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# **Make it New?**

## **A dh+lib Mini-Series**

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# Foreword

Zach Coble

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This ebook is an experiment in publishing, demonstrating one way that openly-published works can be built upon and carried forward. It features the posts from *Make It New? A dh+lib Mini-Series* alongside the original *Journal of Library Administration* articles. Open access publishing allows us to invite our readers – all of them, regardless of their location relative to paywalls – to respond to the ideas presented in scholarly articles. Here, it has enabled us to repackage the articles and responses in a self-contained and more stable format for distribution. At this particular moment, where the work of publishers, libraries, and other like-minded institutions are overlapping in interesting ways, we need more experimental projects that explore the boundaries of what’s possible and what’s useful.

This work is a product of the collective effort of the authors and editors whose works are included– Barbara Rockenbach, Chris Alen Sula, Jennifer Vinopal, Monica McCormick, Miriam Posner, Bethany Nowviskie, Micah Vandegrift, Stewart Varner, Ben Vershbow, Sarah Potvin, Roxanne Shirazi, Devin Higgins, Kevin Butterfield, Trevor Muñoz, Nathaniel Gustafson-Sundell, Daniel Griffin, and Chella Vaidyanathan.

Special thanks go to Micah Vandegrift for his [skillful negotiations](#) with Taylor and Francis, which allowed the authors of the *JLA* articles to maintain copyright to their work. I am grateful to the *JLA* authors, all of whom have made peer-reviewed open access versions of their articles publicly available, for allowing us to include these works in this publication under a CC-BY-NC license. The authors of the dh+lib responses, all of which were [published under Creative Commons licensing terms](#), were equally willing to participate in this experiment, and we thank them for making this possible. I particularly appreciate the help of Kevin Smith, Scholarly Communications Officer at Duke University, who helped elucidate the rights issues and claims embedded in this project.

Finally, I would be remiss not to give thanks to my dh+lib co-editors, Roxanne Shirazi and Sarah Potvin, whose consummate editorial work on the mini-series resulted in a delightfully thought-provoking set of work.

I hope you enjoy the works presented here. May you discover many answers, new questions, and find inspiration.

part 1

## **The Responses**

# 1. **Make It New? A dh+lib Mini-Series:** **Introduction**

Sarah Potvin

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Roxanne Shirazi

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We launched dh+lib with an eye towards creating community and facilitating the burgeoning conversation that was developing around the library and information professions and the digital humanities. Naturally, we took note when a special issue devoted entirely to libraries and DH was published by the *Journal of Library Administration* in January 2013. As a means to continue the conversation sparked by this excellent issue, dh+lib issued an open [call for proposals](#) for blog posts, virtual roundtables, or other formats responding to the issues raised in these seven articles.

What follows is a snapshot of how librarians are grappling with these concerns at a given moment. Each of the contributions presents one view from the multiplicity of approaches that make up the LIS and digital humanities communities. These posts oscillate between the practical and the theoretical, the radical and the pragmatic; they range from historicist to futurist, from sweeping to granular. Which is to say: they offer a variety of perspectives, much like the *JLA* articles that provided the original impetus for the series. As Barbara Rockenbach [described the special issue](#): “This diversity of voices illustrates the varied landscape of DH in libraries and the great number of opportunities for supporting this emerging trend in scholarship.”

Despite the variety represented in this dh+lib mini-series, connections persist between the pieces and common threads emerge. All make some claim to the core functions of libraries as they explore where digital humanities methods and implementations fall along that spectrum, while questioning whether DH represents a paradigm shift for libraries or simply an extension of existing services. What is the context for DH in libraries? Should it be considered alongside initiatives such as eScience? Pursued with the support of library-based technologists or in inter- and intra-institutional partnership? Is it a space for disciplinary specializations to deepen or for cross-disciplinary efforts to branch? As the authors tackle these questions, recurring themes are revealed: DH as entrepreneurial v. DH as institutional enterprise, DH as

disruptive v. DH as contiguous, libraries and librarians as partners or supporters, collaborators or service-providers. What is new, what is traditional, what is novel, what is constant.

[Devin Higgins](#) opens the issue by observing that librarians, faced with uncertainty around what constitutes DH, risk “complacency that stems from the realization that libraries are already doing, and have been doing for quite some time, a great many projects that are easily categorizable as the ‘digital humanities’; or ... paralysis brought on by the sheer range of paths one could take to join the field.” He encourages us to embrace the uncertain boundaries and shifting definitions of the digital humanities as a means of furthering experimentation in libraries.

It is this openness that catches the eye of [Kevin Butterfield](#). From his perspective as the University Librarian at the University of Richmond, “The timing is right for a meeting of the ways,” as both libraries and DH seek definition. Warding against the potential for professional timidity referenced in [Micah Vandegrift and Stewart Varner’s JLA piece](#), Butterfield locates an expanded role: “The library must be both a resource for and active participant in the act of scholarly and artistic creation. This requires us to view research both as a process and an end result to be collected.”

This theme of librarians seeking out active and egalitarian participation in DH—previously voiced by [Bethany Nowviskie](#), [Miriam Posner](#), [Michelle Dalmau](#), and [Trevor Muñoz](#), among others—resonates in a new piece by Muñoz. In a historically-rich “provocation,” [Muñoz lays out](#) a counternarrative, dissembling what he identifies as a strawman rampant in library literature: that of “traditional library service.” Many authors, including those writing in the *JLA* special issue and this dh+lib mini-series, have framed library engagement with DH in contrast to “traditional service.” In a series of vignettes, Muñoz locates the historical fallacy at the heart of this framing, felling “the idea of ‘service’ in librarianship as stable or uniform” in an attempt “to improve the profession’s critical self understanding.”

Echoing the notion of DH as contiguous rather than disruptive—and so drawing on skillsets and experience likely already distributed across libraries—[Nathaniel Gustafson-Sundell](#) warns librarians not to “let the discussion of Big DH distract us from all of the littler things we can and should be doing right now as librarians” to engage with eResearch. In keeping with Higgins’s embrace of an open DH, Gustafson-Sundell is vigilant against the narrow focus DH seems to place on the humanities. He writes: “some DH methods are not exclusively applicable to the humanities, so some aspects of the discussion needn’t and probably shouldn’t be isolated to the humanities only.” From a library perspective, the focus on the humanities may be unnecessarily bounded, fencing out those in the sciences and social sciences facing analogous challenges and demonstrating related needs.

The constraints of tradition are present in [Daniel Griffin’s](#) references to the

framework of faculty tenure and promotion, “rooted in a number of traditions that stand in almost direct opposition to the processes and products of digital humanities work.” His piece draws attention to an oft-referenced but little-explored need to position new DH work alongside persistent tenure and promotion expectations, to build “a shared awareness of what work needs to be done and how to best position that work for future benefit for yourself and the scholarly community.”

[Chella Vaidyanathan](#) rounds out the mini-series with practical steps aimed at humanities subject librarians interested in DH, building on the “necessary and relevant initiatives” to re-skill humanities librarians highlighted by [Miriam Posner in her \*JLA\* piece](#). In addition to undertaking to learn new digital skills and seeking out collaborations across campus, librarians are advised to re-evaluate their current commitments, with the possibility of locating underutilized time “better spent in learning new skills to provide more specialized liaison services to faculty and students.” Vaidyanathan singles out the possibility of partnerships that incorporate special collections materials and the design of new DH courses around particular subject or collection expertise.

We hope you enjoy the six pieces that make up this dh+lib mini-series. Thank you to the authors for their contributions and their graciousness throughout the editorial process. Thank you to our dh+lib co-editor [Zach Coble](#), who has handled big and small tasks related to this mini-series with trademark aplomb.

## 2. Openly Uncertain, Certainly Open

Devin Higgins

Digital Library Programmer, Michigan State University

The often noted (and equally often lamented) “vagueness” of the overall digital humanities endeavor points to one of its greatest strengths. Though the boundaries of the field, community, or set of practices known by the name “digital humanities” are difficult to establish (as Barbara Rockenbach points out in her [introductory piece](#) to the recent issue of *JLA* that occasions this post), the need for a clear and uncontroversial delineation of them is questionable. At some level, even the term “humanities” is needlessly confining when discussing the issues surrounding DH, since the rise of computational methods and the increasing availability of well-organized data that stand to revolutionize humanities scholarship have been equally game-changing in the sciences. In fact, many of the theories and methods associated with the “computational turn” in scholarship are in play regardless of disciplinary focus.

Yet the persistent uncertainty that surrounds the definition of DH can be particularly harrowing for libraries and librarians. The means of entry to the field are so numerous, the points of overlap between DH and the goals of libraries so varied (as [Chris Sula](#) along with [Micah Vandegrift](#) and [Stewart Varner](#) point out with illuminating clarity), a librarian could easily fall back to one of two unhelpful positions: one of complacency that stems from the realization that libraries are already doing, and have been doing for quite some time, a great many projects that are easily categorizable as the “digital humanities”; or one of paralysis brought on by the sheer range of paths one could take to join the field.

It’s here that that notable vagueness can inspire a change in mindset: no matter how deeply engaged your library is with digital humanities projects, the motivating forces behind DH push you to go just beyond. The “vagueness” of DH gives libraries the opportunity to channel these forces in productive directions, building on current strengths and promoting the digital humanities by pushing locally established humanities offerings into digital directions at the level of research, pedagogy, collections, or elsewhere. DH isn’t monolithic or prescriptive. It’s a term that suggests the momentum of new projects extending the library’s reach into new and potentially innovative directions, whatever form those may take. In this sense, the digital humanities is less a field, community, or set of practices than an approach guided by inspiration and, of course, technology. The digital horizon is constantly receding, not

simply through the creation of new technologies, which themselves can as easily distract as inspire, but through the possibilities for improved research and access these technologies have pointed toward and eventually made commonplace. Digital means of research and access have continually expanded our notion of what is possible, while leaving behind a trail of previous techniques that have become established and familiar tools we can't live without.

From a pre-digital perspective, for example, it's easy to see how the advent of digitized books available to full-text searching would bring about enormous change in how we engage with written material. Content which was previously hidden in layers of pages, with perhaps only an index or less as a guide, could now be scanned quickly and effectively, and displayed with just a few keystrokes. Finding that elusive quote you couldn't quite place inside an 800-page novel no longer involved copious amounts of (often frenzied) rereading. Instead, typing a word might summon forth every instance of it, a huge advance in efficiency, but also the foundation for new forms of scholarship. Yet in many cases today we take full-text search for granted as a foundational capacity of digital culture, and the technological capabilities we stagger at now are characterized by far more advanced means of engagement with the text. If searching is a tool that takes us immediately to what we want to read (again, a revolutionary function in itself), today we are not required to think of the text as something just to be read, but as the site of potentially far more sophisticated computational analysis, as a multi-layered object to be reconfigured and recombined with other texts to form new ones. In his "[Conjectures on World Literature](#)," Franco Moretti coins the term "distant reading" to describe the new method of scholarly attention text mining allows us to pay to previously insurmountably large bodies of text, such as the canon of a wide-reaching field like "world literature." Though surely these modes of engagement are not purely new, the speed and scale at which creators and scholars can work in these modes today encourages ambitious projects and copious experimentation.

The digital humanities approach, in fact, has encouraged a redefinition of the text, and more broadly, of content, and libraries are strongly encouraged to do the same to keep up. Micah Vandegrift and Steward Varner's piece offers a persuasive appeal to the library to "function as a place where scholars can try new things, explore new methodologies and generally experiment with new ways of doing scholarship." Libraries have always endeavored to make resources accessible to their users, and the growing appeal of the digital humanities should remind us that making text as available as possible is only one component of making it usable. In "[New Age Scholarship: The Work of Criticism in the Age of Digital Reproduction](#)," Sean Latham stresses that the digital archive has been crucial in producing new critical attitudes toward history and culture, and goes so far as to claim that the "digital archive" is "the condition of possibility for cultural studies itself." It's not the resources themselves that have "activated...a

transformative method of scholarly inquiry,” but the ways in which users are able to access them. The library in its core mission of connecting users to information can initiate this type of transformation. The form our collections take and the ways we instruct users to access them can inspire creative methods of research to produce new forms of inquiry—see for instance the relatively recent rise of prosopography, or “collective biography.”

Vandegrift and Varner affirm that the role of the library is to “support the journey of research as a means in itself, and encourage imaginative, new, transformative uses of the products of research.” If the methods of digital scholarship can be off-puttingly dry or technical to some, involving the obscure languages of computer code and databases, here is a reminder that the process and results can also be characterized in terms of play and experimentation. It’s an effort that reminds us that the wide horizons of the digital humanities can find their match in libraries open to new forms of service and collaboration.

### 3. The Digital Liberal Arts, Libraries, and Timidity

Kevin Butterfield  
University Librarian, University of Richmond

Satchel Paige had a saying: “Don’t look back, something might be gaining on you.” When we speak of forming a vision for libraries in the digital now we expend a great deal of energy looking behind, worrying and wringing hands about what might be gaining or surpassing us. It may arise from a professional timidity, as described by Micah Vandegrift and Stewart Varner in, their recent article in *JLA*, “[Evolving in Common: Creating Mutually Supportive Relationships Between Libraries and the Digital Humanities](#),” or too strong a devotion to dated prime directive of service. In any case, libraries are working through a process of redefinition at the same time that the digital humanities are seeking definition. The timing is right for a meeting of the ways.

I am the University Librarian at the University of Richmond. As a library at an undergraduate, liberal arts institution of 3500 students, we find ourselves in a nimble position. We are well funded and have an administration that embraces not only the practice of digital humanities, but also the broader ideal of digital liberal arts. As William Pannacker puts it in his article “[Stop Calling It ‘Digital Humanities’; And 9 other strategies to help liberal-arts colleges join the movement](#)“: “As an umbrella term for many kinds of technologically enhanced scholarly work, DH has built up a lot of brand visibility, especially at research universities. But in the context in which I work, it seems more inclusive to call it digital liberal arts (DLA) with the assumption that we’ll lose the ‘digital’ within a few years, once practices that seem innovative today become the ordinary methods of scholarship.”

Despite our support and resources, we determined early on that while the library had a leadership role in defining, developing and supporting the digital liberal arts, we could not do it alone. Our work is an active collaboration between the library, our University’s Digital Scholarship Lab, University Communications Office, and Web Services Team. Our ability to succeed is determined by effectively deploying the collective strength of our academic community. Our library has assumed a leading role in the process.

Our recent project, [Virginia and the Crisis of the Union](#), illustrates the library’s engagement with digital liberal arts. Taking as its focus Virginia’s vote to secede from the Union and the debates leading up to this vote, the project “links the fully transcribed text

of these debates with a wealth of contextual information, giving users the tools to ask why the men who brought the war into their own counties and neighborhoods did so.” The project site includes a detailed description of the [collaboration and the roles of each contributing department](#).

These collaborations have required a shift not only in how the library was organized — what we collected, our service model, etc. — the basics of library work, but a perceptual shift, as well. While we embrace the roles of organizing and preserving collective memory, as described by Vandegrift and Varner, we can no longer wait patiently at the end of the scholarly assembly line and collect products dropping off the belt. We can no longer watch our faculty work to publish their research only to wait to pay a publisher for the privilege to share their work. The library must be both a resource for and active participant in the act of scholarly and artistic creation. This requires us to view research both as a process and an end result to be collected.

Libraries’ roles are expanding to encompass this broadening scope of scholarship. The same can be said for the digital liberal arts. As Vandegrift and Varner attest, technology allows humanities work to be more engaging and more accessible. The research process can be highly individual, messy, and unique. It can also be innovative, creative, and liberating. Academic and research libraries provide the raw material needed by researchers and, in their reframing as a productive and creative space, libraries engage in invigorating areas of inquiry. Like libraries, digital humanities provides a set of tools for new research. Libraries and the digital liberal arts overlap in their desires to transform teaching, create accessibility, and find new ways of forming and asking questions.

At the end of the day I am siding with Satchel Paige. As a library administrator, I am less inclined to worry about what is coming up behind me. What’s done is done. We must move forward.

The concept that has stuck with me through my multiple readings of Vandegrift and Varner’s “Evolving in Common” has been this: “The problem is not browsing or access; it is timidity.” In the end, it comes down to how willing we are to not just embrace new ideas, but to run with them. How willing are we to roll up our sleeves and stand with our faculty and students throughout their research process, admit that we do not understand all that we see and hear, and learn? How willing are we, as administrators and leaders, to determine a path for our organizations and lead the way down it, clearing obstacles that stand in the way of our staff’s success, getting our hands dirty and bruised in the process, so that they have the room to grow, take chances, fail, and succeed? As Bethany Nowwiskie writes in “[Skunks in the Library: A Path to Production for Scholarly R&D](#),” *“if you want unusual results, you can’t expect that they will come from playing by the usual rules.”*

The library is not an end in itself; it is a means to an end. Libraries and the digital

liberal arts have much to gain and lessons to learn by evolving in common, but only if we leave our timidity behind.

## 4. In Service? A Further Provocation on Digital Humanities Research in Libraries

Trevor Muñoz

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Editor Barbara Rockenbach has assembled an insightful collection of perspectives on the current “digital humanities moment” in librarianship. There is, however, one crucial perspective missing: a historical one. In her [introduction](#) to a special issue of the *Journal of Library Administration (JLA)* devoted to the topic of digital humanities in libraries, Rockenbach highlights several themes she considers significant for her intended audience of “library leaders involved in, or considering support for, [digital humanities] or digital scholarship.” One of these themes is what Rockenbach characterizes as “tension between traditional notions of library service and new models of user engagement.” Her choice of heading for the discussion of this theme—“Service as Disservice?”—perhaps hints at her own feelings. The choice of how to frame the issue, with “traditional notions of library service” on one side and “new models of user engagement on the other,” is more consequential and more problematic. One side of this opposition is merely a stand-in. There is no such thing as “traditional library service.” Deploying this term as though it had some stable meaning obscures rather than illuminates a long and complex history of information work relevant to this new moment.

