Interdisciplining Digital Humanities

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Professionalizing

“. . . individual experience is not scalable.”
—Comment by Kevin Guthrie to the Commission on Cyberinfrastructure for Humanities and Social Sciences, qtd. in John Unsworth, “Cyberinfrastructure for Humanities and Social Sciences,” University of Illinois, Chicago. Microsoft PowerPoint file, Slide 11, http://people.brandeis.edu/~unsworth/ECAR/index.xml

The Alliance of Digital Humanities Organizations (ADHO) promotes and supports digital research and teaching across all arts and humanities disciplines, acting as a community-based advisory force, and supporting excellence in research, publication, collaboration and training.
http://digitalhumanities.org/

Keywords: professionalization, platforming, communities of practice, network, partnership, scholarly communication, federation, remixing, modularity

Professionalization is a process by which a group establishes and maintains control of a social world. Early learned societies cultivated a wide range of interests and included members of society outside the academy. When higher education was restructured around the modern system of disciplinarity in the late 19th and early 20th centuries, these groups became outnumbered by new professional organizations dedicated to specialized subjects. Like the historical guilds that provided workers a social group for their trades, these organizations met their members’ needs while defining and controlling expertise. The most prominent mechanisms of profes-
Professionalizing academic domains have been annual meetings, publications, educational credentials, qualifications for career advancement, specialized discourse, norms of conduct, criteria of evaluation, and standards of practice. This chapter examines two major mechanisms of professionalizing Digital Humanities: the formation of communities of practice and scholarly publication.

**Communities of Practice**

The radical version of interdisciplinarity holds that nothing less than jetisoning the structure of disciplinarity will result in significant change. Yet, in an essay on “The Politics of Disciplinary Advantage,” Rodgers, Booth, and Eveline admit that countertactics can never completely overthrow disciplinary hegemony. They advocate getting around rules of constraint by controlling boundaries, establishing methodological and theoretical rigor, formulating recommendations for practice, and creating a self-regulating guild. Through these actions, individuals and groups negotiate the material and representational economy in which interdisciplinarity is deployed, moving within and across disciplinary structure in order to transcend it and thereby “making a difference.” Communities of practice are one of the most important means of doing so. The term is associated with Lave and Wenger’s studies of craft- and skill-based activities. They examined apprenticeships of midwives, native tailors, navy quartermasters, and meat cutters, though subsequently the concept was adapted in other areas including education, knowledge management, and studies of online communities. The central idea is that people who share a common interest, craft, or profession generate community, establishing common ground through sharing information and experiences. As they learn from each other, they build a repertoire of common knowledge, communal resources, collaborative relationships, shared norms, and best practices (*Situated Learning*).

The repertoires that communities build form the basis for platforming a new field. In the world of computing, *platform* refers to hardware architecture or frameworks that allow software to run. Interdisciplinary fields are neither hardware nor software, but the social architecture for a networked operating system is vital to their strength and sustainability. John Unsworth’s description of the shift from Web 1.0 to Web 2.0 provides a way of thinking about this concept. Emphasis shifted with Web 2.0 from
the computer as platform to the network as platform (“University 2.0,” 227). Networking has played a key role in platforming Digital Humanities. Many campuses began by forming local interest groups, including Denison University, the University of Massachusetts, the University of California at Riverside, Texas A&M, Stanford, Princeton, and Cambridge. In some cases, small beginnings expanded into wider networks, such as the 2011 Digital Humanities Week at the University of Maine, Philly Digital Humanities, the Committee on Institutional Cooperation comprised of Big Ten universities plus the University of Chicago, the Boston DH Consortium, and the Five College Consortium in Western Massachusetts and Tri-Co DH Consortium of Bryn Mawr, Haverford, and Swarthmore. The Digital Humanities Observatory in Ireland exemplifies the national level, building infrastructure in a collaboratory model of services and resources while coordinating distributed networks across national and international platforms.

