Meeting Scholars Where They Are: The Advanced Research Consortium (ARC) and a Social Humanities Infrastructure

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Abstract

The Advanced Research Consortium (ARC) is the central organizing force for several virtual research environments (VREs). ARC is the hub for these period-specific nodes, which offer digital project peer review, aggregation and search technologies, and forms of community engagement. The mission of both ARC and the nodes is to construct and support a "social system" for the humanities in which the digital and the traditional can come together to develop a working social humanities infrastructure. This article discusses how the ARC infrastructure evolved from the framework of scholarly engagement developed by NINES (Networked Infrastructure for Nineteenth-Century Electronic Scholarship) and explains how the consortium assists the scholarly community: through digital project peer review, aggregation and search, and outreach services.

Keywords

Virtual research and learning environments; Digital scholarship; Editorial process

Résumé

Le Consortium de recherche avancée (ARC) est la force d'organisation centrale pour plusieurs environnements de recherche virtuels (ERV). ARC surveille quelques catalogues de période spécifique, en ligne qui offrent examen du projet numérique, les technologies d'agrégation et de recherche, et les formes de l'engagement communautaire. La mission d'ARC et les catalogues est de construire et soutenir un «système social» pour les sciences humaines dans lequel le numérique et le traditionnel

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peuvent venir ensemble pour développer une infrastructure de travail humaines sociale. Cet article explique comment l'infrastructure d'ARC a évolué, développé par NINES (Infrastructure réseau pour les études du dix-neuvième siècle électronique), et explique comment le consortium aide la communauté des sciences humaines numèriques.

Mots clés

Environnements de recherche et d'apprentissage virtuels; Savoir numérique; Processus éditorial

Introduction

The field of digital humanities in general has suffered from a "Build it and they will come" mentality, a vision that we now know does not work. With the recent initiatives in digital liberal arts, the appeal for a global digital humanities community, and the recent digital humanities successes in K-12, it is apparent that a grassroots or bottom-up vision is now taking the place of the former mentality. Inherent in this vision, however, is the assumption that some form of middle ground will be reached. This meeting in the middle, or middle ground, requires mediation between any seemingly disparate pairing of value and reward systems (e.g., technologists and humanists, or digital humanities scholars and traditional scholars). The hope is to reach an understanding, a happy medium in which both parties learn and grow together as part of one productive community. In mediating this middle ground, it becomes clear that meeting scholars where they are, not where the leaders of these initiatives want them to be, is integral to success and productivity.

The Andrew W. Mellon Foundation and the National Endowment for the Humanities have funded several major initiatives that provide an intersection for traditional humanities scholars and new media. One is the Scalar platform of the Alliance for Networking Visual Culture, an open source Semantic Web authoring tool and publishing platform that allows the embedding of new media objects into monographs that are digitally published by traditional presses. Another is PressForward, a digital publication institution that experiments with new forms of peer review that are partly algorithmic (finding materials for publication in *Digital Humanities Now*, or *DHNow*, that have been receiving the most attention from exposure on the Web) and partly analogue (employing large numbers of peer reviewers to vote on the most popular *DHNow* resources that are then published in the *Journal of Digital Humanities*). Finally, the MLA Commons provides a MediaPress digital environment for discussions among MLA members and groups. These three initiatives attempt to bring scholars and their work forward into cutting-edge social and technological organizations.

It is in this experimental environment that the social technology of NINES (Networked Infrastructure for Nineteenth-Century Electronic Scholarship), originally funded by the Mellon Foundation, and the current infrastructure of the Advanced Research Consortium (ARC) came into existence. As a collection of resources and tools created for scholars by scholars, ARC, housed at Texas A&M University's Initiative for Digital Humanities, Media, and Culture (IDHMC), has been nurtured to thrive in this middle ground. If envisioned as a network, the ARC office is the hub for multiple humanities research and aggregation nodes, located at different institutions

across North America.¹ These nodes are period-specific virtual research environments containing resources spanning the bulk of Western-written documents, from the medieval period to the early 20th century. ARC coordinates the nodes' various resources, combining them into a single catalogue of metadata, images, and texts. Each ARC node aggregates data about existing documents, scanned page images, scholarly research, and teaching and research tools. Although ARC oversees and provides support for the nodes, each node office conducts their own business in period-specific scholarly work. The Medieval Electronic Scholarly Alliance (MESA), 18th Connect, and NINES are currently live in production, and there are two other nodes in various stages of development: the Renaissance Knowledge Network (ReKN) and Modernist Networks (ModNets).²