To impute this problematic move solely to Rockenbach would be to blame her unfairly for what seems to be a common reflex in the library literature. In the same issue of the *JLA*, [Stewart Varner and Micah Vandegrift](#) refer to “traditional library work” as they attempt to make an affirmative case for librarians to expand beyond such work. Even a cursory search of the wider library literature will uncover numerous examples of some notion of “traditional service” being deployed in contrast with new endeavors (audiovisual librarianship, distance services, preprint servers, open access, etc.). A particularly interesting reflection on the “traditional library” appeared on the [In the Library with the Lead Pipe](#) blog while this post was in preparation. Unfortunately, accepting such a framing device will likely limit the possibilities for fully exploring digital humanities in libraries. A richer library history offers a less problematically normative account of how librarians might interact with such new methodological and conceptual endeavors.

This post is offered as a contribution to a broader framing of the issues around

“service” that Rockenbach treats in her introduction and about which Miriam Posner [has many incisive things to say](#) in her contributed paper. There are sure to be different approaches to a subject as broad as “digital humanities or digital scholarship,” but to consider what these might be and weigh their relative merits will require clearing away assumptions that have accreted in the terms of the debate. In her paper, [“Skunks in the Library: A Path to Production for Scholarly R&D,”](#) Bethany Nowviskie articulates what is at stake for librarians in embracing the digital humanities “as true intellectual partners.” She argues that “naturalized assumptions about how libraries best serve scholars” can inhibit full participation in “collaborative R&D [research and development].” Building up an alternative vision of library engagement with the digital humanities through R&D work, Nowviskie suggests that the true onus on librarians is “to experiment; to iterate; to assert our own intellectual agendas as part of the DH research landscape,” and perhaps even, as she wonders, “[T]o play? To play in public? To make the things we want to see made? To collaborate like mad, with local scholars, other librarians, and the wider, public open source and open access community that encompasses them both?” As I have also argued (in [an earlier post](#) that several authors of the *JLA* special issue generously cite), librarians have much to gain by embracing roles not only as active collaborators in digital humanities work, as both Posner and Bethany Nowviskie advocate, but also as project directors and leaders. The appeal to “traditional library service” as a unitary concept blunts the generative potential of alternative proposals like Nowviskie’s, mine, and others (such as [Jefferson Bailey’s here on the dh+lib blog](#)) through a suspect history that collapses into claims about identity.

### **A Unitary Concept of Service is a Disservice**

After summarizing some of the arguments against framing digital humanities work as service to faculty, students, and other campus constituencies, Rockenbach counters that “moving wholesale away from the notion of service in a library would be a mistake. The service ethic in librarianship is one of its defining features.” There are several problems with this claim and the line of argument that follows from it. First, among the included contributions, there is no evidence of any suggestion to move wholesale away from “service.” The real ground of debate is narrower—no one suggests that digital humanities work will be the sum total of library activity—rather, the vital question seems to be: when libraries do engage in digital humanities work, how should they best go about doing so? Second, even setting aside this creation of a straw man, the second half of Rockenbach’s formulation—her suggestion that “the service ethic in librarianship is one of its defining features”—introduces a strain of discourse about library identity into a discussion that is, for the most part, about library practice. The deployment of the empty, ahistorical construct of “traditional library service” seems to act as a cover for advancing

unacknowledged arguments about identity. That is, the move to stabilize the notion of service can be read as an attempt to stabilize a particular vision of what libraries are or “what librarians do” (or don’t do). The identity argument lurks in the discussions around “the service ethic” but needs to be directly addressed. Third, the discussion that follows this claim about “defining features” conflates terms that need to be understood distinctly: namely, a “service ethic” and a “user-focused set of services.” In both cases, to treat the idea of “service” in librarianship as stable or uniform across even so short a period as the modern era of American librarianship (less than 150 years) is a historical fallacy that must be addressed in order to work productively on “the role libraries are playing or could play” in digital humanities.

Rockenbach’s own summary of the argument for “service” suggests the instability of the notion. After beginning with “the service ethic,” Rockenbach describes “the user-focused set of services that have traditionally been offered in a library ... [s]ervices such as one-on-one research consultation, research education, and technology support services.” A reading of this list should prompt the conclusion that these things are not all alike. In fact, it would seem difficult to generate a single, coherent definition of “service” from this list. These examples echo an earlier catalog of “service-oriented activities,” which included: “training, software and hardware support, search and discovery assistance, the creation of disciplinary portals, and collection building.” Certainly “technology support services” (hardware and software) requires parsing the term “traditional” in a non-traditional way. The argument here is not that libraries and librarians cannot do any of these things. Rather, it would seem that a category of activities (with different origins and histories) is being assumed as a unitary, stable, and definite concept.

The space of a blog post only allows for a brief sketch of the history of libraries and librarianship that complicates any notion of “traditional library service.” The following three vignettes will have to suggest possibilities that may be developed at greater length elsewhere: the history of reference work, the fortunes and influences of the “documentation” movement, and recent history from the last decade related to the idea of “information commons.” Even in miniature, the opportunity to unpack the meaning(s) of “service” in a library context is an invitation to improve the profession’s critical self understanding.

## **On Reference**

In an article for *Library Quarterly* and in a doctoral dissertation later published in the Association of College and Research Libraries (ACRL) monograph series, Samuel Rothstein offers an extensive history of “the development of the concept of reference service.” In his history, Rothstein recounts how, until the emergence of a public library

movement allied to progressive social movements in the second half of the 19th century, the constitutive activity of librarianship (certainly in “academic” libraries) was custodianship and preservation of book collections. Rothstein identifies the paper given by Samuel Swett Green at the epochal 1876 conference of librarians as the first proposal for a programmatic “service” to users of the library. In its first incarnation as “assistance to readers,” the concept of “service” in libraries refers to a campaign of moral improvement. Green writes “It is a common practice ... for users of a library to ask the librarian or his assistants to select stories for them. I would have great use made of this disposition.” He counsels libraries to place an “accomplished” employee (read: an educated woman) “in the circulating department” and thereby “a great influence can be exerted in the direction of causing good books to be used.” The benefit of Rothstein’s detailed history is the way it illuminates the changing referent behind the term “service.” In American librarianship, “reference” is the original service and reference evolved from first a progressive moral campaign, next to the provision of different varieties of catalogues and published aides, then to the staffing of “information desks” and other activities that users of present libraries might recognize.

The particular evolution of reference service is worth understanding in more depth, but the salient point for the discussion of digital humanities and libraries is the fluidity of the concept. If there were a true candidate for “traditional library service,” in the sense of programmatic activity on the part of libraries, reference work might be it. Yet, even in this context, the idea of what is meant by “service” evolved and changed over time; there is no stable set of practices here to be set as a norm against the new activities that Posner, Nowvickie, and other authors from the special issue propose that librarians take on in “doing digital humanities.” Studies about perceptions of (academic) libraries, like the triennial [faculty survey conducted by Ithaka S+R](#), suggest that norming can become a trap—“if x is what the library is, do we need that anymore?”

Even taken together, the two parts of the original argument (service ethic and service activities) do not find support in the available history of libraries and librarianship. To the extent there is a “service ethic” in librarianship it is too complex to expect that it could be expressed in and thus, reliably mapped to, any particular set of “user-focused services” (even one as miscellaneous as that offered). This is not to say that the profession does not have values; a service ethic is as much of a contingent, historically-constructed multiplicity as service practice. In the case of reference, the ethic behind the first reference service—the suggestion of “good” books to readers—was, as library historian Kenneth E. Carpenter writes “a means of elevating the lower classes ... help[ing] the working man in his trade, ... keeping peace between the classes, [and] inculcating democratic values in immigrants.” Later appeals to a service ethic referred to a librarian who “serves as an efficient mediator between men [read: upper-class, scholars] and books.” This version has persisted though it is no longer so specific to either

“men” or “books.”

Recourse to sociological definitions of the idea of a “profession,” which are often invoked in debates about the status of librarians relative to other academic professionals and include notions of a service (versus a self-interested) orientation, does not help very much. This is because, there too, “service” is glossed several different ways, and also because, as Michael F. Winter points out, professional librarianship managed to get on for 60 years without a code of ethics; this basic chronological problem should cast doubt on a strong definitional claim. As the next section, on the “documentation” movement, will suggest, in the case of libraries after the period of early reference service there were yet more formulations of a definitive “service ethic,” with different accompanying programmatic services. For the “documentalists,” the service ethic was service to goals such as “the advancement of science.”

## **On Documentation**

The history of the “documentation” movement and, to an extent, special libraries also argues that the concept of a “service ethic as one of [librarianship's] defining features” needs to be expanded, and that, once expanded, “service” does not stand in contrast with research or related modes of engagement with endeavors like digital humanities. Documentalists and special librarians concerned themselves with topics like document formats, reproduction, data processing, and retrieval—taking “service” to the (expanding) information needs of science and industry as invitations to explore new technologies and engage in research and development. The work of federal librarians working in institutions such as the Library and Reports Division of the Office of Technical Services at the Department of Commerce after World War II, evaluating, organizing, indexing, and disseminating technical reports from classified military programs as well as from Nazi Germany exemplify how the documentation movement can be read as an alternate history of “library service.” That is, documentalists’ commitments to a librarian “service ethic” manifested in a quite different set of “service activities” from those pursued by early academic reference or public librarians. W. Boyd Rayward has framed the history of this kind of work within libraries and other information organizations as “a series of disciplinary incorporations, transformations, and continuities ... that has created a rich tapestry of speculation, systems development, and institutional expression that has led to what we now call library and information science [LIS].”

The genesis of the documentation movement, one of the forerunners of modern LIS, is usually credited to Paul Otlet, whose career spanned from the last years of the 19th century to the 1930s. In chronological terms, the notions of “service” from this tradition

are only twenty years more recent than those from the public librarianship tradition described by Rothstein. They are nearly contemporaneous. In historiographical terms, what is significant about Rayward's narrative of this history is the claim for its continuity and coherence. In his account, documentation, and later information science, is also part of the history of librarianship, not something separate. Some introduction to information-service-specific data processing and document retrieval is still part of the training of most librarians. (This is particularly true for those who come through Masters of Library Science programs.) Rockenbach's opposition of traditional service against "new modes," including more direct collaboration in digital humanities work, threatens to disappear the present work and the history of many systems librarians and other library technologists descended from the documentation paradigm. Shouldn't work practices and concepts from documentation/information science count in a truer understanding of "traditional library service"?

An account that includes the history of the documentation movement breaks down the opposition from Rockenbach's introduction as a way of marking "librarian" work against other kinds of digital humanities work—such as programming, data development and design, or project leadership. Work on microphotography, early networking, indexing, and information retrieval were legible as librarian activities (though not uncontested or undebated), and cognates in digital humanities research and development should be likewise.

## **On Management**

Recent history—from the first decade of the 21st century, a hundred years after the work of Samuel Green, Melvil Dewey, and Paul Otlet—also needs to figure in framing the discussion around libraries' engagement with digital humanities. Specifically, the history of the idea of "information commons" as part of an interest in revitalizing "the library as a place" is relevant to this discussion. The history of "information commons" is part of a history of "administration" as an activity and then a specialization within library work. This history of administration of libraries intersects with the history of (American) business and business management. The purpose of acknowledging the history of "information commons" in the debate over digital humanities and libraries is to attend critically to the context of accounts like Rockenbach's rather than, as with the other historical accounts, to disrupt and expand a too-neat definition of "service" in libraries.

Attending critically to this context means noting that this very welcome special issue on digital humanities and libraries was published in journal devoted to library *administration*. Over the 20th century, as libraries grew both in number of volumes held and also in number of departments and branches, management and administration became important specializations of library work, even library "service."

American libraries before the late 19th century did not have complex management structures or the need to worry much about organizational charts and efficient work practices. Perhaps because librarianship was a professional rather than scholarly endeavor, there is a history of influence and borrowing between business management and library administration. The career of Frederick Winslow Taylor and “scientific management” overlaps with the early era of professional American librarianship. Papers were given on “Time and Motion Studies in Libraries.” The plans of prominent library leaders like Melvil Dewey echoed “scientific management” ideas. To varying degrees in different eras, borrowings of business terminology into the discourse of library administration have shaded into borrowing of business concepts and perhaps also business values (to good and ill).

The enthusiasm for “information commons” is but a more recent example of the influence of business management ideas on library administration, and because it involves management of “information technology” it is specifically germane to the discussion of digital humanities in libraries. Donald Beagle’s seminal article on the “information commons” model in academic libraries explicitly credits business management theories, specifically information technology management, as inspiration. In the original paper, the information commons “denote[s] a new type of physical facility specifically designed to organize workspace and service delivery around [an] integrated digital environment [consisting of many databases accessible through a single interface].” Beagle cites a strand of management theory from the 1980s known as “strategic alignment” in explaining the shape and genesis of the information commons idea. Strategic alignment, according to Beagle, “was developed in response to the unique management challenges and demands of information technology (IT) and relates the articulation of vision in strategic technology planning to the actualization of vision in infrastructure, process, and implementation.” (Of course, this framing was not universal—a contemporaneous position paper by Martin Halbert, then at Emory, does not explicitly align itself with the same management theory.) However, the approach that Rockenbach singles out for praise in concluding her discussion of “service” is the “four-tier service model” at New York University. The NYU model, as described in [the contributed paper by Jennifer Vinopal and Monica McCormick](#), seems to be a very close translation of the “information commons” idea to the realm of digital humanities.

Vinopal and McCormick speak of “enterprise-level” and “commodity tools,” of “infrastructure” and “scalability.” These terms could come from the annual report of the Chief Technology Officer (CTO) or Chief Information Officer (CIO) of a major corporation. In light of Beagle’s vision described above, it seems plausible to suggest that the development and promotion of “information commons” is an intellectual forerunner to digital humanities initiatives shaped like NYU’s, and that these approaches reflect values from business, and specifically IT management. Again, Vinopal, McCormick, and

Rockenbach cannot be uniquely identified with this trend. Among the other *JLA* contributors, Nowvskie's "skunk works" comes from the corporate culture of Lockheed Martin, the giant aerospace and defense contractor, and [Ben Vershbow describes the work of the New York Public Library \(NYPL\) Labs](#) as "a kind of in-house technology startup." At the least, this attests to the growing prominence of "the corporation" as a powerful shaping metaphor in American life and suggests that further investigation of recent business management history might be a fruitful avenue for understanding the frames (in a neo-institutionalist sense) that libraries may bring to the digital humanities.

## **Conclusion**

The narratives that librarianship tells itself about its history and mission are important in determining how the profession engages new opportunities such as digital humanities. To find a place for research and development in libraries relies on critically examining framing assumptions. Three small contributions from library history—reference service, the documentation movement, and the information commons—open up the narrative of librarian roles, practices, and competencies in ways that may allow fuller consideration of the place of digital humanities work in libraries. The goal of offering these quickly sketched histories is to question the idea of "traditional library service" as a coherent, meaningful concept that can be set against new activities, such as those identified with digital humanities. Rather than being a definitive concept, library "service" is an unstable category that contains diverse and complex histories. The connotations of "traditional" suggest that a historical argument is being advanced, but in fact "traditional library service" is a purely rhetorical gesture. Without careful attention to the actual histories of library work, "traditional library service" can be used to subtly cast new activities as "other" in ways that foreclose real consideration of how libraries and librarianship might productively adapt.

Part of the project of digital humanities in libraries can be to derive energy for more and better work from abandoning the false security of "traditional library service" and embracing the unstable, multiple meanings that lie behind that phrase. Can the playful R&D of Nowvskie's "skunk works," the "startup"-inspired approach of the NYPL Labs and Maryland's own Digital Humanities Incubator, as well as the well-planned and deeply fair-minded organizational approach of NYU all catalyze each other? I would like librarians to take up the intellectual provocations and new tools of digital humanities in service to the profession.

## **Acknowledgements**

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## 5. On Remembering There Are Librarians in the Library

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The 2013 Digital Humanities and Libraries special issue of the *Journal of Library Administration* largely focused on how libraries might adapt organizationally to the overall problem of Big Digital Humanities initiatives, exemplified by larger-scale projects requiring substantial librarian and staff hours over the longer term, primarily in the context of large research libraries. However, the Digital Humanities (DH) provide a cluster of challenges, many of which can be handled discretely and some of which can be handled fairly simply. After all, many of the challenges of DH have to do with selecting, implementing, developing, and/or supporting computer applications, not all of which need be supported at once for librarians to respond to the needs of digital humanists. There seems to be some risk in too narrowly focusing the discussion on Big DH. Some librarians, unfamiliar at all with DH, might get the impression that DH is too large or too complicated to be addressed without significant investment, or might feel discouraged from investigating DH further for the purpose of trying to understand how their own library services might evolve. In fact, some of the issues posed by DH do not require large-scale administrative intervention or significant investment at all.

In addition, some DH methods are not exclusively applicable to the humanities, so some aspects of the discussion needn't and probably shouldn't be isolated to the humanities only. Text analysis tools have as long a history in the social sciences as in the humanities, and there are numerous examples of text analysis applications in the physical sciences. An expansive discussion of the challenges of DH might lead librarians to think about how they can respond more actively as librarians to the evolving needs of scholars across the whole campus in search of exposure to and help with new tools. In the past several years, many libraries have responded to the needs of DH primarily within technical services departments, largely by focusing on organizational and administrative interventions to develop positions to support digital collections, repository and website development, and/or metadata services. Now is the time for reference and instruction librarians to be invited to join the conversation. Reference librarians might have the flexibility to respond as librarians, without the need for administrative intervention, in the course of offering services at the reference desk or through patron consultations to students from the whole campus (although, really, all kinds of librarians could respond to

the challenges of DH directly in a variety of ways, depending on local organizational flexibility).