The process of community building has been bidirectional: simultaneously moving outward toward a wider field and inward toward particular specializations. Some efforts have a narrow focus, such as the session on “Faulkner and the Digital Humanities” at the 2012 Faulkner and Yoknapatawpha Conference. Others serve wider interests. The Association of College and Research Libraries, for example, recently started a Digital Humanities discussion group, and some disciplines have become prominent in serving digital interests at their annual meetings. A “Hands-on Workshop” at the 2011 conference of the American Historical Association (AHA) addressed a range of topics including Teaching with Social Media, Text Mining, Content Management Systems, Digital Publishing, and Digital Storytelling, along with a tour of resources on TeachingHistory.org. DH topics also populate the annual Modern Language Association (MLA) convention in sufficient number to be chronicled regularly in the academic press, and MLA has an Office of Scholarly Communication that includes web-based publishing and networking opportunities.

Archaeology and art history also have a history of serving digital interests. Computer Applications and Quantitative Methods in Archaeology was founded in 1973, the Archaeological Computing Newsletter appeared in 1984, and by the mid-1980s related sessions were being held at meetings of the discipline’s professional societies (Eiteljorg, 22). At the same time, in 1985, art and design historians established Computers and the History of Art (CHArt). This group was initially composed of academics, but they
were soon joined by individuals in museums and art galleries as well as managers of visual and textual archives and libraries. In 1982, the Visual Resources Association (VRA) was also founded. Since 1968 it has met at conferences of the College Art Association, and now has its own Bulletin serving the needs of image media professionals in educational and cultural heritage settings. Comparable to CHArt, VRA’s membership documents the expanding scope of visualization. Members have expertise in not only art and art history but also architecture, information science, museum curation, digital production, and archiving (Greenhalgh, 33).

As DH interests were taking root within discipline-based organizations, new interdisciplinary communities were also forming.

“Strategic knowledge clusters” comprise a generative form of interdisciplinary community. Funded by the Social Sciences and Humanities Research Council of Canada, the clusters are knowledge networks in which scholars can partner with non-academic stakeholders. The Network in Canadian History and Environment (NiCHE), for example, is a self-described “confederation” of researchers and educators working at the intersections of nature and history, with core topics including water and landscapes, geographical regions, and transnational ecologies. Membership is free and open. Because NiCHE includes many prominent environmental historians, it can also provide authoritative peer review for projects and has experimented with an open-source environment. In addition, NiCHE has a new scholars committee and a digital-infrastructure initiative that supports practicing historians by providing online training and materials in a tutorial-based textbook: in addition to being open access, *The Programming Historian 2* is community driven and invites feedback from users.

Major projects also generate communities of practice. The project Integrating Digital Papyrology, for instance, is developing a “federated system” of resources to overcome the silo effect of separate projects. Its ultimate aim is to make the entire ancient Greek and Latin documentary corpus available in open form. Integrating textual and material records from many cultures, Gregory Crane advises, places greater importance on interoperability across scholarly cultures and languages. Interlinking enables users to remix content, and a consortial model leverages both traditional peer review and community-based crowd-sourcing (McGann, Stauffer, Wheeles, and Pickard, 135; Crane, 146). Partnership is also important in small fields. Classics, Crane adds, does not warrant a “classical informatics” on the level
of bioinformatics. Yet, small fields need to meet their infrastructure needs. Describing the EVIA Digital Archive Project, Alan R. Burdette cites ethnomusicology as an example of a small discipline that cannot generate resources for library purchases. Yet, being located within the Institute for Digital Arts and Humanities at the University of Indiana, Bloomington, provides a platform for pursuing further funding, means of preservation, and linkages for interdisciplinary teams across units dedicated to information and computer science, library and information science, a Digital Library Program and IT services as well as arts and humanities faculty (“EVIA,” 204; Response, 247).

DH communities have arisen in interdisciplinary fields as well. Established in 2003, Digital Medievalist organizes sessions at both medieval congresses and Humanities Computing conferences. This self-described web-based community provides an international network for technical collaboration and instruction, exchange of expertise, and development of best practices. In addition to meetings, the project operates an electronic mailing list and discussion forum, online refereed journal, news server, and wiki. Another initiative, Judaica Europeana, is making available a large online archive of books, documents, visual and audio material related to Jewish history and culture. The organization’s “Access to Integration” effort, in particular, is developing a new process for formulating collective solutions to challenges that arise in using digital technologies for studying Jewish history. Both knowledge integration and technological integration, the group’s leaders emphasize, are needed.