In debunking the "Build it and they will come" mentality, Markus and Keil (1994) have demonstrated that optimizing interfaces based upon extensive usability studies does nothing if the community addressed by a tool has no motive to use it. A project such as PressForward is performing a much-needed service by attempting to introduce new modes of peer review to the humanities community. Yet the scholars who publish in PressForward's *Journal of Digital Humanities* tend to be those already working in the field of digital humanities: some digital projects need to meet scholars where they are now. ARC nodes engage with traditional peer review forms, in keeping with the findings of the Research Information Network report titled *If You Build It, Will They Come?* (2010). According to this report, to be successful in attracting new users, Web 2.0 technologies must be "incremental in building upon existing [scholarly] practices" (p. 47).

We discuss below how ARC is built upon "existing practices" to serve scholars. The ARC infrastructure evolved from the framework of scholarly engagement developed by NINES, and we first present this history, as well as how we assist the scholarly community: through digital project peer review, aggregation and search, and outreach services.

NINES and ARC: Evolutionary history

In 2002, Jerome McGann received an Andrew W. Mellon Foundation Distinguished Achievement Award and used these monies to found the NINES project at the University of Virginia. According to McGann (2011), the NINES research environment was "designed to grow and develop through the use and input of scholars who want reliable resources and trusted materials and who expect their own work to be peer-reviewed" (p. 191). McGann and the NINES Executive Committee shaped a community that was meant to organically develop and then adapt to the changing humanities landscape. As more resources and research projects moved to the digital, they foresaw the need for a scholarly social infrastructure that would be able to meet two needs for the emerging humanities community online: to serve up digital, scholarly materials for search and discovery, and to provide peer-review mechanisms for establishing digital project standards and accreditation.

NINES, at its inception, was interested in bringing scholars to the table as librarians and technologists produced digital scholarship. As seen on the original interface (now retired), the NINES manifesto centered around scholarly collaboration:

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NINES believes it is clearly in the interest of scholars to coordinate our work. We know that the migration of scholarship from paper-based to digital platforms and networks, already underway, will only grow apace. Scholars and educators must act on our own behalf if we are to help shape the form and result of that migration. To that end, NINES is promoting the means and a way for excellent work in digital scholarship to be produced, vetted, (eventually) published, and recognized by the discipline. (NINES, n.d.)

The NINES team identified their project as a bottom-up initiative, and the above quote reveals a reticence to impose a centralized model of aggregation or publication platform that would decide definitively what the future of digital scholarship would look like. They instead looked to a social, adaptive infrastructure built on top of the needs of a community of engaged and interested "scholars and educators." In the NINES white paper, Nowviskie and McGann (2005) claim that

NINES must be understood as a social system, especially as it gains traction in a scholarly community still constrained by traditional paper-based communication conventions. We cannot set the bar for participation in NINES too high: perfect compliance with standards for markup, metadata, interface, and archiving will slow the growth of the resource. (p. 8)

In the years since these statements were published, digital scholarship has developed systems to investigate varied solutions to the above issues, yet NINES, ARC, and the other nodes continue to abide by the principles outlined above. As a social system, ARC and the nodes enable a meeting of digital and traditional modes of scholarship and scholarly communication. At its core, this system is run by engaged scholars, for scholars. The NINES and ARC "social system" refers to a "federated, collaborative, and non-hierarchal" model, and our technological and social workflows are structured according to this model (Nowviskie & McGann, 2005, p. 4). ARC nodes index metadata about digital projects, collections, and resources; we do not index project content or enforce creative or critical norms for ingestion. By doing so, we offer our users a research environment in which they can search, obtain, and save from multiple sources: for instance, a single search can return results from the New York Public Library's Digital Gallery, Project Muse, and The Rosetti Archive in the same search window. This "social" model of aggregation allows contributors to retain complete creative freedom over interface and markup, yet still submit to our peer review processes for evaluation and inclusion. By being able to vet scholarship, but at the same time keep the doors of participation and inclusivity open to scholars at all levels of digital expertise, we mediate between digital experts and analogue scholars. So this collaborative and inclusive model allows ARC to maintain a social infrastructure that evolves as digital projects and the state of digital scholarship evolves in academia. As technology and standards change, ARC, through a "federated, collaborative, and nonhierarchal" model of software and policy, tracks the middle ground as it moves forward.