In my view, there is a real need for librarians to be talking with each other more directly about what they are doing (and can try to do) “on their own,” without depending on administrative intervention. I would be encouraged if that conversation could take place via [dh+lib](#), or a listserv, or perhaps most practically via a small annual conference in which a sense of community could be fostered. An expanded conversation might empower librarians to experiment with and help students and faculty with some of the easiest tools ([Voyant](#), [Topic Modeling Tool](#), [CATMA](#), [brat](#), etc.), in much the same way they already experiment with and help students with platform functionality and discovery.

### **Structuring, Skills, and Advocacy around DH (Big and Little)**

[Micah Vandegrift and Stewart Varner’s article](#) provides a nice overview of recent high-points in the literature of DH most relevant to academic libraries, as well as some excellent advice for librarians just hearing of DH for the first time (Vandegrift & Varner, 2013, pp. 73-74). On the one hand, this article is mindful of impacts on the whole library, pointing out that the various examples of the re-organization “of the institution ... are ill-informed developments if the librarians, paraprofessionals, and support staff have not re-imagined themselves and their skill-sets.” But, on the other hand, this re-imagination is exemplified in the same paragraph by “the shift toward alternative appointments” (p. 74), which, in largely isolating the impact on the library to one librarian or department, would seem to limit the need for re-imagination by the whole library.

In my view, such alternative appointments can be very helpful for libraries, insofar as the appointed librarians act as teachers to the whole library, but it seems that such specialized appointments too often result in the further compartmentalization (or often literally, the further departmentalization) of the library. The risk of creating an alternative appointment, whether it is to address emerging technologies or DH, or even electronic resources, to name a few examples, is that some librarians might choose to ignore new developments in the field, thinking that the need for re-imagination and re-tooling has been covered, or is somebody else’s job. The challenge in the creation of such positions is to avoid establishing conditions which will lead to the isolation of the librarian. Instead, the specialized librarian should be expected to share burdens as well as opportunities with colleagues.

Miriam Posner [makes a very good point](#) that the library might lean “too hard on individual librarians” who have developed the skills to support DH (Posner, 2013, p. 44). Her observation that “DH expertise is a specialized, crucial – and frankly, rare –

skill” (Posner, 2013, p. 46) might be a bit too general, though. As the survey results summarized in [ARL SPEC Kit 326](#), “Digital Humanities,” showed, library services to support DH projects run an extremely broad gamut, including: application of metadata, scanning and OCR, and selection of resources for digitization (Bryson, Posner, St. Pierre, & Varner, 2011, p. 31), none of which involves skills that are so very rare in libraries. Other kinds of support, such as website development, data conversion, software development, usability testing, text encoding, and AV editing (Bryson et al, 2011, p. 28) might involve skills that are a little more rare in libraries, but these skills (and more along these lines) are pretty commonly offered by library schools and can be found in practice in a variety of librarian jobs.

Posner’s statement is probably most true of those librarians with “alternative appointments” who might be expected to unite in themselves a mastery of the whole field (and perhaps these librarians are leaned on too hard because they are organizationally isolated). The depiction of DH expertise as a specialized and rare skill, rather than as a range of skills not too uncommon in the library, leads reasonably to an acknowledgement of the administrative concern that support for DH might not be for all libraries, and might even be “a distraction from a given library’s basic mission” (Posner, 2013, p. 51). I would contend, however, that many libraries and librarians are already supporting DH, or could support DH (or, really, eResearch, which is a term that encompasses a broader set of research computing services offered to the entire campus), maybe without even calling it such. If we consider how many librarians perform any amount of the services found in the ARL SPEC Kit across the full spectrum of 4500+ post-secondary educational institutions, as well as more specialized organizations, then we might start to appreciate the breadth of expertise available (survey anyone?).

In any case, library support for eResearch might not be as easy to compartmentalize or to avoid as we’d like to think. Even if a library administrator were to make a sweeping decision that DH is “a distraction from a given library’s basic mission,” probably considering only the costs to support Big DH projects, such as digitization, metadata services, specialized tool development, and so on, student and faculty scholars will still walk into the library to ask reference librarians for help working with electronic documents or platforms that increasingly enable eResearch approaches. As reference librarians well know, the number of online primary and secondary sources grows daily. Scholars are using these sources. These sources are under- or inefficiently utilized, in many cases, if eResearch skills or tools are not applied, so patrons are under-served if their librarians aren’t ready to help them.

Geoffrey Rockwell [pointed out long ago](#) that the use of the “find” function, available in word processing applications, PDF readers, and browsers, is itself a text analysis tool (Rockwell, 2005). Some eResearch tools, perhaps especially [Voyant](#), developed by Rockwell and Stéfan Sinclair, are not much harder to use than the “find” function in

Word. There will likely come a point when awareness of how to use such tools will become less exotic, if not quite as common as the awareness of how to use the variety of database interfaces.

In my view, this understanding should be encouraged sooner than later, so the insights from using these tools can diffuse across the field, informing a range of decisions at many levels. For example, I attended a mini-conference fairly recently where a thought leader in the library field discussed the need for librarians to communicate to vendors the expectation that text annotation tools should be built into ebook platforms. The truth is, though, that there are great text annotation tools already available, not least [brat](#) and [CATMA](#). Instead of calling for the development of proprietary tools, we should be supporting the further development of open tools. What librarians, especially acquisitions and reference librarians, really need to communicate to vendors is that content must be available in open, exportable formats. We don't need vendors to design redundant tools that are only for use on one platform, applicable only to proprietary content, so that librarians and users must learn (but don't learn) 57 varieties of the same thing.

Although she doesn't state it explicitly, Posner mostly focuses on Big DH projects in her article, as do Jennifer Vinopal and Monica McCormick. [In their article](#), Vinopal and McCormick are concerned with how libraries can scale services to meet the needs of scholars seeking collaborations that will require big chunks of librarian-hours, so the discussion of project selection processes, the strategic deployment of staff, and so on, are quite pertinent (Vinopal & McCormick, 2013). Really, all of the articles in the *JLA* special issue are excellent and useful. But additional attention should be paid to the full range and nuance of approaches to DH in the library, as well as to how DH services might help meet the related needs of scholars in the social sciences and physical sciences.

"Digital Humanities" as a label might sooner or later face a backlash as a trend, but it seems certain that eResearch will carry on, if only because the research material and the tools to explore the material continue to proliferate, spurring continued evolution of the practice of research. We might even speculate that eResearch will one of these days just be called research again, will be considered business as usual. In responding to *Digital Humanities in Libraries: New Models for Scholarly Engagement*, I do agree that we will need to develop processes for prioritizing and meeting Big DH requests as administrators, but we shouldn't let the discussion of Big DH distract us from all of the littler things we can and should be doing right now as librarians. And we certainly should be careful to avoid letting the discussion of Big DH scare us away from all of these smaller things, because even a small amount of eResearch exposure for non-specialized librarians might lead to new understanding and new possibilities for the whole library.

## **I'd Like to Learn More**

I'm really curious about what librarians are doing across the spectrum. Have any libraries yet experimented with a broader-based approach to supporting DH? Have any instruction librarians yet integrated DH tools into regular instruction, perhaps for graduate student orientation? Do any reference librarians use DH tools at the desk in the course of taking regular questions? What tools? Have any libraries successfully incentivized non-specialized librarians to learn and offer these skills? What kinds of projects are being worked on across the spectrum, at libraries not covered by the ARL SPEC Kit? (I've been struck, looking around me at conferences, that community college and liberal arts college librarians are often the 'first responders' to new needs appearing in libraries.) How can we work together as a community to share information about such projects?

As an example, I'll mention that I programmed a database and interface for a professor as a hobby project, because the professor could find no other means of support through the library or other campus units and because I happened to have the skills and the interest. It was mostly by chance, really, that her request found its way to me, although her project involves several grants supporting several research assistants and although I worked for a very wealthy Association of Research Libraries (ARL) institution with many of the newest bells and whistles when I started the project. I knew other librarians at the same library, not assigned to eResearch or DH by administrative classification, who would have similarly helped out on projects appropriate to their eResearch-ready skills, if only they had been asked, and this despite the fact that they already had "too much" to do (...the prevailing condition of librarians everywhere). How can this "hidden capacity" find a use? It seems to me that eResearch will grow to seem increasingly basic as research. Some libraries are already offering their scholars a research advantage because they have re-organized to offer DH or eResearch centers, but are there any alternative models? How might other libraries start to catch up, even if they don't have eResearch centers? How might support for eResearch vary across different types of institutions (not just ARL institutions, but also libraries at liberal arts colleges, community colleges, regionally focused state universities, and so on)?

(I'd like to thank Evan Rusch, Reference and Government Documents Librarian at Minnesota State University, for helping me think about how reference librarians have responded to evolving needs in the past, as well as for his larger questions about how the organization can best encourage responsive and responsible librarianship, although he needs to write down his own thoughts about that.)

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## 6. Evolving in the Face of Tradition

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[Micah Vandegrift and Stewart Varner's contribution](#) to the *Journal of Library Administration* special issue on digital humanities in libraries offers readers a wonderful exploration of some key texts for digital humanities scholars as well as connections to how those works can inform the work of librarians (Vandegrift and Varner 2013). The article is full of suggestions on how to build up resources and make yourself visible to potentially interested colleagues. They close with a charge to all of us to remember to take our work beyond the walls of the library in order to foster collaborative practices.

Their article is a welcome addition to the discussions on how to work alongside rather than work for researchers, and I thank them both for writing it. I want to take a moment to address one factor that is implicitly present yet never directly addressed in all of the authors' suggestions: the promotion and tenure requirements for faculty, particularly faculty outside the library.

Many junior faculty and graduate students are taking up digital humanities projects both to explore intellectual interests and to help define their professional persona. But the tenure and promotion framework through which these emerging scholars will be evaluated is firmly rooted in a number of traditions that stand in almost direct opposition to the processes and products of digital humanities work.

Take the outside reviewer component of the tenure review process. Oftentimes faculty going up for review are required to compile a list of full professors in their field of study; in some cases this list is further restricted to full professors at American institutions. This can present certain challenges to scholars who are in emerging fields, to those whose work has been more fully supported in other parts of the world, or to those whose projects are interdisciplinary in nature and not easily assigned to one field of thought over another. To further complicate the process, scholars will routinely find that whomever they have worked with before as advisor or co-creator cannot serve. The attempt to ensure some measure of objectivity is understandable here, but it also serves to discourage academic partnerships by emphasizing the more traditional "conversation" of single author articles and monographs.

Along with this, faculty also have the frequent pressure to produce a scholarly monograph from an appropriately prestigious academic press. We in the humanities,

broadly speaking, still place a great deal of value in the scholarly monograph, certainly more than some other fields. While there is plenty to be said for altering promotion and tenure requirements, that is a conversation to be had elsewhere. Here, I would simply like to point out that many of the potential collaborators with which we interact are facing outside pressure to do the opposite of what Mr. Vandegrift and Mr. Varner's piece requests. Faculty members are tacitly or explicitly encouraged to work alone and publish in traditional channels in formats that are easily recognizable and associated with a major field of study.

That is not to say that they have to listen or that we have to work in service of those goals. Scholars in the sciences have explored how to build up a career founded on collaborative projects (Zucker, 2012) and have reminded us to ensure that any data from collaborative work is freely and openly available (Koepsell, 2010). Education scholars have written on how distance education work is viewed for promotion (Simpson, 2010) and the ways that service projects combine with research tasks for tenure (Reybold and Corda, 2011; Demb and Wade, 2012). What connects these disparate scholars is a charge to investigate the factors that shape one's professional scholarly life, and it is the continuation of that investigation and discussion that best serves scholars as they continue to engage in digital humanities work.

Websites like dh+lib allow us a space to push against a suggestion of solitude and tradition because people have pushed for more expansive understandings of the processes and products of scholarship. But in the midst of that pushback, I think it is important to talk with graduate students and faculty members and any potential collaborator about how the work will fit into their larger research agenda and how that agenda will be positioned when they go on the market or when they come up for review. These conversations need not serve as a warning against taking on innovative projects. Instead, they can provide a way to build a partnership through a shared awareness of what work needs to be done and how to best position that work for future benefit for yourself and the scholarly community. Your home institution will of course have unique factors to consider in regards both to resources for digital humanities work and to promotion and tenure. The more that you can understand about both, the more informed your discussions with collaborators can be.

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## 7. Three Steps for Humanities Subject Librarians Interested in DH

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Subject librarians' responsibilities may involve providing virtual and in-person reference services, advanced research consultations, bibliographic instruction sessions, collection development duties, and liaison services. Given the burgeoning interest in DH and the high likelihood that they will be required to possess a certain degree of familiarity with it, how might subject librarians, already overburdened as they are, balance existing responsibilities with this new demand?

Miriam Posner's article in the January 2013 issue of the *Journal of Library Administration*, "[No Half Measures: Overcoming Challenges to Doing Digital Humanities in the Library](#)," offers success stories that deal with training opportunities and library-centered DH projects. One approach is to offer training for librarians, and she provides the example of the workshops conducted by the [Maryland Institute for Technology in the Humanities](#) and Columbia University's "[librarian re-skilling project](#)." Giving humanities subject librarians opportunities to learn new skills would be a step in the right direction. She also mentions the [Library Lab](#) at Harvard University and the [Scholar's Lab](#) at the University of Virginia as spaces for library staff to experiment with new digital humanities projects. She argues that "a library ... must provide room support, funding for library professionals, to experiment (and maybe fail)." All of these are necessary and relevant initiatives to help humanities subject librarians develop new skills. Posner also quotes [Trevor Muñoz](#), who underscores that it is important for "librarians to lead their own DH initiatives and projects."

This *JLA* issue has prompted me to think about how humanities subject librarians can be more proactive than reactive, taking advantage of this changing landscape to reshape their own roles. In this post, I would like to mainly focus on three steps that humanities subject librarians can take as entrepreneurs looking to engage with and collaborate around digital scholarship, teaching, and research.

### **Gain Familiarity with Digital Tools and Keep Abreast of DH as it Evolves**

- While there are a number of humanities faculty already involved in DH work, still

others are not familiar with digital tools. Subject librarians can take the first step by approaching the departments for which they serve as liaisons and finding out if there is a chance to co-host a series of workshops targeted both at humanities faculty and librarians, to learn the basics of DH work together.

- Learning partnerships may be possible with technology or educational centers hosted by many libraries, which offer workshops for faculty and encourage them to use digital tools or GIS in their courses. In addition to offering traditional services such as providing collection-related information, teaching a bibliographic instruction session, and offering research consultations for students, subject librarians could work with faculty members in designing courses that take advantage of these centers' offerings.
- As mentioned in some of the *JLA* articles, librarians may want to attend regional THATCamps to familiarize themselves with the tools and methods used by digital humanists, as well as to meet others interested in DH in their region.

### **Seek Partnership, Collaboration, and Leadership**

- DH projects vary widely in scope and nature across different disciplines. Subject librarians would be able to play a critical role in such projects if they can use both/either their subject expertise and/or knowledge of digital tools to shape the project as an equal partner with their faculty and their colleagues.
- Subject librarians may want to approach the director of undergraduate studies in the humanities departments and discuss the possibility of integrating digital methods into mandatory research methods courses offered in many humanities departments.
- Another alternative would be for a few aspiring tech savvy subject experts to join forces with librarians in special collections. Both the subject librarians and archivists or curators in special collections can identify a set of rare materials or a collection to co-teach a series of digital workshops with a thematic focus targeted at undergraduate students.
- If there are certain rare materials or collections in the institution's archives' or special collections that may pique the interests of faculty, this would be good opportunity for subject librarians to approach the faculty about the possibility of co-teaching a DH course in relevant humanities departments.
- Those who are more comfortable designing and teaching their own courses can experiment using digital tools on their own and teach a new DH course. These may be offered as credit-based courses by the humanities departments. They could also be offered by museum studies programs or summer and intersession programs on

campus. Successful completion of such projects can be used a spring-board to start a conversation about collaborative DH projects or courses with a faculty member. Yet, it also requires a high degree of specialization in the disciplines on the part of subject librarians.

### **Evaluate Current Work/Commitments**

- All this new work requires time. Therefore, subject librarians could investigate whether they can let go of some traditional duties such as offering general reference services through multiple venues like the reference desk, chat, e-mail, and SMS. It may be necessary to look at the number of reference transactions and determine whether there is a decrease in the number of questions received every semester. If so, then the time may be better spent in learning new skills to provide more specialized liaison services to faculty and students.
- Another option is to cancel general library workshops with low attendance. It may be worthwhile spending the time in learning new skills instead of planning workshops that draw very few attendees.
- It might also be helpful to balance the time between collection development and outreach efforts. Therefore, they might need to think of re-examining the services that they offer and prioritize their goals so that they are in better position to take on new roles and responsibilities. Hence, it is crucial to let go off of the “just-in-case” approach when it comes to traditional services and redeploy our energies to engage more actively in outreach and educational programs.