Collaborative partnerships also form around educational needs. Three graduate Schools of Information (at the Universities of Michigan, Maryland, and Texas-Austin) and three digital humanities centers (at the University of Maryland, University of Nebraska-Lincoln, and Michigan State University) joined forces to enhance education and training opportunities while stimulating collaborative research and generating a syllabus for a DH library and information science course to be taught by one or more iSchool faculty in the project. This effort was aimed at achieving “deep” collaboration. DH centers need graduate students with a strong interest in humanities who are also capable of interdisciplinary research and teamwork. One of their goals, as a result, was to develop cross-disciplinary understanding. Each side needed to become familiar with the other’s methods and styles. Close coordination of institutional partners is also crucial for successful partnerships among DH centers and iSchools, along with
building and maintaining new digital archives and bolstering technology infrastructure.

The need for standards is also a catalyst for community building. The Text Encoding Initiative (TEI) evolved from recognition of common needs to formation of a professional group. Susan Hockey recalls the emergence of a set of principles from a 1987 meeting aimed at creating a standard encoding scheme for electronic texts. Management of the project was placed in the hands of a steering committee with representatives from the Association for Computers and the Humanities (ACH), the Association for Literary and Linguistic Computing (ALLC), and the Association for Computational Linguistics. TEI was designed primarily by scholars who wanted to be as flexible as possible, so any tag could be redefined and tags added when appropriate. Yet, the philosophy in library and information science differed, prioritizing closely followed standards for ease of finding books. At the time, there was also less input from the library community and the term “digital library” was not in wide use (“The History,” 12, 15). Since 1994, though, TEI Guidelines have been widely adopted and are now in a fifth version. Incorporated in 2000, the international TEI Consortium provides a sustained platform for communication and collaboration, with annual meetings, resources and training, and special interest groups in traditional professions such as education and libraries, subject areas such as music or linguistics, and materials such as manuscripts, texts, and graphics.

Borrowing a term from Jerome McGann, “new institutional agents” have emerged as well (“Sustainability,” 18). HASTAC (the Humanities, Arts, Science, and Technology Alliance and Collaboratory) is a self-generated community that combines a virtual network with grounded conferences. Its alliance with the MacArthur Foundation’s Digital Media and Learning initiative facilitated grants for innovative uses of digital technologies and new media, and its scholars forum engages students in community-based exploration of significant topics in the field. Operating from 2008 to 2012, the cyberinfrastructure initiative of Project Bamboo brought together scholars, librarians, information technologists, and computer scientists in order to develop shared technology services and environments supporting scholarship and curation. Three features of interdisciplinarity stood out: partnership, common language, and collaboration. Working groups addressed topics such as education, scholarly networking, tools and content, and shared services. With support from the Mellon Foundation, the community expanded to an international partnership of
ten universities that pledged in-kind institutional resources. One of the challenges they faced was the familiar interdisciplinary problem of finding a common vocabulary. As a result of their cooperative effort, many participants reported that improvements in their ability to talk and think together across domains ultimately helped them with cross-campus communications back home as well.

The professionalizing of a field is most apparent in its flagship organizations, a history Hockey traced in detail. To briefly summarize: the journal *Computers and the Humanities* was founded in 1966, and the first in a series of biennial conferences on literary and linguistic computing held at the University of Cambridge in 1970. ALLC was founded in 1973, the journal *Literary and Linguistic Computing* was established by 1986, and in the mid-1970s a new series of conferences was under way in North America as the International Conference on Computing in the Humanities (ICCH). ALLC and ICCH gradually coalesced around literary and linguistic computing, though ICCH attracted a multidisciplinary range of papers on use of computers in teaching writing and in music, art, and archaeology. Founded in 1978, the Association for Computers and the Humanities (ACH) was an outgrowth of this effort, with the aim of involving a wide range of subjects and communities of practice, including literature and language studies, history, and philosophy (“The History,” 6–8, 11). The formation of ADHO also fostered greater networking across ACH and ALLC, joined in 2007 by the Canadian-based Society for Digital Humanities/Société pour l’étude des médias interactifs (SDH-SEMI).