As NINES looked toward the future, seeking a "technical and disciplinary structure that would permit the range of authoritative [digital] resources to be indefinitely expandable" (McGann, 2011, p. 191), ARC was founded to actively develop and

support the launch of similar scholarly research environments. The goals of the ARC team are fourfold:

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- To support the aggregation of high-quality, scholarly research materials into one Solr index³
- To ensure the creation of, and adherence to, metadata standards that reflect the growing humanities community online, yet also guarantee inclusivity by promoting comprehensibility and technical consultation
- To sustain Collex, Typewright,4 and other node-specific software
- To coordinate collaborative efforts within and between the ARC nodes

These goals reflect the original motivations of the NINES founders (i.e., to aggregate and vet high-quality scholarly research materials online), yet ARC also commits to the above actions with the intention of seeking and applying the input of the scholarly community. While we support the actions of the nodes by preserving software, maintaining the physical hardware needed for the aggregated data, and providing aid for the aggregation and indexing of that data, we also sustain the social infrastructure and mission of the nodes. This infrastructure manifests biannually in our ARC Executive Committee meetings, in which we discuss and adapt to changing standards in digital scholarship, metadata, open access policies, and aggregation and indexing methods.

Assisting the scholarly community

In order to meet scholars where they are and track the ever-evolving middle ground between "traditional paper-based communication" and digital scholarship, ARC supports digital project peer review, aggregation and search technologies, and community outreach efforts.

DIGITAL PROJECT PEER REVIEW

The ARC nodes utilize traditional mechanisms for the peer review of digital projects, tailoring processes for each period-specific community. However, all nodes follow the same general principles for evaluating scholarly materials. These principles have their roots in documents developed by the community, including the electronic editions section of the Modern Language Association's "Guidelines for Editors of Scholarly Editions" (MLA, 2011) and best practices derived from the "Guidelines for Promotion and Tenure Committees in Judging Digital Work" produced by the NEH-funded NINES summer institutes on Evaluating Digital Scholarship (Coletta, Harris, Jewell, Martin, Pasanek, Wythoff, & the NINES Summer Institute 2011 Group, 2011). All ARC nodes structure the peer review process around the following general actions:

- Utilize a set of general guidelines and criteria for review⁵
- Assemble editorial boards that contain some of the most respected scholars and digital humanists in the profession
- Carefully review both the content and structure of each digital project submitted to the node

While the processes by which these general principles are carried out differ according to the needs of each node's community, the overall intention of our evaluation processes is to follow traditional standards while promoting and vetting the digital

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work of scholars. It is to this purpose that we provide general guidelines and assemble prestigious editorial boards. In order to reflect and speak to the traditional value and reward systems of scholarship, the ARC nodes make peer review compatible with existing print publication processes.

ARC considers two questions pertinent to the peer review of scholarly digital resources. The first asks whether the content is important and interesting to existing scholarship. By applying this traditional question to digital scholarship, our editorial boards equate digital work with work produced and published in traditional structures. The second question asks whether the digital material is presented in a clear, accessible, well-organized, and well-documented fashion, which applies familiar evaluation measures to a new, digital medium.

Importantly, the second general question enables the editorial board to promote, encourage, and reward scholars for adhering to standards that have been developed by the digital humanities community. The ARC nodes will peer review any site, regardless of format, but we urge project directors to think of interface design in terms of navigation, searchability, documentation, and interoperability. As a way of encouraging interoperability, node directors and project managers recommend that resources use community standards such as TEI (the Text Encoding Initiative) and established best practices in creating and presenting databases, images, video, and audio. By doing so, we integrate a traditional means of evaluation with a digital definition of proper documentation, accessibility, and organization.

As mentioned, each node community enacts these general principles and questions in a manner appropriate to their needs. The NINES editorial boards are split into three content areas in order to properly oversee the review of nineteenth-century scholarship. Because NINES organizes peer review for a very large community of individuals producing long nineteenth-century digital resources, the NINES team responded to the growing number of submissions by assigning experts in specific fields to evaluate projects with specific focuses of study: Americanist, Romantic, and Victorian.

Alternatively, only two editorial boards peer review submissions to 18th Connect: an eighteenth-century literature and theory board and a technical board. The literature and theory board focuses their efforts on evaluating the scholarly contribution and/or argument of the resource to the eighteenth-century community. Due to the varied forms of eighteenth-century digital scholarship (such as bibliographic databases, digital editions and commentary, collections of TEI-encoded documents, visualizations of large data sets and historical maps) the 18th Connect editorial board configuration was shaped by a need for a more vigorous technical evaluation by experts in the field.