## **The JLA Articles**

## 8. Digital Humanities in Libraries: New Models for Scholarly Engagement

Barbara Rockenbach

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In *Debates in the Digital Humanities*, Matthew Gold opens with an essay entitled “The Digital Humanities Moment (2012).” This moment is characterized by a swell of scholarly and popular publications on digital humanities (DH), funding opportunities for DH projects, jobs requiring DH skills, and DH centers forming in colleges and universities. The same could be said about a parallel moment in libraries. In the past few months job postings for positions with titles such as Digital Humanities Librarian, Librarian for Digital Humanities Research, and Digital Humanities Design Consultant have multiplied. Additionally, many libraries are integrating support for DH or digital scholarship into their service profiles. However, there are few articles in the library literature, much less in the DH literature, focused specifically on the role libraries are playing or could play in this emerging approach to humanities scholarship. This issue of the *Journal of Library Administration* will address this gap in the literature. These six articles put libraries and librarians in the center of the discussion of the digital humanities, rather than on its margins.

There are countless definitions for the digital humanities. DH has been defined as a field, a loosely bound set of practices, a methodological approach, or simply as the application of computational tools and methods to humanistic inquiry.<sup>[1]</sup> In aggregate, the following articles articulate a definition of DH at the intersection of research, technology and libraries. At one end of the spectrum, the digital humanities enables libraries to better align support services and infrastructure to the emerging research behaviors of humanists. At the more extreme boundary, DH can serve as a change agent within a library – to help redefine librarian roles and relationships to faculty and researchers.

The authors of these articles come from a range of institutions, medium to large public research universities, large private research institutions and a public library. This diversity of voices illustrates the varied landscape of DH in libraries and the great number of opportunities for supporting this emerging trend in scholarship. The collection moves from the theoretical to the practical. [Chris Alen Sula’s article](#) leads off with an outline of a conceptual model for libraries and DH. [Jennifer Vinopal and Monica McCormick theorize](#) a 4-tier model for DH service support with some practical notes for

administrators. [Miriam Posner presents](#) the institutional challenges and opportunities for libraries supporting DH. [Bethany Nowviskie presents](#) an alternative view of DH as scholarly Research & Development framing it within the context of a skunkworks operation. The volume ends with practical articles by [Ben Vershbow](#), [Micah Vandegrift and Stewart Varner](#) offering real world examples of DH initiatives in libraries and directives for implementation.

Several themes emerge in this issue that help guide library leaders involved in, or considering support for, DH or digital scholarship: 1) the contexts surrounding DH in libraries and library support for these activities; 2) human resources and relationship building, rather than technology at the core of DH support; 3) the tension between traditional notions of library service and new models of user engagement; and 4) the fact that DH as a field and set of opportunities has matured faster than support structures for DH activities within libraries.

## **Context Matters**

Collectively, the articles in this collection answer the question “Why Libraries, Why Librarians?” in the context of DH support. The term Digital Humanities is almost a decade old, though the set of practices have been around for almost 65 years, since Father Roberto Busa used computational methods in the creation of the concordance of the works of St Thomas Aquinas for the [Index Thomisticus](#).<sup>[2]</sup> In subsequent decades, both humanities research and libraries have undergone significant changes as a result of the advent of information technology. Increased access to available content has altered the structures of both humanities research and library support for it. Yet at the core, humanities scholarship and libraries share the values of furthering the creation, accessibility and preservation of knowledge. These values have evolved in parallel in libraries and the humanities disciplines with the developing technology landscape. Micah Vandegrift and Stewart Varner in [Evolving in Common: Creating Mutually Supportive Relationships Between Libraries and the Digital Humanities](#) discuss how technology makes the work of humanists and librarians more accessible and engaging. The open access movement and a desire to make research more relevant to the world beyond the academy create new opportunities for humanists and librarians alike. Vandegrift and Varner suggest that these opportunities enable the library to “reinvent its place in the cycle and production of scholarship.”

Chris Allen Sula in [Digital Humanities and Libraries: A Conceptual Model](#) also highlights how the changing nature of librarianship situates librarians well for supporting emerging trends in humanities research such as DH. He maps the skills necessary for DH support to the American Library Association Core Competencies of Librarianship including competencies involving digital information resources,

knowledge organization, technological knowledge and skills, and user services.

Context matters when considering the intersection between libraries and DH. Each author highlights challenges and opportunities for supporting DH dependent upon their institutional structure, staffing, and resources. The common thread that runs through these articles are new research behaviors; behaviors that include a move towards interdisciplinary work, collaboration, the use of scholarly materials in digital form, and the use of new tools and methods.

Libraries are well positioned to support these trends in humanities research. Libraries have always been places of interdisciplinary activity; places of neutrality not associated with any particular academic department. In recent years, libraries have created spaces to foster collaborative work by offering information commons, collaborative study environments, and other more active uses of library space. Digital library programs have been converting analog collections to digital for decades. And, finally, libraries are becoming more invested in the acquisition and support for software applications that support research and teaching.

## **Human Resources**

While it is easy to imagine that the turn towards digital in research and scholarship is primarily about technology, human resources and relationship building are at the center of DH support. What Miriam Posner in *No Half Measures: Overcoming Common Challenges to Doing Digital Humanities in the Library* refers to as necessary “soft” skills such as project management, performing an environmental scan, or fostering relationships with scholars.

Throughout the collection, the authors emphasize how important librarians, and the skills librarians bring to the table, are to the provision of DH support. Traditionally librarians, in their role as liaisons or subject specialists, have built strong relationships with faculty and researchers based on their deep knowledge of collections and information resources. Beyond subject knowledge, librarians are experts at uncovering the real need at the core of a researcher’s question. It is no coincidence that many of the authors in this issue discuss the reference interview. As a skill, the reference interview exemplifies the interpersonal skills necessary for supporting DH in the library.

In *Supporting Digital Scholarship in Research Libraries: Scalability and Sustainability*, authors Jennifer Vinopal and Monica McCormick, discuss the use of Service Level Agreements to help librarians evaluate whether current services meet the needs of a scholar’s project. They posit the reference interview as a useful model and they illustrate how the process of matching researcher needs to services during the reference interview serves as a foundation for DH support. The process of referral should also be familiar. Of course, the knowledge and methods necessary for the 21<sup>st</sup> century reference

interview need to morph and expand with changing technological approaches. Vandegrift and Varner characterize the new skills needed for the reference interview as an adaptation that allows for exploration, rather than guiding the user to a specific answer.

Thus a re-envisioned reference interview, and the associated social skills, can be a starting point for a training or “re-skilling” process in libraries. Many of the authors cite the need for providing librarians learning opportunities that can make this transition possible.

This will not be easy. Librarians need training and mentoring in the specific knowledge and skills necessary to support digital scholarship. Two recent studies in particular highlight the gaps in librarian skills in relation to new research needs: the Research Libraries UK report “[Re-Skilling for Research](#)” and the Ithaka S+R study “[Support Services for Scholars: History Project Interim Report](#).”<sup>[3]</sup> Both report the need for librarians to better understand data and the new tools and methods being used by researchers. However, the authors in this collection make the case that the librarian service ethic and their “soft” skills uniquely qualify them as potential supporters of, or more significantly, partners in, the DH scholarly process.

### **Service as Disservice?**

Digital humanities centers or DH support services are often located in or supported by libraries (University of Virginia, Emory University, University of Nebraska, University of Maryland, and Stanford University, among others). The staffs of these centers are most often comprised of humanities scholars, web developers, and programmers. Librarians are sometimes included on staff, but more frequently they serve as consultants on specific projects rather than as full-time members of the center.

Aligning DH and librarianship can be challenging due to different methodological approaches in the two fields. The cornerstone of DH inquiry and practice is collaboration. Digital humanities projects are marked by collaborations between disciplinary fields and between staff in different departments and professional roles (i.e. faculty and technologists). DH scholar, Matthew Kirshenbaum [characterizes DH](#) as “a culture that values collaboration, openness, nonhierarchical relations, and agility...” (2012).

These qualities of agility, openness, and collaboration are often not part of library culture and the service model in librarianship is built on a support relationship between librarian and researchers that is often hierarchical. Librarians have been trained to serve the needs of the scholar, not to act as a partner or collaborator. This can establish a subservient role for the librarian in the researcher- librarian relationship: service as servitude. To date, most of the DH activities supported in libraries have focused on service-oriented activities: training, software and hardware support, search and discovery assistance, the creation of disciplinary portals, and collection building.<sup>[4]</sup> In [A](#)

*Skunk in the Library: the Path to Production for Scholarly R&D*, Bethany Nowviskie articulates how a librarian's strong service ethic can sometimes be an impediment to DH projects because the service goal is "not distracting the researcher from his or her work." This approach keeps the librarian behind the scenes. Nowviskie questions this typical service model and challenges librarians to engage with researchers in a more open and collaborative manner.

Can framing DH as a service model in libraries be a disservice? At the 2012 Digital Library Federation Conference this question provoked much debate and the sharing of several models for "doing DH" in libraries. Trevor Muñoz, Assistant Dean for Digital Humanities Research at the University of Maryland Libraries and Associate Director of the Maryland Institute for Technology in the Humanities, articulated a vision of library-based DH in line with Nowviskie's by introducing the DH Incubator project. The Incubator introduces librarians to DH through a series of workshops that help librarians develop project ideas and projects themselves. In describing the impetus for the Incubator Muñoz states:

Framing digital humanities in libraries as a service to be provided and consequently centering the focus of the discussion on faculty members or others outside the library seem likely to stall rather than foster libraries engagement with digital humanities....Better, I think, for libraries to support space and resources for interesting, possibly risky DH projects and to think of "technology transfer" as the key service to develop...Enabling anyone in the library who wants to "do DH" to be involved and to have at least some way for librarians, library staff, and GAs to start pursuing their own DH ideas will be a more productive starting point.<sup>[5]</sup>

One of more radical aspects of a library commitment to DH is the rethinking of the supporter, supported relationship. It is suggested that DH is a good fit in a library if librarians can be viewed, and view themselves, as partners in the scholarly process. The language of partnership and collaboration is sprinkled throughout this issue. Vandegrift and Varner write, "In this publicly visible, collaborative, online network and infrastructure, the Library should begin to see potential to become a true scholarly partner." Posner posits, "Many of the problems we have experienced "supporting" digital humanities work may stem from the fact that digital humanities projects in general do not need *supporters* — they need *collaborators*." She suggests that libraries can provide both the technical infrastructure and expertise in the form of knowledgeable librarians for DH work. In these articulations librarians are not doing something *for* the researcher they are doing something *with* the researcher.

But moving wholesale away from the notion of service in a library would be a mistake. The service ethic in librarianship is one of its defining features; a feature that only becomes more important as increasing amounts of information can be found online.

What distinguishes a library from Google? In part, it is the user-focused set of services that have traditionally been offered in a library and continue to be relevant. Services such as one-on-one research consultations, research education, and technology support services, to name a few. In an effort to build on the strong history of library service, Vinopal and McCormick have formulated a four-tier service model for DH in libraries that focuses on sustainable and scalable services. They suggest libraries promote tools and platforms that are reusable and extensible and build on existing strengths in a library – preservation, scalability, sustainability, standardization, and support services for users. Their model puts service at the foundation but expands the notion of service and calls for growth in the profession. The focus on staff gaining new skills indicates that this model requires change and, in essence, a redefinition of librarian and librarian service.

The language of partnership and collaboration infuses library service with a new mandate. If librarians hope to “do DH” rather than just support it, a new approach will be required. As Vandegrift and Varner state, “...the role of the research librarian is evolving in order to effectively integrate the library as a partner in the scholarship of digital humanities.” This evolution of librarian roles and expanding definition of service seems crucial to realizing the potential of library involvement in DH.

## **Institutional Barriers**

Supporting DH in libraries requires skills and habits of mind that are often absent from current institutional structures. The field of DH has matured to a point where it needs institutional support, and as the articles in this collection argue, libraries can be natural places for such support. It is clear that there is a desire on the part of libraries and library leaders to get involved in DH activities. However it is not enough to simply add DH to an existing set of library services. Library administrators’ enthusiasms for supporting DH must come with an associated commitment of resources and staff, and perhaps even more importantly, a commitment to the possibility of failure and a loosening of control. DH is messy. It involves uncertainty, deep collaborations, and a flexibility that is foreign to traditional library culture.

Many of the authors in this collection discuss the challenges of integrating DH support into libraries. Posner’s central conviction is that the problem is not reluctance on the part of librarians but a host of institutional and organizational barriers. She writes, “that much of the discussion about building a DH-friendly library environment leans too hard on individual librarians, without taking into account the set of institutional supports, incentives, and rewards that will allow DH to flourish in a sustained way...” These barriers include: insufficient training opportunities; lack of time, institutional commitment, and incentives for DH projects and initiatives; over cautiousness;

inflexible infrastructure; and an unproductive diffusion of efforts; among others.

Institutional culture in libraries is marked by deliberative, often slow, decision-making processes and inflexible technical infrastructures. This can come into direct conflict with the culture of DH. In his article *NYPL Labs: Hacking the Library* Ben Vershbow describes his team as “an unlikely crew of artists, hackers and liberal arts refugees” and the strategic aims as follows:

Focusing on NYPL’s public mission and deep collections, the program was sketched with a heavy emphasis on user collaboration and open data, envisioning a kind of in-house technology startup that would venture proactively into the library in search of curatorial collaborations. The work was envisioned as inherently inter-disciplinary, empowering curators to think more like technologists and interaction designers, and vice versa.

This doesn’t sound like your typical library department. Yet, this is the kind of team that has been able to build large, crowd-sourced DH projects that have repurposed and revitalized several NYPL collections. NYPL Lab’s success is based on their ability to work agilely and outside the confines of usual institutional structures. This is much like Nowviskie’s description of her skunkworks operation:

What if our obligation were to play? To *play in public*? To make the things we want to see made? To collaborate like mad, with local scholars, with other librarians, and with the wider, public open source and open access community that encompasses them both? What if we were to enable sectors of our own organizations to demonstrate a path to production not just for stable content, but for *deliberately unstable* scholarly R&D?

This series of questions might terrify the technology teams in our libraries. Advocating for experimentation, play, unstable content, and failure is new to library culture. It flies in the face of our historical commitment to preservation and stable platforms. Yet, this is the kind of thinking advocated by many of these authors, not just for supporting DH work, but for supporting the next generation of scholars and their embrace of new research methods. Scholarship is changing and libraries must change as a result. Vinopal and McCormick suggest that this transition will not happen overnight and that a library culture will gradually need to become “inquisitive, adaptable, responsive...one that is willing to try new things, assess their success, and sometimes simply move on.”

The emphasis on this not being a one-time organizational change is an important message to library leaders. Scholarly work behaviors and methods will continue to change and evolve; change is the new status quo. This will destabilize libraries and librarians or as Posner states, “DH is not, and cannot be, business as usual for a library.” DH cannot be an add-on to current library positions, but a rethinking of the way in which we staff and resource our libraries. This also means deciding what we are no longer going to do. These are difficult, strategic decisions that involve new incentive structures on the part of the

administration and professional risks for librarians.

Even with all the barriers outlined in this set of articles, the authors are optimistic about the opportunities that DH creates for libraries and librarians. The thread that runs through the collection is the need for top down support for DH efforts. Grass roots effort may jump start the process of supporting DH, but because of the resources required to effectively engage these activities, library administrators need to commit in theory and in practice by providing the necessary resources (human and infrastructure) and operational flexibility within our library organizations.

## Conclusion

It is indeed a DH moment in libraries and this moment affords some exciting opportunities for libraries to redefine fundamental concepts such as service, librarian competencies, library as place, and our relationship to researchers. Libraries have long been a place where users could come to discover information; we now have an opportunity to structure libraries as a place where that information can be used to create radically new forms of digital scholarship. DH is a “making” culture and libraries can foster the making of creative digital products and projects. Vandegrift and Varner state, “Reframing the library as a productive place, a creative place engaged in producing and creating something – whether that be digital scholarly works or something else entirely – will open the door to allow the library into the life of the user.” This new kind of library, and new kind of librarian, builds on the historical strengths of librarianship while opening the door for increased engagement with our users and their scholarship.

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## 9. Digital Humanities and Libraries: A Conceptual Model

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*ABSTRACT. Though there has been much discussion of the connection between libraries and digital humanities (on both sides), a general model of the two has not been forthcoming. Such a model would provide librarians with an overview of the diverse work of digital humanities (some of which they may already perform) and help identify pockets of activity through which each side might engage the other. This paper surveys the current locations of digital humanities work, presents a cultural informatics model of libraries and the digital humanities, and situates digital humanities work within the user-centered paradigm of library and information science.*

### Introduction

In 2009, the *Chronicle of Higher Education* called digital humanities “the first ‘next big thing’ in a long time, because the implications of digital technology affect every field” (Pannacker, 2009). By that point, several popular books had already been published (Schreiberman, Siemens, and Unsworth, 2004; Cohen, 2005; Moretti, 2005; Seimens & Schreiberman, 2008; Boot, 2009), major journals established (*Digital Humanities Quarterly*, *Digital Humanities Now*, *Digital Medievalist*, *International Journal of Humanities and Arts Computing*, *Literary and Linguistic Computing*), and dozens of federal grants awarded to projects in the area of digital humanities—not to mention many more ongoing projects at that time.

While skeptics today remain unsure of the “newness” of digital humanities (DH) or how it will impact the content of scholarship (Fish, 2011, 2012a, 2012b; Marche, 2012), DH has already had significant influence on discussions of scholarly communication, funding, and tenure and promotion. Nearly 300 digital humanities grants and fellowships have been awarded by National Endowment for the Humanities (NEH, 2012a) since 2007; this figure does not include grants for preservation, infrastructure, and cultural heritage, or funding from other agencies for humanities projects that include a digital component. The Modern Language Association (2012) has issued

guidelines for evaluating digital scholarship for the purposes of tenure and promotion, and job candidates lament that many openings in the humanities now require some background in digital humanities (MLA Jobs Tumblr, 2012). For a growing list of DH jobs, see the Digital Humanities Job Archive (2012). Given the impact of digital humanities on these institutionalized processes, it is natural to wonder how DH might be connected to one of the oldest institutions in knowledge work: the library.