The formation of ADHO raises yet another dimension of “making a difference” in interdisciplinary fields. If the mantra in real estate is location, location, location, in Digital Humanities it is infrastructure, infrastructure, infrastructure. Organizational partnership is key to technical and institutional infrastructure, reinforcing the importance of networking. Project Bamboo, for example, has cooperated with other organizations to build a service-oriented architecture across distributed disciplines, centers, repositories, and infrastructure projects. Its partners have included CenterNet, an international network of DH centers, and a new alliance with CHCI and CHAIN (the Coalition of Humanities and Arts Infrastructures and Networks). CHAIN also facilitates international cooperation by pooling experience in creating and operating digital infrastructure in a shared environment. The cyberinfrastructure of tools, technologies, and methodologies needed for Digital Humanities, however, remains inadequate. A
2011 science policy briefing from European Science Foundation, *Research Infrastructures in the Humanities*, defined multiple challenges requiring interdisciplinary co-development across sectors to achieve a robust research ecosystem.

Not unexpectedly, virtual partnerships and collaboration are playing a role in meeting needs in specialized areas. CLARIN, the Common Languages Resources and Technology Infrastructure, is a Pan-European initiative focused on language resources for both linguists and society in general. Resource and service centers are connected via a grid technology that forms a virtually integrated domain overcoming limits of working across platforms. CLARIN and DARIAH joined forces in 2010 to host an international conference on “Supporting the Digital Humanities.” DARIAH, the Digital Research Infrastructure for the Arts and Humanities, is a Pan-European cyberinfrastructure that brings together fourteen partners from ten countries. Describing its “communities of practice,” Peter Doorne called DARIAH a virtual laboratory parallel to physical institutions such as libraries and archives. DARIAH maintains the system it develops, but individual member states or international organizations are responsible for data.

“Tweet, Loc.Cit.”

“Tweet, Loc.Cit.” is both a pragmatic solution and a metaphor for the changing landscape of one of the most important mechanisms of professionalizing a field—its forms and protocols of scholarly communication. Mounting requests prompted the MLA in 2012 to issue guidelines for citing tweets though, Scott McLemee recalls, the American Psychological Association had already introduced a format for citing Twitter and Facebook in 2009, and in 2011 the American Medical Association deemed tweets public discourse. Tweets, long-form blogs, websites, and other nontraditional forms of scholarly communication are the focus of increased attention, along with digital versions of traditional journal and book formats. The advantages include speed of appearance, a larger audience, higher rate of citation due to online access, and less likelihood of going “out-of-print.” Yet, digital forms of publication face skepticism and even outright opposition in the conventional peer-review system.

The earliest genres of publication in Digital Humanities were familiar
scholarly forms of text editions, indexes, concordances, catalogs, and dictionaries (Hockey, “History,” 7–10). Since the mid-1990s, Michael Keller reports, new e-genres have appeared (summarized):

- page images of conventional article and book publications that are passive but might might have a cross-searching feature, such as articles available through JSTOR
- digital compendia, anthologies and complete works that may have expanded descriptions, images of sources, and bibliographies, such as the Matthew Parker online library and papers of George Washington in the digital imprint Rotunda of the University of Virginia Press
- “fluid-text” editions such as Rotunda’s publication of the Herman Melville novel *Typee*
- new narratives that consist of streams of texts, media objects, software-based models, and hyperlinks to materials and citations
- “lively monographs” that are conventional but have images and hyperlinked citations
- GIS-based compilations and views such as Richard White and colleagues’ Spatial History Project, the David Rumsey Map Collection, and Mapping the Republic of Letters
- image bases such as Artstor and AMICA Library.

