasing and informative exhibition.”¹ While the Library has a long tradition of placing its exhibits online – and we know anecdotally from our supporters that these exhibits are regularly viewed by scholars and the general public in the United States, Europe, Latin America, and beyond – we hope to push beyond the traditional model of websites and static displays to contemplate multimedia frames that are dynamic, engaging, and designed to reach audiences that would not normally come across the Library’s historical material.

¹ Cited at <http://www.ala.org/acrl/awards/publicationawards/leabawards>

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