Discussion of digital humanities and its connection to libraries has grown rapidly in the past several years, and on both sides of the aisle. Stephen Ramsay (2010) has linked DH to one of the oldest functions of the library, namely knowledge organization:

Of all scholarly pursuits, Digital Humanities most clearly represents the spirit that animated the ancient foundations at Alexandria, Pergamum, and Memphis, the great monastic libraries of the Middle Ages, and even the first research libraries of the German Enlightenment. It is obsessed with varieties of representation, the organization of knowledge, the technology of communication and dissemination, and the production of useful tools for scholarly inquiry.

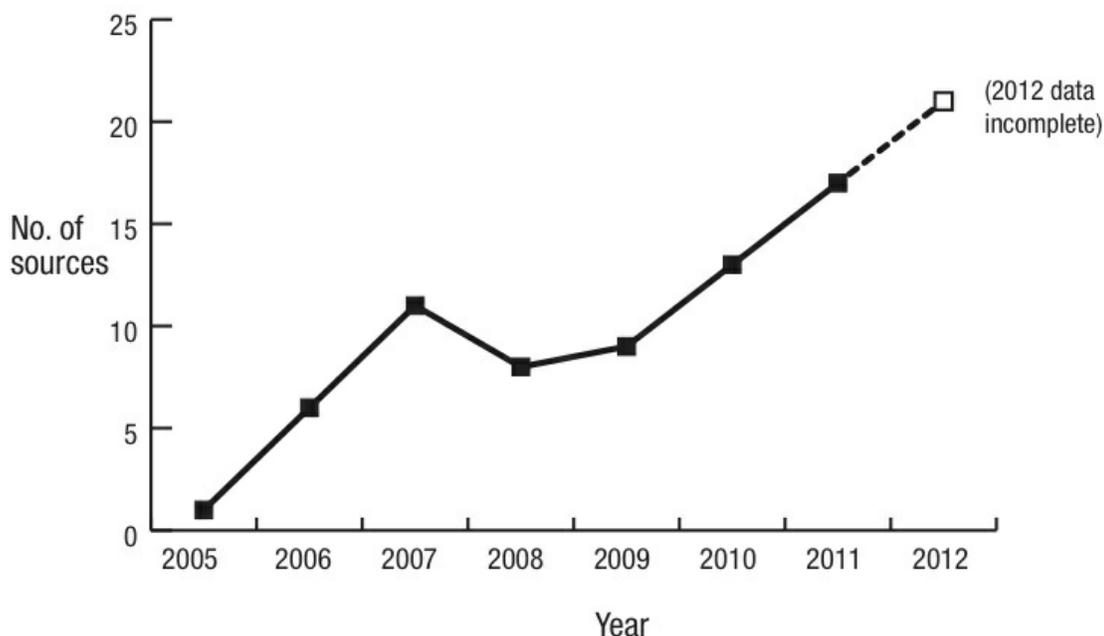
Several others have asked if the library can function as a space for the digitization, computation, and preservation work that accompanies DH projects. For evidence of continuing interest in libraries, one need look no further than [THATCamp](#)—a series of locally-organized unconferences—attendance at which has been discussed as a defining characteristic of digital humanists. The pop-up topics at THATCamps frequently include the library, and a special [THATCamp DH and Libraries](#) was held in November 2012 in conjunction with the 2012 Digital Library Federation Forum.

Within library and information science, there is a corresponding (if more dispersed) discussion of DH. Though DH is less prominent at national conferences, it has received attention within the field, including major organizations. The American Library Association's (ALA) Association of College and Research Libraries hosts a listserv for digital humanities discussion and recently launched a new blog that includes events, resources, case studies, and tools (<http://acrl.ala.org/dh>). The Council on Library and Information Resources and the Association of Research Libraries have both published a major reports on digital humanities centers, which are discussed in section two below.

The Institute of Museum and Library Services (IMLS) has also supported collaboration between [iSchools and digital humanities centers](#), including internships for LIS masters students working in the digital humanities (iSchools & The Digital Humanities).

A search for “digital humanities” within library and information science literature reveals a steady increase in publications since 2005 in the Library, Information Science & Technology Abstracts (LISTA) database, which indexes over 700 journals as well as books, research reports, and proceedings. (Fig 1). It is remarkable that publications on digital humanities have nearly doubled in 2012, with more still being indexed at the time of this publication.

**Figure 1. Digital humanities publications in library and information science, 2005–2012**



*Figure 1: Digital humanities publications in library and information science, 2005-2012*

A topic model of the 86 sources returned by the query is given in Table 1. These topics were generated using Latent Dirichlet Allocation (LDA) in a free tool based on the popular MALLET toolkit (<http://code.google.com/p/topic-modeling-tool>). LDA views each document as a mixture of topics and uses word distribution to calculate the probability that each document contains each topic. For example, the concepts LIBRARY and ARCHIVE might be distributed across a corpus such that documents containing the words ‘catalog’, ‘book’, and ‘barcode’ would have a probability of 0.6 of being about LIBRARY, while documents containing ‘notes’, ‘scope’, and ‘provenance’ would have a 0.8 probability of being about ARCHIVE. In practice, these topics are usually unknown at the start of the analysis and must be interpreted from a list of terms that are found to cluster together. Thus, topic modeling using LDA resembles an exercise in knowledge organization, in which higher-level categories must be created from lower-level “documents” (in this case, word clusters).

<b>Table 1. Topic Analysis of "Digital Humanities" Abstracts in LISTA (2005–2012)</b>	
<i>Topics</i>	<i>Top 10 terms in topic</i>
Arts & humanities librarianship [1]	Humanities, web, access, scholars, tools, journals, students, art, academic, online
Digital infrastructure [2]	Article, libraries, library, collections, content, national, computer, metadata, researchers, documents
Knowledge production & collaboration [3]	Digital, paper, data, technologies, based, collaboration, knowledge, study, projects, approach
Digital scholarship [4]	Digital, university, information, work, project, science, dh, technology, scholarship, projects
Research communities [5]	Research, resources, text, analysis, twitter, social, conference, including, open, community

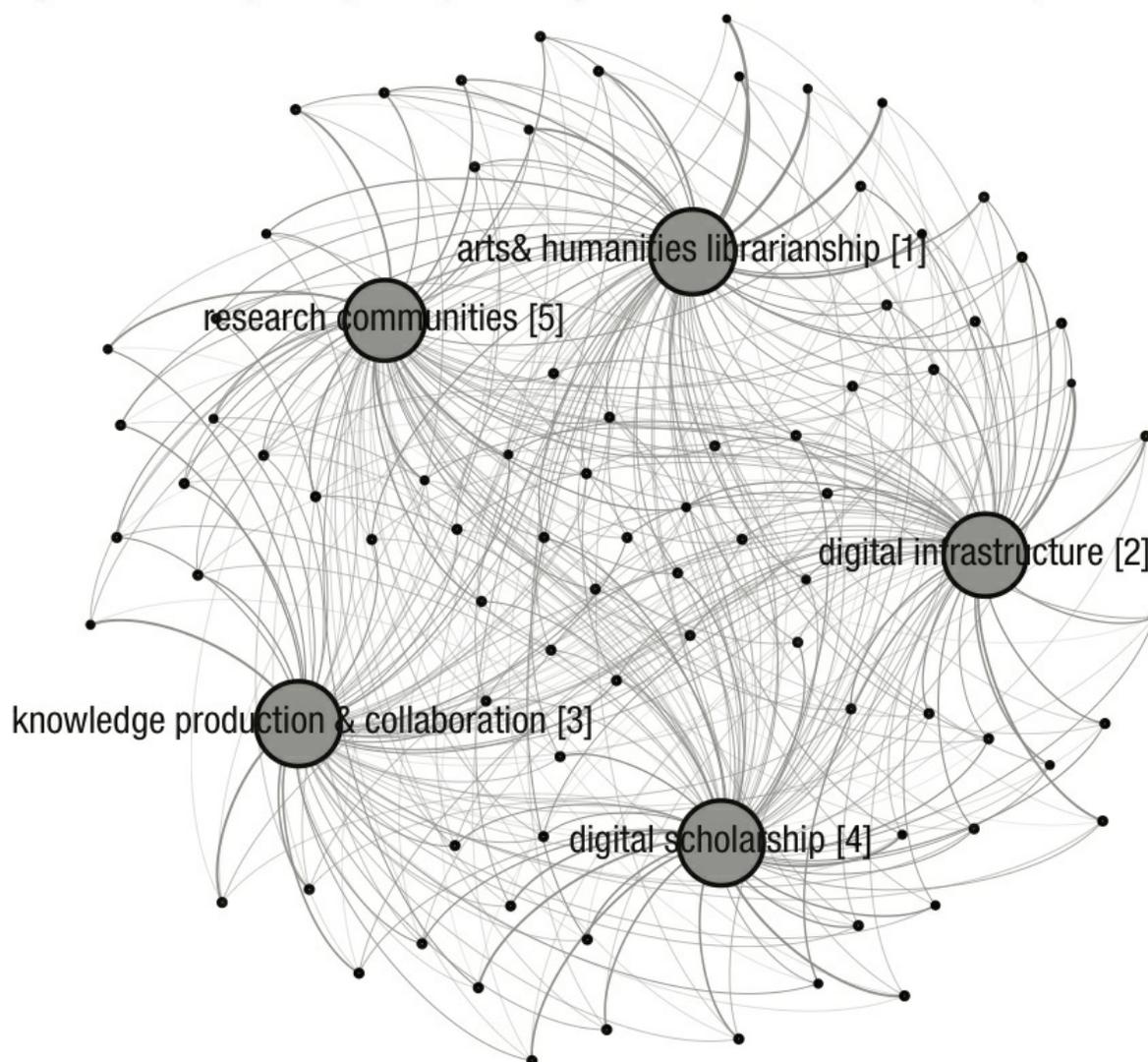
*Table 1: Topic analysis of "digital humanities" abstracts in LISTA (2005-2012)*

Since topic titles involve significant interpretation, it is helpful to triangulate the assignments using a variety of methods. In the case of the LISTA abstracts, five topics were created using LDA, and titles were assigned, first, by examining the term clusters and the abstracts in which they occur. For example, a number of abstracts in the first topic concerned access to arts and humanities collections, as well as online resources. Since these fall under the province of subject librarians, the topic was titled, "arts and humanities librarianship." In some cases, it was helpful to examine the full dataset (not just cluster of top ten words) using a network graph (see Figure 2). In this graph, each document appears with its weighted relations (i.e., probability assignments) to topics. Documents and topics that are more closely related appear together, while those that are unrelated or weakly related are pushed apart. This graph helped in assigning titles to topics 1 and 5, which are more closely related to each other than any other pair in the corpus. The titles "arts and humanities librarianship" and "research communities" (respectively) help to express this relationship, since subject librarianship is indeed connected to understanding various research communities and their needs, resources, and methods of communication.

The five topics present in the LISTA abstracts show a wide range of engagement with the digital humanities. This interest also seems in keeping with several of the Core Competencies of Librarianship described by the ALA, which "a person graduating from an ALA-accredited master's program in library and information studies should know and, where appropriate, be able to employ" (American Library Association, 2009). Among the most germane competencies to DH are those concerning information

resources (esp. digital resources), knowledge organization (esp. cataloging and classification of DH materials), technological knowledge and skills (including the analytical, visualization, and content management tools used by digital humanists), and users services, which will be taken up in the fourth section of this paper (see Table 2).

**Fig. 2. Network Graph of Topic Analysis of "Digital Humanities" Abstracts in LISTA (2005–2012)**



*Figure 2: Network graph of topic analysis of "digital humanities" abstracts in LISTA (2005-2012)*

Given this significant overlap in interests, competencies, and institutional structures, we are left to wonder not *whether* but *how* libraries can join in the work of digital humanities. Some commentators follow Micah Vandegriff's (2012) [enthusiastic injunction](#), "Stop asking if the library has a role, or what it is, and start getting involved in digital projects that are already happening." (For more details on this view, see [Vandegriff and Varner](#) (this issue). Others are less sanguine about the realities of librarianship and the possibility for jumping into new, digital humanities projects.

Miriam Posner (this volume) [highlights important institutional barriers](#) to DH work in the library, including workload, conventions of assigning credit solely to faculty members, and lack of institutional commitment. Further discussion of challenges are found in [Library Loon](#) (2012), [Furlough](#) (2012), [Muñoz](#) (2012), and [Galina Russell](#) (2011). These challenges doubtless vary among and within institutions, so a general formula for the connection between libraries and digital humanities does not seem forthcoming.

**TABLE 2: ALA Core Competencies of Librarianship Related to Digital Humanities**

- 2A. Concepts and issues related to the lifecycle of recorded knowledge and information, from creation through various stages of use to disposition.
- 2B. Concepts, issues, and methods related to the acquisition and disposition of resources, including evaluation, selection, purchasing, processing, storing, and deselection.
- 2D. Concepts, issues, and methods related to the maintenance of collections, including preservation and conservation.
- 3B. The developmental, descriptive, and evaluative skills needed to organize recorded knowledge and information resources.
- 3C. The systems of cataloging, metadata, indexing, and classification standards and methods used to organize recorded knowledge and information.
- 4A. Information, communication, assistive, and related technologies as they affect the resources, service delivery, and uses of libraries and other information agencies.
- 4D. The principles and techniques necessary to identify and analyze emerging technologies and innovations in order to recognize and implement relevant technological improvements.
- 5D. Information literacy/information competence techniques and methods, numerical literacy, and statistical literacy.
- 5E. The principles and methods of advocacy used to reach specific audiences to promote and explain concepts and services.
- 5F. The principles of assessment and response to diversity in user needs, user communities, and user preferences.
- 5G. The principles and methods used to assess the impact of current and emerging situations or circumstances on the design and implementation of appropriate services or resource development

6A. The fundamentals of quantitative and qualitative research methods.

7A. The necessity of continuing professional development of practitioners in libraries and other information agencies

Source: <http://www.ala.org/educationcareers/careers/corecomp/corecom>

What remains possible, however, is a sketch of the conditions under which libraries may be more favorable to digital humanities work (and when it may happen elsewhere) and a general conceptual model of libraries and the digital humanities. This latter project has two parts. First, it should be possible to articulate the variety of ways in which libraries engage with DH and to locate these interactions in some larger relational framework. Such a model would provide librarians with an overview of the diverse work of digital humanities (some of which they may already perform) and help identify pockets of activity through which each side might engage the other. Second, it should be possible to situate DH work in libraries within larger paradigms or philosophies of the field. Doing so would integrate DH work more fully into the overall life of the library, providing grounds for establishing priorities and making decisions with respect to levels of commitment, funding, and support. The following sections take up these tasks by surveying the current state of digital humanities work within institutions, presenting a cultural informatics model of libraries and the digital humanities, and situating DH work within the user-centered paradigm of library and information science.

### **A Short History of Digital Humanities, and its Current Whereabouts**

Digital humanities focuses both on the application of computing technology to humanistic inquiries and on humanistic reflections on the significance of that technology. Marija Dalbello (2011) traces the [history of digital humanities](#) back to mid-twentieth century efforts in humanities computing and, in particular, to early forms of text analysis. With the growth of Internet technology in the 90s, focus shifted to hypertexts, digital repositories, and multimedia collections. The 21st century has seen a dramatic rise in social networks and crowdsourcing, access to digitized cultural heritage materials, and interfaces for archives and collections that exploit the capabilities of linked data and visualization. This long and varied history helps to account for the wide range of topics currently found in digital humanities work, topics ranging from text analysis and visualization to digital pedagogy and new platforms for scholarly communication.

The location in which digital humanities work occurs is similarly varied. Matthew Kirschenbaum, for example, [claims that digital humanities is often found](#) within English

departments because of historical connections between texts, computing, and composition, as well as interest in editorial processes, hypertext, and cultural studies (2010, p. 60). Though English departments may be among the most prominent, digital humanities now includes faculty from the broad range of arts and humanities departments, including archaeology, art history, classics, comparative literature, history, music, performing arts, philosophy, postcolonial studies, religious studies, theatre, and more.

In a broader view, several studies have attempted to determine the location of digital humanities within the university at large. In 2007, the Council on Library and Information Resources (CLIR) commissioned a yearlong [study of digital humanities centers](#) to explore their financing, organizational structure, products, services, and sustainability (Zorich 2008). The study defined such centers as undertaking some or all of the following activities:

- Builds digital collections as scholarly or teaching resources,
- Creates tools for authoring, building digital collections, analyzing collections, data or research processes, managing the research process,
- Uses digital collections and analytical tools to generate new intellectual products,
- Offers digital humanities training,
- Offers lectures, programs, conferences or seminars on digital humanities topics,
- Has its own academic appointments and staffing,
- Provides collegial support for and collaboration with members of other academic departments at the home institution,
- Provides collegial support for and collaboration with members of other academic departments, organizations or projects outside the home institution,
- Conducts research in humanities and humanities computing (digital scholarship),
- Creates a zone of experimentation and innovation for humanists,
- Serves as an information portal for a particular humanities discipline,
- Serves as a repository for humanities-based digital collections, and
- Provides technology solutions to humanities departments (pp. 4–5).