(Keller, 377)

The first electronic periodical in humanities appeared in 1990 with the launch of the *Journal of Post Modern Culture*. By 2004, Kathleen Carlisle Fountain recalls, the number of e-journals had grown “exponentially” (47). Older journals were also introducing innovative formats. Differences remain, though. The ADHO-sponsored online journal *Digital Humanities Quarterly (DHQ)*, for example, is more text-heavy than the more experimental *Vectors*. Launched in 2005, *Vectors* is a self-styled journal in “Multimodal Humanities.” It does not publish works that could appear in print, and the editors are dedicated to expanding the nature of academic publication via emergent and transitional media. Calling the journal a “test bed for interdisciplinary digital scholarship,” McPherson describes the twofold layering of interdisciplinarity in the production process. First, the content is diverse, bringing together scholars from various disciplines for theme-based issues that create a “sustained space” for experiments with multimodal scholarship by pushing beyond the limited disciplinary rela-
tionship of “text with picture.” Thematic focus makes it possible to “zoom out to several large questions that cut across multiple fields,” while still making close comparisons of separate understandings. Discussions exemplify the second form, a “deep interdisciplinary collaboration” that occurs in development teams.

To illustrate the second form, in producing the issue on Evidence scholars from literary studies, sociology, art, and performance co-interrogated the status of evidence in their disciplines. They were also paired with designers and programmers in a weeklong summer workshop that has been a space for rethinking the relationship of form to content. In addition, the fusion of scholarly writing with database practices involves peer evaluation and “scholar-to machine collaboration.” And, the design team has learned ways to “scaffold” Digital Humanities through new platforms and tools that can be generalized across humanities. Working in collaboration with scholars, designers developed a relational database better suited to the kinds of evidence they were exploring. The work was bottom-up, emerging from conversations about how scholarship might be reimagined in a dynamic digital vernacular. The outcome is not a predetermined tool for delivery. A middleware package, the Dynamic Backend Generator is an authoring tool and intellectual sketchpad that changes the relationship scholars have to their work and digital environments, while enabling multidisciplinary audiences to construct interfaces to serve their own needs and preferences (McPherson, “Vectors,” 210).

Monographic publishing was slower to respond. However, by 2009 Christine Borgman declared “a seismic shift toward digital publishing.” Series dedicated to Digital Humanities also emerged, including the University of Michigan Press’s Digital Humanities@digitalculturebooks, the University of Illinois Press’s Topics in Digital Humanities, Ashgate’s Digital Research in the Arts and Humanities, and Open Book Publishers’ Digital Humanities. In addition, other presses have profiles in related areas, including MIT, the University of Minnesota, Routledge, NYU, Sage, and Polity. Interdisciplinarity is not necessarily an explicit goal. However, these forums create favorable environments. Anvil Academic is a scholarly publisher of born-digital and born-again-digital research in humanities. It aims to bring editorial and institutional legitimacy to this new form of scholarship. Speaking as president of the Council for Library and Information Resources, Chuck Henry described Anvil’s potential to create a new kind of environment for research as “a linked ecology of scholarly expression,
data, and tools of analysis.” Korey Jackson, Anvil’s program coordinator and analyst, says it is too early to predict payoffs. Yet, “the types of project now being evaluated—ranging from granular GIS maps to interactive timelines and other syntheses of large data sets—all share an interdisciplinary approach to their subject matter.” They also appeal to wide audiences, while providing “a credible imprimatur for digital work that transcends disciplinary boundaries” (Korey Jackson, e-mail, June 29, 2012).

Thematic research collections, Carole Palmer proposes, constitute another genre of scholarly publication. Palmer likens many of them to a virtual laboratory where specialized source material, tools, and expertise are brought together to aid scholarly work. Networked technology facilitates aggregation and collocation of materials otherwise distributed across institutional locations, disciplines, fields, and media. Palmer highlights two integrative features of collections in the concepts of “contextual mass” and “interdisciplinary platform.” The Rossetti Archive, for example, aims to host all of Dante Gabriel Rossetti’s texts and pictorial works complemented by contextual materials including other works of the period, letters, biography, secondary works, and bibliography. The Blake Archive also puts texts together with illustrations, illuminated books, and drawings and paintings, as well as clusters of materials based on medium, theme, or history. And, the Victorian London collection Monuments and Dust encourages international collaboration and exchange across literature, architecture, painting, journalism, colonialism, modern urban space, and mass culture. The underlying premise is that aggregation will seed interaction by making it possible to discover new visual, textual, and statistical relationships (“Thematic Research Collections”).