The MESA workflow for peer review developed out of a community desire to prioritize the ingestion of manuscript images and citations. In response to this, and to the plethora of inquiries from interested archives, the MESA team developed a two-tiered system for peer review. The first tier is for all aggregated resources in MESA, including library collections and proprietary databases, and requires that each project submission undergo open peer review. Although the editorial board members make the final

decision to include or exclude the resource, this workflow was constructed to take advantage of the existing and active medieval scholarly community online. The second tier of MESA peer review is only available to resources that have passed through the first. This phase of evaluation closely matches the process of peer review for the other nodes: submission, evaluation by editorial board, and, upon successfully passing this phase, a letter to the scholar describing the resource's excellence.

Whether undergoing peer review by NINES, 18th Connect, or MESA, ARC provides the scholar with legitimization and inclusion into a community of the best digital materials in their subject of study. As mentioned above, when a node approves the inclusion of the digital resource, the appropriate node director writes a letter to the scholar detailing that their resource was not only approved by a highly lauded, periodspecific editorial board, but describes how their research adds needed knowledge to the scholarly community as a whole. This letter, geared toward tenure and promotion committees, highlights equivalencies to print publications in order to call attention to the high intellectual quality of the resource. For, as Mandell (2012) puts it in an article published by the Journal of Digital Humanities, "a database may in fact be more like an article in terms of work and impact than like a book, it may resemble an edition more than argument, or vice versa" (para. 4). These letters adhere to the general principles of ARC peer review; the purpose and intention is to meet scholars' needs, particularly the need for validation and credit that equals existing value and reward systems. Our community of traditional scholars needs tenure and promotion, above all, and they need documentation of their digital work that equates it with traditional scholarly communication formats insofar as promotion and tenure committees will only be able to understand those traditional formats. Thus, the directors of each ARC node write letters to go into promotion and tenure files for every project that has been peer reviewed and accepted, and in these letters adequations are made: a database is shown to be the equivalent of a scholarly monograph, for instance, or an exhibition, the equivalent of an article.

In some cases of peer review, however, the submitted resource is judged not ready for inclusion within the federation of aggregated materials. In these cases, the project directors receive a report of criticisms and suggestions for improvement or further development. In every case, the project is encouraged to re-submit to peer review at a later date, and these exchanges are often engaging experiences in mediating between technologists and humanists.

AGGREGATION AND SEARCH TECHNOLOGIES

During the peer review process, ARC node staff begin to prepare for the aggregation of the evaluated digital materials into the ARC catalogue. Each node, each community under the ARC umbrella, is a digital "aggregator." Instead of hosting or publishing digital materials, our virtual research environments point outwards to projects and resources located on the Web. We then enable scholars to search our entire catalogue, which contains free culture scholarly projects side by side with proprietary resources.

Limiting aggregation to the indexing of metadata makes it possible for projects to retain ownership of their information, while still allowing it to be indexed, referenced, and discovered through us. This aggregation process is markedly different from library

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repositories, which collect and store content built on a system like Fedora Commons or DSpace, or digital libraries, which store and serve up images and texts. Significantly, it is this difference that enables searches of the catalogues of JSTOR, Eighteenth Century Collections Online (ECCO), and Early English Books Online (EEBO) through our interface—we do not host the proprietary page images ourselves, but we allow users without access to these catalogues to search the proprietary metadata. In addition, ARC provides this service to look forward to a non-proprietary future and in order to encourage contributors with similar data to submit metadata to ARC. The metadata indexed by the ARC nodes resides in the ARC Solr indexer, which allows our metadata to be interoperable between nodes. When searching in MESA for a specific term or phrase, for example, it is possible to expand that search throughout the history of Western culture by checking radial buttons that expand one's search to all the nodes. The interoperable metadata and search interface (served up through our Collex software) allows users to search and discover items, themes, and resources on a grand, distant historical scale, yet also search via faceting (genre, discipline, and format) to provide a focused research experience.