Though this study did not explicitly address connections between libraries and digital humanities, several of the defining tasks of DH centers could also be characterized as library activities, including the focus on building digital collections and associated tools, using these collections, and serving as a repository (1-3, 12). Many of the other list items are service-oriented: offering training, collegial support, serving as an information portal for disciplines, and providing technology solutions (4, 5, 7, 8, 10, 13). The remaining features are either structural (appointments and staffing) or more oriented

towards research and experimentation (9, 10, and to some extent 5). Based on the 32 centers surveyed, the CLIR report concludes that broader-base initiatives, rather than siloed centers, may be more suited for meeting the needs of humanists, leveraging campus resources efficiently, and addressing large-scale community needs, such as long-term digital repositories.

Two more recent studies have attempted to gauge the type and degree of interaction between digital humanities initiatives and libraries. The Association of Research Libraries' 2011 [SPEC Kit on Digital Humanities](#) reports on the status of digital humanities within academic libraries, with about half of the 126 member libraries responding (Bryson, et. al., 2011). The report finds that only 8% of libraries host a dedicated center for DH. More commonly, about half of the ARL member libraries responding provide ad-hoc services, such as consultation, project management, or technical support, while one-quarter host a digital scholarship center that provides services to multiple disciplines, including the humanities. The authors suggest that libraries may be most useful for getting new DH projects off the ground (by providing pre-existing infrastructure) and for ensuring the long-term sustainability of projects (by bringing skills in digital management and preservation).

In a separate and ongoing effort, an IMLS-sponsored partnership between three graduate iSchools (University of Maryland College of Information Studies, University of Michigan School of Information, and University of Texas Austin School of Information) and three nationally-recognized digital humanities centers (MITH, CDRH, and MATRIX) maintains a crowdsourced [spreadsheet of DH centers worldwide](#), with specific reference to their engagement with academic departments and libraries (iSchools & The Digital Humanities, 2012). As of November 2012, nearly 100 centers are listed, roughly half of them in the United States. Of those centers, nearly half are located within libraries and another quarter maintain some informal relationship with libraries. Outside of the U.S., library-hosted DH centers are much less common, and only a small number report informal ties to their library.

Together, these studies suggest a wide range of models for institutional collaboration between libraries and digital humanities. In some cases, the choice of where to locate digital humanities may be arbitrary, academically speaking. It may have more to do with funding, local politics, or being first out of the gate at an institution rather than the location being chosen for more principled reasons. With this diversity in mind, we may now turn to the actual work of digital humanists to consider ways in which libraries and DH can be mutually supporting.

## **A Conceptual Model for Digital Humanities and Libraries**

As the reports cited in the previous section suggest, the work of digital humanists is

diverse, and their collaborations with libraries idiosyncratic with respect to institutions. Still, it is worth considering ways in which the work of digital humanists mirrors activities, resources, and skills found within many libraries. Ben Showers (2012), for example, highlights five areas of [overlap between DH and libraries](#): managing data, “embedded” librarianship, digitization and curation, digital preservation, and discovery and dissemination. Though these and other points of comparison are useful, a more conceptual comparison between DH and libraries would help locate these examples within a common schema and encourage both sides to envision further possibilities.

This section presents a conceptual model for digital humanities and libraries that is founded on a cultural informatics framework. This term was first introduced by [Sengers \(1999\)](#) to describe the “confluence of computation and humanities,” including both the ways in which computation could help cultural scholarship and the ways in which reflection on cultural background could change the development of technology (p. 7). [Furner \(2011\)](#) connects the term ‘cultural informatics’ to the specific way in which cultural heritage institutions (including libraries, museums, and archives) create, manage, and organize information artifacts. Some of these artifacts are collected by institutions; others are created by the institutions themselves. This model stresses a continuum of information content involved associated with cultural heritage institutions. First, these institutions make available information artifacts produced elsewhere that are deemed worthy of preservation. In some cases, cultural heritage institutions may also create new information artifacts through research, reports, or the creation of digital objects from non-digital ones. All of these documents, broadly construed, represent information; the new products of cultural heritage institutions are no different, in principle, than the familiar sources of books, articles, images, sounds, recording, sculptures, journals, notes, reports, and ephemera. The two are distinguished only by the site at which one is produced. In this sense, cultural heritage institutions create and make available “first-order” content.

Second, cultural heritage institutions often work with content of a special type: “second-order” content, or content about the content of other information artifacts. This may include bibliographic records, resource guides, subject analyses, metadata, or even preservation data that facilitates the organization and understanding of information artifacts. (Preservation *data* is included here because it involves information about information artifacts in an organizational sense (e.g., put these documents in an environment below 70°), but preservation work itself seems to combine first- and second-order content by using second-order content to make available the first-order content of found artifacts.) It is worth noting that second-order content is often recorded in first-order artifacts, such as subject bibliographies, keywords, and encoded metadata. This is hardly surprising, since research of any kind (including second-order information) is often worthy of preservation. The work of analysis and organization

produces the second-order content; the document itself may be treated as a first-order creation.

Roughly speaking, we have here a distinction between pure content and pure representation, a distinction that often breaks down when examining any particular object. An archival letter may describe a map and how to use it, a scholarly article may point toward other sources via citation, and a visualization may contain as much interpretation and narrative in its design and presentation as it does first-order data that it represents. The point of this distinction is not to determinately classify information sources into one field or another; it is to capture the broad range of activities involved with the work of cultural heritage institutions. In some cases, they facilitate access (in a transparent way) to existing sources. In others, they engage in acts of research, analysis, and visualization—and, in so doing, create new artifacts of knowledge. Along this dimension of first- and second-order content, we can situate the traditional activities of cataloging, bibliography, collection development, preservation, subject analysis, and knowledge organization.

In addition to considering what kind of information is being produced or made available, cultural informatics also takes note of *who* or *what* is doing the producing. At one end, it focuses on human actors who may be involved in communication, instruction, or other “manual labor” tasks at cultural heritage institutions. At the other, cultural informatics considers computer-driven technologies, such as automatic metadata extraction, online searching, and digital content management. These broad extremes are bridged by studies of human–computer interaction, which examines the many affordances that computing technologies provide to different users (Card, Moran, & Newell, 1983).

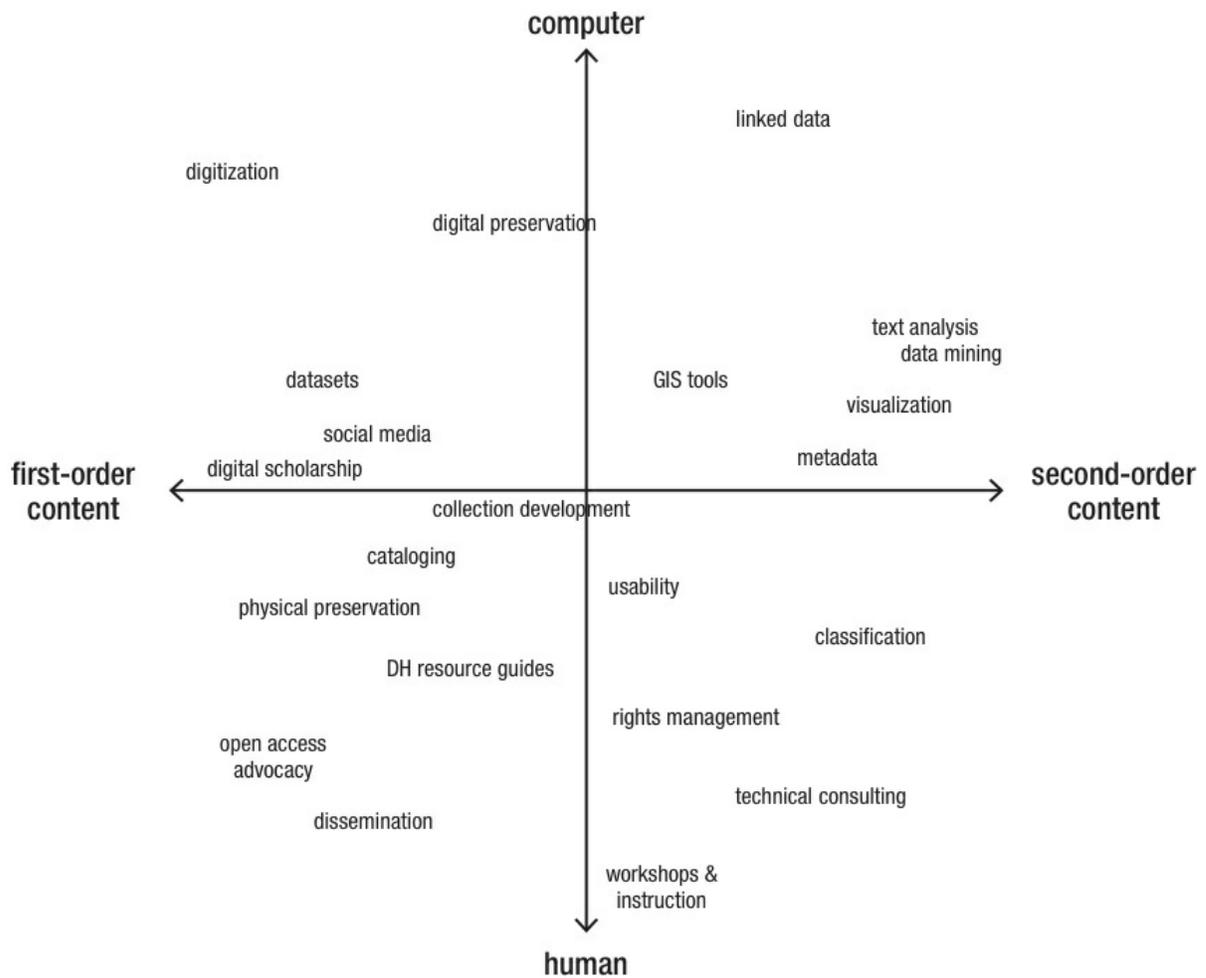
On this dimension, it should be noted that many activities which start on the human side of things wind up drifting toward computation: card catalogs give way to search engines, manual classification is replaced by natural language processing. The history of automatization suggests that tasks will generally be shifted from humans to computers to the extent possible for any given task. This trend does not imply that there is some fixed directionality to the map dynamics as whole. On the contrary, each (technological) solution often brings with a new (human) problem. Technology may become more powerful, but it also brings with it increasingly specialized discourses and the need for teachers and translators of that technology. In some cases, computer innovations may enter the scene abruptly when it suddenly becomes possible to do some task that was impossible with mere human power (e.g., visualization allowing simultaneous representation of a million data points). These reflections suggest an equilibrium within the model: items may eventually accrue on the side of computation, but a snapshot of the field at any given time would probably reveal activities plotted across wide areas of the map. The overall model is thus a dynamic one, ranging over the shifting array of tasks

and task locations.

A snapshot of today's field with respect to digital humanities is given in Figure 3. This model suggests a multiplicity of ways in which libraries and DH may support, engage, and create with one another. Interestingly, current DH activities fall across a wide range of the map—and not merely the computational end. Digital humanists may rely on libraries as much for access to digital collections and tools as they do resource instruction and preservation. This overlap of first- and second-order content, human- and computer-powered work suggests that libraries and DH are indeed engaged in complementary activities—as commentators have suggested—and that DH has an enduring place within the world of libraries.

At the same time, not all digital humanists may engage in the full range of the activities listed in Figure 3. This fact suggests that there is no singular answer from the perspective of library administration about how libraries should engage with DH. In some situations, a library would do well to focus on digitization and digital preservation; in others, it would do better to keep pace with emerging tools for text analysis. Some DH support may be best accomplished by providing large-scale access to collections, datasets, or technology, while other situations may merit individual, customized collaboration with DH researchers (Kamada, 2010).

**Fig 3. A cultural informatics model for digital humanities and libraries**



*Figure 3: A cultural informatics model for digital humanities and libraries*

Though the broad question of DH and libraries has no determinate answer, it does not mean libraries are without guidance in how to support DH. After all, they are not without populations of users, users who bring with them particular information needs, and they are not without general strategies for library outreach, a longstanding tool for raising awareness of what libraries may offer. Discovery of user needs and fostering of new user populations both lie at the heart of user-centered librarianship

### **An Apology for Local Solutions**

The lack of a general answer about how libraries can best engage with DH may be unsatisfying, but this also seems predicted by the user studies paradigm that has dominated the field for the past several decades. As several authors have pointed out, the user-centered tradition can be traced back to studies of scholarly communication in the

1950s and 1960s, which, to varying degrees, took stock of individual scholars' information seeking behaviors (Case, 2002; Bates, 2004; Talja and Hartel, 2007). The user-centered tradition gained full steam with Dervin and Nilan's seminal article, which called for a shift away from objective, mechanistic, and universal views of information needs toward more subjective, constructionist, and situated understandings (1986, 12–16).

Rather than casting about for a general way in which libraries can fit in the larger DH movement, libraries can (and already do) focus on responding to the needs of their patrons. There is a well-established need for academic libraries and librarians to support faculty activities, most notably teaching and research, as well as student learning. These activities can be given further description within a digital humanities framework by examining the work that digital humanists actually do, much of which is described in the NEH Digital Humanities Start-Up Grants criteria (see Table 3). The guidelines are themselves significant because they reflect state-of-the-art work in DH and have been used to fund hundreds of projects to date—making them responsible, in no small part, for shaping the field. (It should be noted that guidelines for NEH Digital Implementation Grants follow essentially the same criteria but focus more on creating and supporting longer-term initiatives.)

**TABLE 3: NEH Digital Humanities Start-Up Grant Criteria**

- research that brings new approaches or documents best practices in the study of the digital humanities;
- planning and developing prototypes of new digital tools for preserving, analyzing, and making accessible digital resources, including libraries' and museums' digital assets;
- scholarship that focuses on the history, criticism, and philosophy of digital culture and its impact on society;
- scholarship or studies that examine the philosophical or practical implications and impact of the use of emerging technologies in specific fields or disciplines of the humanities, or in interdisciplinary collaborations involving several fields or disciplines;
- innovative uses of technology for public programming and education utilizing both traditional and new media; and
- new digital modes of publication that facilitate the dissemination of humanities scholarship in advanced academic as well as informal or formal educational settings at all academic levels.

(National Endowment for the Humanities, 2012b)

Though the activities listed in Table 3 cover much of the ground of DH as discussed here, explicit recognition of the role of pedagogy is absent from the criteria. Digital humanists are among the forefront of instructors using technologies to engage students in new forms of digital scholarship, communication, and dissemination of ideas. Moreover, digital humanists are often responsible for training others in using particular tools or methods, particularly undergraduates, or for seeking instruction in those areas themselves. Most often, this has been left to extracurricular skill-shares or workshops in which digital humanists can “catch up” on the latest trends. These tasks are far beyond merely providing technological resources, a model that pervades many IT departments; they involve directed and creative uses of those resources, and the literacies required to sustain them. Libraries and librarians can fulfill a vital need here in supporting instructional technology and working with faculty to use technology more creatively in classroom settings.

In addition to capturing the current work of DH, the activities listed in Table 3 also reflect a new type of academic library user that has emerged in the past decade, one that is focused on digital scholarship and research. This new type coincides with trends in other fields in terms of big data, access to datasets, and support for technology, including instruction. In this respect, a scientist seeking access to large databases for research and a digital humanist interested in text analysis using large corpora are quite similar in terms of information needs, and the role of libraries in providing such resources is basically the same. The major difference seems to be a historical one; sciences and technology-related fields have received this type of support more frequently in the past decade, while support for the humanities has been limited still to print collections or electronic journal articles. The growth in digital humanities offers an important opportunity to provide renewed support for the humanities and to bring library resources across the board up to speed with digital scholarship for the 21st century.

Though the possible roles for academic libraries within digital humanities seem relatively clear, engagement with DH in other types of libraries, particularly public libraries, may be quite different, at least from a user perspective. Academic settings, particularly the institutions where digital humanities is growing, often have user populations that are technologically skilled, relatively speaking. Members of the public may also want new and exciting access to information—the very kind that digital humanities often brings—but others may simply rely on their libraries for more basic access to information, including job searches, research on immigration and legal procedures, Internet and email, or child and youth programming. In some cases, these users may comprise a larger segment of the overall population, and there is a strong case for prioritizing these more basic needs over those of the most tech-savvy users. Support for DH in non-academic libraries must be part of an overall needs assessment and may

wind up taking a backseat to initiatives that serve a wider population of library users.

## **Conclusion: From Theory to Action**

The foregoing sections have attempted to locate digital humanities within the world of libraries in several ways: first by examining the institutional location of DH work, then by presenting a conceptual model of DH and LIS, and finally by locating digital humanities within the overall user-centered paradigm of the field. At each turn, the points of connection between libraries and DH were varied and often dependent on the needs of particular faculty members (i.e., users) within an institution. Though a general, cultural informatics model was presented, this model stresses the diversity of activities involved in DH and cultural heritage institutions and avoids totalizing recommendations about how such work is to be pursued. While this article has been focused on conceptual ties between libraries and DH, it is worth concluding with some more practical considerations about how such a model can be enacted.

First, librarians (esp. subject librarians) can discover which of their users are working in digital humanities. Resources such as the Humanities, Arts, Science, and Technology Advanced Collaboratory (HASTAC) directory (located at <http://hastac.org/members>), which includes over 8,000 members, as well as social media sites (esp. Twitter) can use useful for identifying local faculty with an interest in DH. Second, librarians can attempt to survey the needs of these users (formally or informally), as well as faculty members in general, some of whom may be interested in digital humanities but unsure where to start. As part of this needs assessment, measures such as cost and impact may be considered. This method, again, suggests that different needs will emerge in different settings, especially if faculty members bring diverse projects and issues with them. Some of these needs may already be met by preexisting resources; others may require new purchases or changes in staffing. These needs and others may be compared to those plotted in Figure 3, and some libraries may find it advantageous to focus on particular clusters of the grid, while others may find a more scattered approach to be justified. In particular, libraries would do well to identify mutually supporting activities, such as purchasing GIS datasets together with offering GIS workshops.