These collections could not be created without another aspect of interdisciplinarity in Digital Humanities—inter-institutional collaborations with libraries, museums, and publication venues. Developing a content infrastructure, Ronald Laresen emphasizes, also requires collaboration of research and development involving scientists, technologists, and humanists. Over time, the audience for a collection may also become more multidisciplinary. The digital library Perseus, for instance, was originally narrow even though it provided access to a large body of materials in classics including primary Greek texts, translations, images, and lexical tools. As the project grew, it added collections outside classics and a thematic approach. Digital design makes it possible to structure flexible use. The Tibetan and Himalayan Digital Library (THDL) is a hybrid digital library and thematic collec-
tion that takes advantage of internal collocation to create varied structures and perspectives. The Environment and Cultural Geography collection, for instance, organizes texts, videos, images, maps, and other types of materials according to space and time, while thematic and special collections are organized by subject attributes. Thematic collections integrate diverse sources in disciplinary units such as art, linguistics, literature, and music. Subtheme collections are independent projects with their own content and goals, nested within thematic collections. A special collection can focus on an individual as well.

Collocation is also advancing a dimension of interdisciplinarity not widely discussed in the past, the capacity to re/mix materials from different areas and repurpose them in new contexts. In a project to produce a CD-ROM for teaching the film *Birth of a Nation*, called Griffith in Context, Strain and Van Hoosier-Carey demonstrate how “architected meaning” emerges from movement beyond narrow parameters of hypertext. Users can select individual pathways in a hypermediated web of juxtapositions and associations that catalyze humanities and social-science methodologies. The technical architecture of the project creates a new interactive relationship between technology and cultural history that aggregating and hyperlinking materials alone could not produce. Users are able to mix them in new ways, and cross-disciplinary association becomes the platform for interpretation through combinations selected from a range of possibilities.

Interdisciplinarity is further implicated in the changing nature of writing and reading, in several ways Burdick et al. have identified. Visualization and multimodal forms are moving beyond older notions of “writing” to the “design” of argument. Orality is also returning to the mainstream of argumentation, in the form of YouTube lectures, podcasts, audio books, and “demo culture.” Together, they are propelling a resurgence of voice, extemporaneous speaking, and embodied performances. Authorship is becoming more “multiplicative” as well, involving scholars and technical experts. Authorial identity shifts from individual voice to a “collaborative, collection, and aggregated voice.” Moreover, the design of an interface, data structures, and database becomes part of collaborative argumentation (7, 10–12, 36, 56, 89–90). The concept of *authorship* is more complex in digital environments because it entails the composite work of compiling and archiving, editing and curating, and making or adapting tools for searching, indexing, annotating, and collaborating. Web 2.0 elements, authors of the European Science Foundation’s report on *Changing Publi-
cation Cultures in the Humanities also note, make multidisciplinary viewpoints more possible. A sociologist is unlikely to author a formal review of a book in history, but might contribute sociological expertise on a site that could prompt discussion, collaboration, or borrowings across disciplines.

Presner characterizes his own collaborative project Hypercities as a “generative” model of Digital Humanities 2.0. Hypercities integrates visual, cartographic, and time/space-based narrative strategies in digital constructions of ten world cities. The platform facilitates a “connective tissue” for mapping projects and archival resources across distributed databases held in common by “geo-temporal argument.” Developed by a team of scholars, librarians, community partners, and programmers, the platform went through several iterations in a participatory open-source environment. Collections other than historical base maps are stored in curated groupings of media objects and interpretative narrative owned and controlled by their creators, though they can be made public. In the Tehran subproject more than 1,000 media objects including YouTube videos, Twitter feeds, and Flickr photographs were deployed to trace the history of protests in the streets of Tehran and other cities following elections. Original archival collections remain intact but can be nested to create a large project within a single “collection.” HyperCities is distinct from Google Earth/Maps because it enables browsing both space and time through integration of “time-layers.” Moving from simple aggregation to an integrative platform, it is a new mode of publishing and archiving in a social network for creating, accessing, editing, and sharing content (“Hypercities”).