We encourage managers of resources to describe their project, and the digital objects within it, freely within a prescribed set of values. Resource Description Framework (RDF) is the descriptive data format used by the ARC nodes to define and display digital objects within any given resource. RDF, an XML metadata format used to describe resources semantically, easily enables the archiving, sustaining, and sharing of resources on the Web. The ARC RDF schema provides a comprehensible set of required and additional elements that contributing resources can use to create interpretive values to describe their digital objects. While basic features (e.g., title and date of composition) are required, additional choices (e.g., hierarchical elements) are provided so that resources may choose to create either simple or complex descriptive frameworks for resources. These choices open discussion between ARC and project directors about the preservation of and access to materials on the Web, yet also allow ARC to release the (free culture) frameworks for re-use through the ARC Catalog API, which can be queried to return all metadata submitted for certain contributing projects.

SERVING THE SCHOLARLY COMMUNITY

In this article, we have referred to various ways in which ARC's social infrastructure interacts with the larger academic community, as we seek to meet scholars where they are, instead of where a top-down hierarchical system would require them to be. ARC and its nodes serve scholars and their interests, and the nodes have historically held events to research these interests, aid in the development of projects, and ask for feedback when creating technological tools. 18th Connect runs a yearly workshop for creating digital editions at the conference for the American Society for Eighteenth-Century Studies; MESA has taken several interface prototypes to events like the International Congress on Medieval Studies; and NINES regularly sponsors summer workshops to promote digital project development in nineteenth-century studies. In day-to-day business, ARC provides a set of services to the academic community, particularly to discuss and support solutions to questions of promotion, tenure, data interoperability, and best practices for digital projects.

Especially in its peer reviewing activities, ARC is a social technology responding to what digital humanists have learned so far about the interaction between technologists and traditional humanists. Because the editorial boards for each scholarly node resemble the boards of the most illustrious scholarly presses and journals, the ARC nodes obviate a problem identified by "If You Build It Will They Come?"—a report on the LAIRAH study that sought to determine what digital resources are actually being used by scholars and why (Warwick, Terras, Huntington, & Pappa, 2008). The problem this article identified is a "lack of confidence" in the scholarly quality of digital resources (p. 94). At its outset, NINES peer reviewed 22 digital projects. The first 100 digital resources that were taken into the MLA International Bibliography included all 22 NINES projects: the trust is now there.

ARC is unlike, in several ways, the ill-fated Bamboo project that attempted to bring technologists and traditional humanities scholars together (Dombrowski, 2014). The instigators of Bamboo were technologists who already had an infrastructure in mind when they conducted meetings that would allegedly engage the community in design, ignoring all the previous attempts by digital humanists to design their own infrastructure, as Melissa Terras (2008) points out in her blog posting about the Bamboo project, "Bambooozle." It is extremely difficult, and some would argue impossible, to create an interface that does not reflect at all the underlying infrastructure: scholars must be involved at the deepest levels of design in creating systems for data retrieval, data sets, and tools for analysis. In contrast to Bamboo's planned infrastructure, the Solr indexer and Collex interface were originally developed by humanists at the University of Virginia, McGann and Nowviskie, in conversation with a steering committee of scholars who were also early Web adopters—some of them digital humanists, some of them primarily scholars who were secondarily engaged with digital humanities—and subsequently have been drastically revised to meet scholars' needs (Wheeles, 2010).

Revising the interface to give the first page of each node a Google-like search box has improved our user base, though admittedly, we still need to work on making the nodes into resources that are habitually used by scholars as they work on articles and monographs, as well as digital projects. Mandell has demonstrated that searching NINES works better than searching ECCO in some instances (Mandell, 2010), but scholars need to know how valuable searching NINES can be, and only more outreach will effectively disseminate this knowledge. Typically scholars are more interested in ARC nodes to peer review their projects than to use as scholarly search engines: engaging scholars in producing projects may be the best way to draw them into the digital humanities community.

As discussed previously, the ARC set of metadata requirements allows scholarly projects to freely create descriptive frameworks. Freedom of interpretation via metadata elements, however, means very little to humanities scholars with little to no experience in data management or archival indexing. In response, the ARC aggregation model and workflow provides technical support and community outreach. Node directors, associate directors, and project managers supply materials on standards and best practices, yet also provide certain consultation services to archives and scholarly resources at all stages of the ARC aggregation process. Following in the footsteps of

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NINES, the ARC and node offices have always dispensed XSLT support (for converting data/records into ARC RDF), consulted on data management, and given workshops at disciplinary conferences on best practices for digital projects. Although the technological bar for participating in ARC is low, the intention of our social system is to encourage high-quality digital scholarship through consultation and collaboration. These moments allow ARC to promote best practices in the growing community of scholars producing work via digital mediums.