Although the landscape of digital humanities is complex and changing, libraries are well positioned to meet the needs of many digital humanists, both by expanding current offerings and by promoting existing skills and services that lie squarely within the field of library and information science.

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## 10. **Supporting Digital Scholarship in Research Libraries: Scalability and Sustainability**

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*ABSTRACT. New York University Libraries and our partners in Information Technology Services offer effective enterprise-wide technology solutions for many academic practices, but we are still working to solve the “faculty website problem” — providing services for more complex digital research and distribution in a way that is both scalable and sustainable. This article describes our study of NYU scholars’ needs and digital scholarship support at other research institutions, and then introduces a service model we developed for supporting such services (which may include digitization, hosting of research data, digital publishing, the development of software for scholarly practices, and more). We then discuss the challenges of implementing our service model in a scalable, sustainable way, by addressing project and tool selection, staffing, and organizational change.*

### **Introduction: The Faculty Website Problem**

At New York University, as at other large research institutions, we are working hard to support faculty and students who increasingly expect sophisticated new services for digital scholarship.<sup>[1]</sup>

NYU Libraries, with our colleagues in Academic Technology Services (ATS, a unit of NYU Information Technology Services), offer tools and support teams for activities including high performance computing; geographic information systems; quantitative and qualitative data analysis; data finding and management; the digitization, creation, manipulation, storage, and sharing of media content; repository services; digital preservation; streaming media platforms; digital journal publishing; online collaboration; and intellectual property consultation. These are enterprise-level services, offered to as many members of the NYU community as possible.

Despite this breadth of services and expertise, we find ourselves challenged to respond effectively to what we have come to call “the faculty website problem”—an ever-growing number of requests for web-based spaces and tools to collaborate on scholarly research and share the results. Despite the fact that scholars often describe their needs with the catch-all term “website,” such requests actually represent a diverse set of activities which may be achieved in a variety of ways: with a wiki or basic blog, with more complex tools like a custom-designed database with public or private web access, with tools for collaboration with colleagues at NYU and beyond, integration with platforms elsewhere, or some combination of all of these. Support for these projects can be equally varied, and may require anything from a single consultation about available enterprise-level tools, to semester-long training and advice for a course’s student projects, or an open ended commitment to implement a new tool or manage a scholarly digital collection.

Over the years we have approached these needs in several ways. In the late 1990s and early 2000s, Academic Technology Services had small, discipline-focused computing groups who supported specialized faculty projects in the humanities, arts, social sciences, and sciences. Because of the idiosyncratic nature of faculty projects, the significant time required to plan and accomplish their long-term research initiatives, and the need for ongoing care, development, and migration of resulting websites and databases, these computing groups could only support a few faculty per year. In the mid-2000s, in an effort to provide technology services to more users, NYU Libraries and ATS jointly committed to offering enterprise-level academic tools (e.g., wikis, blogs, streaming services, file storage, repository services) and correspondingly robust support services for the widest array of faculty and students.

While emphasizing commodity tools and services has allowed us to provide a broad clientele with relatively easy-to-use solutions for many digital research needs, this standardization has come at the expense of supporting the kinds of innovative, web-based collaboration, communication, and publication activities that are becoming a regular part of scholarly practice across the disciplines at NYU and beyond.<sup>[2]</sup> Current areas of scholarly exploration include the use and development of new tools and methods for multimodal and collaborative publishing (e.g., Scalar and MediaCommons<sup>[3]</sup>), open peer review (e.g., MediaCommons Press<sup>[4]</sup>), and data analysis and visualization (e.g., topic modeling, mapping and timeline tools). So far, our work in these areas is in early development.

To continue developing services that respond to changing scholarly practice, Dean of Libraries Carol Mandel asked us in April 2011 to better define NYU scholars’ needs, to investigate how other universities, especially their research libraries, are supporting new web-based forms of collaboration, communication, and publishing, and to then propose a service model that might be adopted at NYU Libraries. We conducted research from

April through November 2011, and submitted a report in December 2011. In this article we describe our findings and offer a high-level model for deploying scalable and sustainable digital scholarship services.<sup>[5]</sup> We then discuss some important institutional and organizational challenges and offer recommendations for providing effective digital scholarship support.

## Gathering Data

### NYU SCHOLARS' NEEDS

To learn more about NYU scholars' needs (including both faculty and graduate students), we partnered with subject specialists to identify and interview eleven NYU faculty who are experimenting with technology for their research and publishing. We also performed a service gap analysis by reviewing recent technology support requests from scholars that we were either unable or only partially able to meet. Both sources of data revealed similar faculty needs and gaps in available services and resources. Scholars want help developing, using, and maintaining websites for storing and presenting their digital research content. Research may be used in various ways online: as a personal archive, to collaborate with students or colleagues, or to publish these materials via the web. Scholar requests for custom-built databases with web-searchable front ends indicate a need for interoperable tools and repositories that allow scholars to create, store, and work with materials in various formats (multimedia, images, text, annotation, etc.) and then provide easy online access to these materials. They want these sites to be dynamic (to add new content and functionality as needed) and to facilitate collaboration with colleagues. Faculty also need help for themselves and their students to learn new skills, methods, and tools, and they want support integrating them into their work.

### INTERVIEWS WITH PEER INSTITUTIONS

To understand how our peers support digital scholarship, we interviewed colleagues at fourteen institutions,<sup>[6]</sup> focusing our questions mainly on services for online publishing and scholarly collaboration. We also asked about staffing, service location within the organization, and scalability and sustainability concerns. We discussed the same issues at conferences with colleagues from many other libraries. Among great variation in the tools, services, and staffing models our peers offer, we identified three basic approaches. All institutions we interviewed provide some version of these general types:

### DIGITIZING COLLECTIONS: INFRASTRUCTURE FOR DIGITIZATION, PRESERVATION, AND ACCESS

These services are driven primarily by library collections and focus on building infrastructure and workflows that may also be used for scholars' projects or shared with other parts of the library, making efficient use of staff time and equipment. Project selection can be closely aligned with library strategic priorities, user demand, or other criteria. However, these services do not address scholars' needs for the kinds of digital services listed above.

#### DIGITAL RESEARCH & PUBLISHING SERVICES

With a focus on scalability, these services support a wide range of needs with a small amount of customization and are typically available to most scholars. Examples include journal and conference paper hosting; institutional repositories; consultation on project planning, metadata, and digitization best practices; video and audio production; blogging, wiki, and content management platforms with a fixed set of templates and standard plug-ins for simple website creation; copyright and IP consultation. Many tools can be provided with minimal training to users and without ongoing intervention by the service team. Related reference-type consultations are handled on a regular basis. While requests for customized services cannot typically be accommodated, service teams may consider strategically undertaking a special project if it is likely to result in a first-of-a-kind, rather than one-of-a-kind<sup>[7]</sup>, result, which might eventually be rolled out more widely.

#### DIGITAL SCHOLARSHIP OR DIGITAL HUMANITIES CENTERS

These centers are scholar-driven with a strong research and development component and may not be affiliated with the library. They include high-touch collaborations among scholars for a limited number of projects per semester or year. Scholars and staff on project teams are true research partners in this model, and staff may also pursue research projects on their own. Such projects may result in tools or platforms that can be reused in other settings (for example, the open source library discovery interface Blacklight<sup>[8]</sup>, which grew out of a staff project at the University of Virginia's Scholars' Lab). But because of the tight integration between a scholar's research methodology and its expression in digital form, the products may sometimes be idiosyncratic and thus hard to maintain over time without ongoing developer intervention.

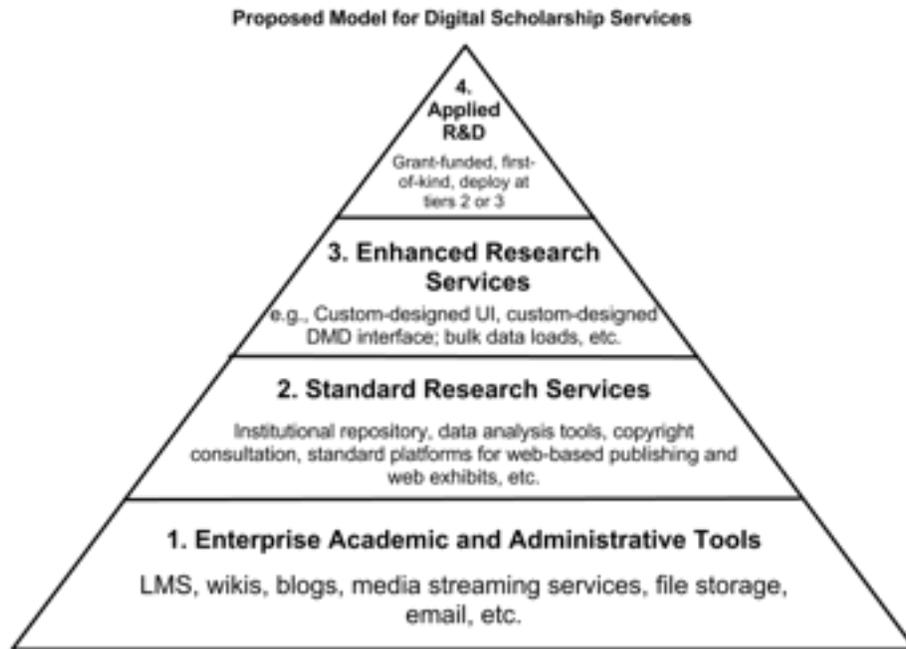
No single service model mentioned here fully describes any of the organizations we spoke to, but we found it helpful to characterize services in these ways as the models suggest quite different approaches, staffing levels, and required skills. Furthermore, none of our colleagues felt confident that they had solved the problem of providing services for the breadth of digital scholarship needs in a way that was both sustainable

and scalable. Like most of our peer institutions, NYU Libraries currently provides some services from each of these general types.

### **A High-Level Model for Scalable and Sustainable Services**

Drawing on our understanding of practices and trends at peer institutions and our own faculty's research and requests, we developed a high-level model to describe how an organization might support digital scholarship. We had several guiding principles in designing this 4-tier model. Services should be sustainable (so they can be maintained over time) and scalable (in order to benefit as many scholars as possible). Our experience suggests, and peer interviews confirmed, that one effective way to achieve scalability and sustainability is through service and tool standardization. There are other considerations—programmatically and strategically—as we discuss in the next section. As well, these services should promote the development of reusable tools, platforms, and methods, and facilitate the creation of preservable, reusable scholarly content to ensure the long-term value of and access to the institution's research. This multi-level service model puts a strong emphasis on developing, maintaining, and integrating standard tools, platforms, and support services for a large community of users. The model should integrate current services and initiatives, and build out new service components only when necessary. Finally, these services should capitalize on staff knowledge and expertise, while providing an opportunity for staff to gain new skills.

The model we envisioned has four tiers, with the first (and most widely-used) at the bottom.



*Figure 1: Proposed model for digital scholarship services*

### Tier 1: Enterprise Academic Tools

These are enterprise-level academic tools that meet the basic computing needs of a vast majority of students and faculty. Examples include: learning management systems, wikis, video streaming, individual and shared file storage, and virtual computer labs. These tools are designed to meet academic and administrative computing needs, but do not necessarily lend themselves to scholars' research requirements. Most offer little to no customization for individual projects.

### Tier 2: Standard Research Services

Like the enterprise academic and administrative tools in Tier 1, these services are designed to be available to as many scholars as possible. However, tools at this service level are designed specifically to support research and scholarship. Examples include: journal and conference-paper hosting tools (e.g., Open Journal Systems or BePress), CMS and web-hosting platforms (e.g., WordPress), and web exhibit platforms (e.g., Omeka).<sup>[9]</sup> Though certain tools or platforms may enable a large number of configuration choices, this service level does not offer that option. Rather, to the extent possible, tools should offer a fixed set of templates, so users can pick the format, style, or functionality that best meets their needs. For example, an institution-wide WordPress service could give users

the choice of a limited number of design templates and approved plug-ins. If services at this level are well designed and supported, a majority of scholars could rely on these sustainable alternatives to one-off solutions.

### Tier 3: Enhanced Research Services

This level builds on Tier 2 and includes the ability to offer some custom configuration of the standard services described there. Tier 3 provides select scholars with staff support for more sustained consultation and customization that go beyond the standard services and templates. Services might include designing a special interface to a standard tool or providing custom-tailored metadata options for a repository. In addition, this level could include short or long-term project consultations with scholars on project planning, grant seeking, or digital methodologies. Services in Tier 3 could lead to more in-depth partnerships at service Tier 4. Though the goal will always be to help as many scholars as possible, access to Tier 3 services, requiring more staff time and support, will be necessarily selective and a well-defined selection process is required to manage demand. Selection processes for these services will vary from institution to institution; criteria can range from focusing on VIP faculty, to partnering with a particular department or program, or only accepting projects that come with grant funding, or offering funds for which scholars may compete. Whatever selection process is chosen, it needs to be well understood by staff and potential project partners so decisions demonstrate a strategic approach to services.

### Tier 4: Applied Research and Development

This level is more experimental and aimed at developing methods and infrastructure with possible (but not certain) future research value. The focus is on partnership with innovative scholars, ideally leading to reusable products or integration among existing tools. A key objective is to create “first-of-a-kind” tools, platforms, methods, or integrations that meet emerging research needs, and to implement them in a cycle that supports use, testing, and improvement. Ultimately, the goal is to enable such services, methods, or tools to be rolled out as Tier 2 or Tier 3 services. Work in Tier 4 is highly selective, mostly grant-funded, and extremely staff intensive.

This tiered model provides a way for organizations to recognize their existing and desired services as a spectrum of methods for supporting digital scholarship, ranging from enterprise-level tools to experimental, resource-intensive initiatives. Articulating how the institution’s services fall into the four tiers will help library staff and leadership consider the organization’s strengths, gaps, and research needs, and determine how to

best invest time and effort to strategically develop new services. In the next section, we address some challenges of implementing this model.

## **Considerations for Implementation**

This high-level service model is not prescriptive; it can be applied in a variety of ways, depending on the given organizational context and structure. We believe it could be implemented with many different initiatives, tools, or services to achieve the desired level of engagement and support. Similarly, it can rely on a wide range of possible staffing arrangements. In planning to offer services for digital scholarship, institutions must be guided by local considerations such as user needs, strategic priorities, and existing organizational structures, and services.

However, in order to implement *scalable* and *sustainable* services, there are certain programmatic and strategic requirements without which these initiatives may fail.<sup>[10]</sup>

Scholars' needs for digital scholarship support are inherently diverse; in attempting to meet them without considering scale and sustainability, we risk developing narrowly focused or short-lived solutions that are difficult to maintain over time and with infrastructure that cannot be repurposed to benefit other projects. None of the peers we consulted have fully solved this problem, but they shared many helpful approaches. We are giving their ideas considerable thought as we develop and refine our own services. In this final section, we describe some of the most significant challenges to scalability and sustainability and propose some methods for addressing them.

### Selection and Scoping

Though we talk about them as related goals, scalability and sustainability should also be considered individually when evaluating service options. There are times when one may be a more important consideration than the other. For instance, a valuable service might be sustainable at a given staffing level, but not scalable to a larger clientele without adding significantly more resources or using a different technology. To get the most out of institutional investment in new initiatives, it's important to identify the intended audience, define the scalability and sustainability goals, and select tools, services, and projects strategically to meet these goals. For services intended to be scalable, our model advocates offering tools that offer a limited range of alternative interfaces and functionality but can be run and supported efficiently and thus offered to a large number of users (see Tier 2 in our proposed service model above). City University of New York, for example, is developing the Commons in a Box, a content management system for blogging and collaboration, with a set of design templates and plug-ins for different needs.<sup>[11]</sup> Columbia's Center for Digital Research and Scholarship offers a standard

software platform and a tiered service model for journal publishing, with the basic service available at no charge and customization options provided for a fee.<sup>[12]</sup> Such approaches provide useful alternatives for patrons, while building in constraints (templates, fee structures) that ensure the service can be supported with the resources available.

Once a tool or platform is selected for implementation, service definitions are critical to setting user and staff expectations for their use. According to the ITIL (IT Infrastructure Library)<sup>[13]</sup> service management framework, a service definition or Service Level Agreement (SLA) typically specifies details of service hours and availability, functionality, service and customer support levels, customer and service provider obligations, as well as any associated fees.<sup>[14]</sup> SLAs should also help staff and scholars understand the differences among services. For example, a training service should clearly state when and how training may occur, who is served, and what level of training is to be expected. And training to use tools must be clearly distinguished from, say, engaging in a long-term project with a scholar. When services are well defined and understood by all involved, it is easier to carefully assess the needs of a potential scholarly project and determine whether it can be met with an existing service (Tier 2 in our model) or if it requires consideration as a special project (Tiers 3 or 4). The traditional reference interview process provides an excellent model for these types of evaluations. For instance, a faculty member approached us about a “digital humanities project” that amounted to the need for a wiki where documents could be shared with students—a request easily met with a service already in place that could support the project as it evolved. More complex projects require a more substantial investigation before they can be selected, and will rely on the staff member conducting the initial interview knowing where to refer the patron, or being empowered to assemble a team to discuss the request.