Developments in scholarly communication have also fostered new periodizations of the field. Tara McPherson situates the historical base of Humanities Computing in the early work of building tools, infrastructure, standards, and collections. This work continues, but a second category of Blogging Humanities emerged from networked media and peer-to-peer writing. A new breed of digital humanists is porting words and monographs of scholarship into networked spaces of conversation and dialogue. Text often remains the lingua franca of expression, and their work is still discounted in the academic reward system. However, it fosters connections and peer-to-peer conversation. A third category of Multimodal Humanities is now bringing together tools, databases, networked writing, and peer-to-peer commentary while leveraging the interdisciplinary potential of visual and aural media (“Introduction”). Implications follow for one of the mainstays of publication—editing.
In a fourfold periodization, Johanna Drucker tracked shifts over time. Web 1.0 was characterized by static display and navigation. Web 2.0 afforded greater interactivity within structured sites, and Web 3.0 facilitated collaborative content development by users, aggregation in real time, and on-the-fly analysis. The prospect of Web 4.0 is now unfolding in increased customization of web-based resources and intensified attention to the design of conditions and use (*SpecLab*, 198). The impact of praxes and technologies of new media critical work and scholarly editing, Martha Nell Smith emphasizes, are not just advances. They are necessities that mark a “profound shift in humanities knowledge production.” New materialities of editing make it possible to examine documentary evidence once hidden from view, recording and storing feedback in manageable formats of dynamic databases, and manipulating forms in ways not possible in print (307, 316–19). The boundaries separating authors, editors, and technical professions also blur in the process. In the Canterbury Tales Project, Peter Robinson reports, traditional divisions of transcribing, editing, and reading dissolve in mergers of text- and edition-based work (172). Jack Dougherty and Kristen Nawrotzki’s book *Writing History in the Digital Age* also illustrates the changing relationship of authors and editors with readers and reviewers, publishers, and libraries and repositories.

One of Dougherty and Nawrotzki’s goals in editing a born-digital collection was to find out if new technologies could counter limits of the traditional publication process, including solitary writing, secretive peer review, and slow production. The project began in 2010 and unfolded during an eight-week period in fall of 2011 with open peer review resulting in over 940 online comments on essays selected from a call for ideas, including reviews by four anonymous external experts invited by the University of Michigan Press. A final version appeared in print in 2013, and a free web version is hosted on a server at Trinity College. One of the editors’ challenges in this experiment in development editing was performing the traditional role of content expert while encouraging participation, managing public discussion, and serving as website designers and code-writers, human spam-filters and troubleshooters, and guides for authors unfamiliar with WordPress (Nawrotzki and Dougherty; Dougherty, Nawrotzki, Rochez, and Burke).

Doughterty and Nawrotzki’s project also documents expanding commitment to open access and participation in scholarly communication. In proposing a set of shared set of values for Digital Humanities, Josh Honn
and Geoff Morse combined being *Open & Accessible*, citing public forms ranging from pre- and post-publication peer review of Twitter and blog posts to Creative Commons licensed publications, curated archives, and interactive projects. Written collaboratively in 2013, the “Berne DH Summer School Declaration on Research Ethics in Digital Humanities” is a draft set of guidelines that reiterates commitment to open access software while calling for broad-based inclusion of gender, disabilities, and global access. Burdick et al. further situate Digital Humanities within a broader form of “open-source culture production” that combines approaches and perspectives in multiple ways including collaborative authorship, multiple versioning, more flexible attitudes toward intellectual property and the notion of a peer, as well as multiplying communities (77).