Conclusion

The ARC nodes are each designed for scholars in specific disciplines by directors and steering committees of traditional scholars who do not primarily identify as digital humanists. Many digital aggregators in fact have failed to attract projects and users: our user base begins with the directors, steering committees, editorial boards; all scholars who want to use the search interface and have their own projects become findable through it. They are not interested in building generalizable digital humanities tools and interfaces but in their own particular projects and research needs. As a result, our metadata and our faceted-search browser are being constantly worked and reworked to meet scholars' needs. Our discussions at ARC steering committee meetings are thus about designing structures that bring together into one functioning unit (and this is quite difficult) traditional scholarly and new digital infrastructures. For example, we know that humanities disciplines are being reconfigured via interdisciplinarity. But one facet of our metadata is indeed discipline. We allow people to search by discipline because that is what is meaningful to them. However, we have radial buttons in our interface that allow one to search all our period- and discipline-specific nodes at once. Thus our interface anticipates that period-specific disciplines will become less and less relevant to our users.

NINES, ARC, and the other nodes have developed out of a need for online digital scholarship and evaluation, but ARC maps directly onto the complex social system of scholarship and education. Because ARC is both publication platform and research environment, our community stretches across multiple institutions, projects, and academics around the globe. By conducting outreach into the humanities community, providing a high-quality research environment for scholars and students, offering peer review to digital projects, and writing letters to promotion and tenure committees, the ARC community is building a digital scholarly on-ramp to the highways of traditional scholarly social networks. As future ARC nodes come online, and with the launch of both ReKN and ModNets fast approaching, we look forward to continuing to forge bridges between traditional and digital scholarship.

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Notes

1. While ARC node offices are currently located in only North America, we intend our network to grow as we expand beyond a period-specific pattern of research

environments. Node groups for topic, regional, and medium-specific content are currently in talks with ARC to formally join our organization.

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- 2. MESA offices are located at North Carolina State University and the University of Pennsylvania (mesa-medieval.org); 18th Connect offices are located at Texas A&M University (18thconnect.org); NINES at the University of Virginia (nines.org); ReKN at the University of Victoria; and ModNets at Loyola University, Chicago.
- 3. ARC has a customized schema for of Apache Solr, a fast, open source search platform powered by Apache Lucene. The ARC Solr index uses the Lucene Java search library for indexing materials that abide by particular XML metadata and text format schemas. The Collex application, developed for NINES and ARC by Performant Software Solutions, LLC, displays queries to the Solr index through a Ruby on Rails back end and a browser-based search interface on the front end.
- 4. TypeWright is an application built by Laura Mandell, through a grant provided by the Andrew W. Mellon Foundation to Miami University in 2010. It allows users to correct the dirty OCR behind documents from the Eighteenth Century Collections Online (ECCO) database and receive in return an XML-encoded document of those corrections (18thconnect.org/typewright/documents).
- 5. The documentation for these general guidelines can be found online: http://www.18thconnect.org/about/scholarship/peer-review/#new .

Websites

Advanced Research Consortium (ARC), http://idhmc.tamu.edu/arcgrant American Society for Eighteenth-Century Studies, https://asecs.press.jhu.edu Digital Humanities Now, http://digitalhumanitiesnow.org

DSpace, http://www.dspace.org

 $Early\ English\ Books\ Online\ (EEBO), http://eebo.chadwyck.com/home$

Eighteenth Century Collections Online (ECCO), http://quod.lib.umich.edu/e/ecco/

18th Connect, http://www.18thconnect.org

Fedora Commons, http://www.fedora-commons.org

 $Initiative\ for\ Digital\ Humanities, Media, and\ Culture\ (IDHMC), http://idhmc.tamu.edu$

International Congress on Medieval Studies, http://wmich.edu/medieval/congress/

Journal of Digital Humanities, http://journalofdigitalhumanities.org

JSTOR, http://www.jstor.org

MESA: Medieval Electronic Scholarly Alliance, http://www.mesa-medieval.org

MLA Commons, http://commons.mla.org

New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/index.cfm

NINES: Networked Infrastructure for Nineteenth-Century Electronic Scholarship, http://www.nines.org

The Poetess Archive, http://idhmc.tamu.edu/poetess

PressForward, http://pressforward.org

Project MUSE, http://muse.jhu.edu

The Rosetti Archive, http://www.rossettiarchive.org

Scalar, http://scalar.usc.edu/scalar

TypeWright [application], http://18thconnect.org/typewright/documents

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