The social nature of editing in open environments results in another form of boundary crossing. As research is being shared increasingly through social media, Geoffrey Rockwell observes, the lines between professional expert and amateur blur in an expanded form of distributed knowing and decentering of authority (151–52). The Electronic Textual Cultures Lab at the University of Victoria, to cite one example, is developing a social edition of *The Devonshire Manuscript*, a verse miscellany dating from the 1530s and ’40s. Anyone will be able to adapt, update, and add information in a pooled wiki-style knowledge base, thereby collaborating in the process of building. The current online version offers transcriptions with scholarly apparatus, as well as contextual, textual, and bibliographic material. The final version, to be published by *Medieval and Renaissance Texts and Studies*, will reassert authorial control. Two projects at University College London’s Centre for Digital Humanities also model public engagement.

Transcribe Bentham uses crowdsourcing to facilitate transcriptions of the manuscript papers of philosopher and reformer Jeremy Bentham, in a project aimed at creating a new authoritative edition of his collected works. After users submit transcriptions they are checked for textual accuracy and encoding then, if completed satisfactorily, locked to prevent further changes (Causer, 29–31; see also Jones, 92–93). Indicative of the changing affordances of technologies, Melissa Terras recounts, the Bentham Project has developed from a simple web page to an interactive Web 2.0 environment, and from MS Word to TEI-encoded SML texts, and from an inward-looking academic project to an outward-facing community-building exercise. The practice of “post-moderation” in cultural heritage institutions also crosses the boundary of academe and the public. UCL’s
QRator Project facilitates co-creation of museum content using mobile devices, social-media software, and an interactive digital labeling system for displaying public comments and information next to actual museum objects (Ross, 37–39). The Social Interpretation (SI) project at the Imperial War Museum also turns museum objects into “social objects” by allowing the public to comment on, collect, and share them through social media channels of their choice.

Experiments are not without risk. However, new platforms continue to be built and older ones enhanced. The University Press Consortium book collections, which are integrated with Project MUSE’s electronic journal collections, enable individuals to create their own formats, interact with others, mine the database, and annotate works. Highwire Press, in concert with Stanford University Press, offers web-hosting services and platforms for managing digital content. And, Cengage Learning’s platform Artemis is an integrated research environment that will enable users to search across Gale’s Digital Humanities collections. After moving the Eighteenth Century and the Nineteenth Century Collections Online into one platform, Gale will make literary resources and criticism searchable through another portal. The publisher also plans to offer collaboration tools. The experiment PressForward also continues to combine scholarly review with open web-based peer-to-peer interactivity. The growth of these and other resources, though, raises the next topic for consideration—learning how to use them effectively and in an interdisciplinary manner. Education is key across all stages of the career life cycle, from the student years to ongoing professional development.

Clipped Links for Chapter 4 in Order of Appearance

Kevin Guthrie comment to the Commission on Cyberinfrastructure for Humanities and Social Sciences, qtd. in John Unsworth, “Cyberinfrastructure for Humanities and Social Sciences,” University of Illinois, Chicago. Microsoft PowerPoint file, Slide 11, http://people.brandeis.edu/~unsworth/ECAR/index.xml

Alliance of Digital Humanities Organizations (ADHO) http://digitalhumanities.org/


Digital Humanities Observatory, Ireland: http://dho.ie/
Faulkner and Digital Humanities: hastac.org/opportunities/cfp-faulkner-and-digital-humanities
American Historical Association meeting: http://blog.historians.org/annual-meeting/1531/digital-humanities-a-hands-on-workshop
Modern Language Association meeting: http://www.mla.org/
Network in Canadian History and Environment: http://niche-canada.org/about
The Programming Historian 2: http://programminghistorian.org/
Digital Medievalist: http://www.digitalmedievalist.org/
Judaica Europeana: www.judaica-europeana.eu
iSchools and DH Centers project: http://www.ischooldh.org/
Text Encoding Initiative: http://www.tei-c.org/index.xml
HASTAC: http://hastac.org/
Project Bamboo: http://www.projectbamboo.org/
The Association for Computers and The Humanities: http://www.ach.org/
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