Having a well-developed project selection process allows organizations to make informed choices about how to strategically deploy staff on more experimental initiatives. Portfolio management—the process of documenting and assessing both projects and the services within an organization—provides a broad overview of the organization’s work and enables service gap analysis, resource allocation, and project selection, and can thus facilitate strategic alignment. (Vinopal, 2012) We believe that project selection should be undertaken as part of an active portfolio management process to ensure scalability and sustainability. All projects in Tier 3 must, by definition, be selected, since those services cannot be offered widely. And for Tier 4, an organization may want to leverage its project selection process to identify “stretch” projects that will help it explore new areas and develop new capacities that may eventually benefit many other scholars. To ensure the return on resource investment, these “first-of-a-kind”

projects must be selected strategically to fill in known gaps in the service portfolio. Success with this approach requires that decision makers: 1) understand the organization's service portfolio and service gaps; 2) have articulated the strategic priorities of the organization, in order to develop services that meet those goals; and 3) have a well-understood decision making process for selecting initiatives, assigning resources, and moving new projects forward. Some of those we interviewed have a regular meeting at which projects are assessed for their fit with organizational goals, skills, and staff time. Others assemble project assessment teams ad-hoc as requests arrive. However, without clear selection criteria, an overview of the project and service portfolio, and a strong understanding of project needs, this ad hoc method can result in a bulging portfolio and difficulties completing work on schedule. Once projects are selected, many institutions develop written agreements with project partners to clarify responsibilities and define project scope. These agreements are similar in some ways to SLAs, described above, but focus on the specific project rather than a broad service. Project agreements may stipulate the length of time any resulting systems (e.g., a specially-designed website) will be supported, by whom, and what kind of ongoing support is to be expected (for example, bug fixes only, ongoing development of new functionality, platform and content migration, etc.)

### Situating Services and Staffing

Our research indicated that services supporting digital scholarship can be positioned within the library in any number of ways: they might be established as a separate new unit or department; fully integrated into the existing organization, with staff members from many departments spending some of their time on digital services; or managed in a hybrid approach, with a small core staff who draw support from subject specialists, metadata experts, etc., on an ad hoc basis, depending on project need. Sometimes grant funding is used to hire staff for initial projects, with positions evolving into permanent lines as need is demonstrated and budgets allow. All of these approaches have implications for service sustainability and scalability.

No matter how these services are configured within the library, it is important that they eventually become an integral part of the holistic service environment of the organization. In their report "New Roles for New Times: Digital Curation for Preservation," Walters and Skinner emphasize the library-wide transformation required to build what they call "the trio of strong infrastructures, content, and services" to support digital scholarship. (2011)

While launching digital scholarship services as a separate unit or department with dedicated (and possibly new) staff may afford the unit flexibility and speed to develop quickly, consideration should be given to the relationship between that unit and the rest

of the organization. If the eventual goal is to foster a new level of organization-wide engagement with emerging research practices and needs, then incubating new services among a small group can potentially limit the development and contributions of other staff. As a consequence, when service needs grow, it may be challenging for staff outside the new unit to support the services in an integrated way.

On the other hand, a staffing approach that will rely from the start on the participation of the whole organization may create problems of dilution and diffusion. Scattering responsibility for the initiative across the organization can inhibit focus and may also negatively affect staff participation, especially so if this work is in addition to staff's responsibilities for existing services. As well, library-wide staffing for new services would require a very clear message about priorities and goals for the organization, the departments, and the individuals involved, addressing questions such as: How do the new services build on existing work? What new skills are staff expected to acquire? What current work may become a lower priority? And, who has the authority to delegate this new work to staff across various departments? This last question is particularly important, as existing reporting structures can prove particularly resistant to cross-departmental collaboration. This amount of organizational change requires significant time, which might hinder an effective digital scholarship presence on campus.

A third option is a hybrid model that falls somewhere between the "separate unit" and the "fully integrated" approaches described above. One way to implement this model is to identify current staff who are best situated (because of knowledge and skills) to help develop digital scholarship services, then free them up to lead the initiative, without necessarily creating a new unit. The organization could then incorporate other staff or hire new staff strategically and incrementally as service direction and definition are established. These efforts could be supported by ad hoc reliance on subject specialists, archivists, metadata experts as needed, with more staff being trained and brought in to the services as time goes on. According to a survey of ARL libraries conducted in 2011, this provisional model is common among libraries developing support for digital humanities. (Bryson, et al., 2011) Our research suggests that it applies to general digital scholarship services as well. This incremental approach to staffing and service development has advantages, in that it can respond flexibly to fast-developing needs. Being small and somewhat apart from the existing organization during start-up phase, service providers can take a more exploratory, experimental approach to their work and then bring their experiences and conclusions back to the organization for larger-scale implementation. For example, staff may spend time developing strategic partnerships or running small test projects to learn what works and what does not. During the initial phase of service design, it is especially important to assess work being done and to use these early experiments and experiences to document needs and the resources required

to meet them. Assessment activities can include: determining success criteria, evaluating client satisfaction, identifying what did and didn't work, calculating staff hours spent on development and support activities, estimating costs and possible efficiencies, and considering next steps. It is equally important to share these assessments at the appropriate level of detail with the rest of the staff, so that experience and learning are shared, and the services' evolution is understood.

While effective in a time of rapid change in service needs and financial constraints, ad hoc service provision should be seen as a tactic on the way to a longer-term strategy for robust and scalable service design and support. The authors of the ARL Digital Humanities survey note, "as demand for services supporting the digital humanities has grown, libraries have begun to re-evaluate their provisional service and staffing models. Many respondents expressed a desire to implement practices, policies, and procedures that would allow them to cope with increases in demand for services." (Bryson, et al., 2011) Scaling up these services and keeping them going over time can be challenging for staff. Like the "fully integrated" approach above, this hybrid model requires clear direction from library leadership about expectations and priorities; otherwise those assigned to initiate these services may have difficulty summoning the project and service support from colleagues who are already fully occupied with their own work. Additionally, if services in this area rely primarily on fellowship- or grant-funded staff, it can be very challenging to sustain them once staff leave or funds are spent.

## Funding

Like the other service support considerations discussed above, funding approaches for digital scholarship services are diverse, including hard funding, fees for some or all services, and internal or external grant funding. Special funds are frequently required for projects and services that are offered in Tiers 3 and 4, since these are more staff-intensive and may require advanced technology skills. Some institutions require scholars who are proposing projects to come with grant money in hand. Others partner with scholars to help them secure funding. Another model is for those providing digital scholarship services (e.g., a digital scholarship center) to receive institutional funds (Provostial or otherwise) that they then award as grants to researchers through a competitive project selection process. As with service definitions and project selection criteria, funding models should be well defined and clearly understood by all involved.

## Conclusion

Noting how innovative digital initiatives and services successfully develop at some institutions and not at others, a colleague of ours has asked: "What can you do if my

library director gets it and yours doesn't?" This simple question cuts to the heart of the matter: grassroots innovation and a few enterprising, proactive staff are no substitute for library leadership providing sustained vision, guidance, and support for these new initiatives. The scalability and sustainability of library initiatives depend not only on careful choices about technology deployment, well-developed service descriptions, and effective project selection and portfolio management, but also on staff having a clear understanding of how and why they are investing their time and talent in complex new services.

### Strategic Vision

It is critical to identify strategic priorities that align with the larger institution's mission and goals, and to clearly articulate what the organization will and will not focus on. With such an array of options (tools, services, platforms, service models) no organization can undertake them all. Library leaders need to select organizational priorities, make them known, and fund them. Without focus, nascent efforts can become muddled and ineffectual. To foster cross-library engagement with this new service domain, leadership should ensure that it is understood across the organization as a strategic priority, and create a shared vision of how these new services relate to the library's mission and goals and can be effectively integrated with existing ones. It is also important to frankly acknowledge the challenges of providing stable ongoing services while remaining responsive to emerging needs. Implementing project and portfolio management to document and track the organization's services and projects can help to guard against taking on more work than can be accomplished at any one time.

### Authority and Time to Accomplish

The staff who are specifically engaged in developing services for digital scholarship have particular needs arising from the way these services are situated within the organization. For a start, it is critical to identify staff with the appropriate knowledge and skills, and to give them the time to explore digital scholarship needs and establish the appropriate services. In addition, they must be provided with sufficient professional development support to maintain currency with rapidly evolving technology and standards. Furthermore, as we have said, because digital services necessarily rely on a wide range of expertise, staffing for them is frequently ad hoc in nature. A common scenario is for projects to be managed by a digital services person with project support staff who all report to others. As a result, those charged with creating digital scholarship services often have considerable responsibility to accomplish initiatives without the

authority to mobilize the resources needed to succeed. This is the particular challenge that evolves from building services that are not housed in a traditional department or unit but instead are more interstitial and rely on cross-organizational support for staffing.

It is critical that new service managers have the authority to accomplish their work within the scope of the vision and direction that leadership sets out. Given the inherently ambiguous nature of new service requirements, digital scholarship service leaders need the authority to make decisions, to direct the work of involved staff, and to establish a process for decision-making and communication about priorities up and down the hierarchy. Everybody involved in these ventures, even in an ad-hoc capacity, needs to understand his or her role and responsibility in the project or service's success. Because the implementation of innovative new services requires a concomitant change in organizational mindset and practice, higher-level administration may need to intervene when work "gets stuck." It is not enough for library administration to remind department managers or their staff about organizational priorities in the abstract; they must recognize the time required for this work and help staff set priorities and allocate enough time to participate in this new initiative.

## Guidance

Establishing new ventures requires even more guidance and feedback from leadership than maintaining existing services. Those developing new digital scholarship initiatives will need a process for regularly communicating with library leadership about progress and priorities, and for seeking direction at critical junctures. Implementing our tiered services model, for instance, will require a selection process for projects at Tiers 3 and 4, which are more staff-intensive. As well, goals with clear measures of progress and success should be established, so that projects and services can be regularly assessed, and changes implemented as needed. The steering process can take many forms, including regular meetings with a designated steering committee or ad hoc meetings with the library director or other appropriate manager. No matter what process is enacted, it should be clearly articulated, so there is no confusion about how and when staff should report, how much autonomy they have in decision-making, and when they should seek feedback. What is important is that everyone involved in the service development process, from top-level leadership down, should understand how the new service will be guided, how service priorities will be set, who makes which decisions, which success criteria and assessment measures will be used, and how questions will be answered when problems arise.

## Organizational Change

Over the course of this article we have highlighted challenges to and strategies for building scalable and sustainable digital scholarship services. More and more scholars want to adopt digital tools, platforms, and practices for research and teaching, and these technologies and methodologies evolve rapidly. As the nature of scholarship changes, research libraries' practices will also adapt in order to partner most effectively with scholars. New models for librarian-scholar collaboration include much more librarian engagement with the entire research process than ever before. From grant seeking, project planning, data collection and organization, and metadata creation, to data analysis and visualization, content dissemination, and long-term archiving, libraries have significant roles to play in developing and sustaining effective practices in digital scholarship.

The organizational challenges required for a research library to become and remain engaged with this quickly evolving scholarly landscape are not inconsequential. This requires not just a one-time organizational change, but the development of an organizational culture that is inquisitive, adaptable, responsive, and that welcomes change, one that is willing to try new things, assess their success, and sometimes simply move on. As new opportunities, roles, and responsibilities emerge, library leadership must take an active role in articulating a strategic vision, defining priorities, addressing the connections between new services and established ones, facilitating horizontal as well as vertical communication and collaboration, and building a staff that are lifelong learners with evolving job descriptions. Our success in supporting new scholarly practices hinges on our ability to scale and sustain this kind of organizational change.

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1. We follow the Scholarly Communication Institute's definition of digital scholarship as "the use of digital evidence and method, digital authoring, digital publishing, digital curation and preservation, and digital use and reuse of scholarship." Smith Rumsey, Abby. 2011. *Scholarly Communication Institute 9: New-Model Scholarly Communication: Road Map for Change*. Charlottesville, VA: University of Virginia Library. <http://www.uvasci.org/wp-content/uploads/2011/04/SCI9-report.pdf>.
  
2. NYU's Digital Library Technology Services has developed tools and platforms relevant to digital scholarship (e.g., MediaCommons, a network and publishing platform for scholars in media studies, <http://mediacommons.futureofthebook.org/>) but the DLTS group's primary focus is on processing, enabling access to, and preserving digital materials from the NYU community and collaborating partner organizations. ↵
3. Scalar, in beta development by the Alliance for Networking Visual Culture, is an open source authoring and publishing platform that's designed to make it easy for authors to write long-form, born-digital scholarship online. Scalar enables users to assemble media from multiple sources and juxtapose them with their own writing in a variety of ways, with minimal technical expertise required. See <http://scalar.usc.edu/scalar> ↵
4. MediaCommons Press is part of the MediaCommons scholarly network. It uses the tool CommentPress (built on WordPress) to enable open online peer review. See <http://mediacommons.futureofthebook.org/mcpres/> ↵
5. Services are sustainable when they can be efficiently maintained over time, and scalable when they can be provided effectively as demand increases. ↵
6. California State University, Los Angeles; Columbia University; Cornell University; Duke University; Emory University; Harvard University; Princeton University; University of California, Los Angeles; University of Chicago; University of Kansas; University of Michigan; University of Virginia; Yale University; and the Educopia Institute. ↵
7. Thanks to Rebecca Kennison of Columbia University for this useful distinction. ↵
8. <http://projectblacklight.org/> ↵
9. These services complement existing library research services such as subject specialist research assistance, the library catalog, etc. ↵
10. This past summer, Miriam Posner, The Library Loon, and Mike Furlough, among others, had a thoughtful discussion via their blogs about the institutional challenges to supporting digital humanities in the library. (Miriam Posner expands her original blog post as an article in this issue). They identified common impediments that cause incipient digital humanities services in libraries to falter and scholars and staff to become frustrated with the services offered. Their insightful observations complement the implementation considerations we derived from our research in 2011 and our subsequent work in this area. Posner, "What are some challenges to doing DH in the library?" retrieved from <http://miriamposner.com/blog/?p=1274>; Library Loon, "Additional hurdles to novel

library services,” retrieved from <http://gavialib.com/2012/08/additional-hurdles-to-novel-library-services/>; Furlough, “Some institutional challenges to supporting DH in the library,” retrieved from [http://www.personal.psu.edu/mjf25/blogs/on\\_furlough/2012/08/some-institutional-challenges-to-supporting-dh-in-the-library.html](http://www.personal.psu.edu/mjf25/blogs/on_furlough/2012/08/some-institutional-challenges-to-supporting-dh-in-the-library.html) ↵

11. Commons in a Box is described as, “a new open-source project that will help other organizations quickly and easily install and customize their own Commons platforms.”

<http://news.commons.gc.cuny.edu/2011/11/22/the-cuny-academic-commons-announces-the-commons-in-a-box-project/> ↵

12. The CDRS tiers of journal service are described at <http://cdrs.columbia.edu/cdrsmain/texture-publications/which-service-level-is-right-for-my-journal/> More information about their journal services may be downloaded from <http://cdrs.columbia.edu/cdrsmain/texture-publications/> ↵

13. For more information about the IT Infrastructure Library (ITIL) see <http://www.itil-officialsite.com/AboutITIL/WhatisITIL.aspx> ↵

14. Service Level Agreements are defined here:

[http://www.knowledgetransfer.net/dictionary/ITIL/en/Service\\_Level\\_Agreement.htm](http://www.knowledgetransfer.net/dictionary/ITIL/en/Service_Level_Agreement.htm) REFERENCES B1

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## 11. No Half Measures: Overcoming Common Challenges to Doing Digital Humanities in the Library

Miriam Posner

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*ABSTRACT. While much work on libraries and digital humanities has focused on how to train and encourage individual librarians, we have not paid enough attention to the administrative and institutional factors required to help these professionals succeed. This article outlines some common sources of frustration for library professionals engaged in digital humanities work and offers sketches of some library-based digital humanities programs that are working to address these challenges.*

Once you start noticing, the pattern becomes clear: Library after library is rolling out support for digital humanities. That support might consist of a “center,” a “suite of services,” a librarian with a revised job title, or, murkiest of all, an “initiative.” (A place, a thing, a person? Who knows?) Spend some time talking to the people who staff these new offerings, and another pattern emerges: Many of them are frustrated. Many of them fear that will disappoint patrons. Many of them wonder whether the tasks they have been charged with are actually doable.

We do not acknowledge often enough that if a library is to engage in digital humanities activity, its leaders need to give serious thought to the administrative and technical infrastructure that supports this work. I want to argue here that many of the barriers to completing digital humanities projects in the library arise not from librarians themselves, but from a set of institutional and administrative factors that will be familiar to most people who have worked in libraries.

This is not to say that DH is *not* done in the library. It is, and often well. Many of the contributors to this issue represent flourishing library-based digital humanities programs. And it is crucial to remember that what we now call digital humanities grew out of a set of practices, and a community of practitioners, which themselves arose in libraries and archives. The Text Encoding Initiative (TEI), for example, a vital humanities computing effort, grew out of the work of electronic scholarly editing programs, many of which were based in libraries (Hockey, 2004; Renear, 2004). So did any number of pioneering humanities computing projects, including important work on

digital archives, interface design, and textual analysis.

But digital humanities has reached new levels of popularity, piquing the interests of a great many institutions that have little previous experience with it. And, as my colleagues and I found when we conducted a survey through the Association of Research Libraries, with the exception of a few well-known programs, most library-based DH is being done in a very piecemeal fashion. Forty-eight percent of survey respondents described their libraries' digital humanities support as "ad hoc" (Bryson, Varner, Pierre, & Posner, 2011, p. 16). Relatively few libraries have dedicated digital humanities centers or programs, and many existing initiatives are still in the developmental stages. Staffing for libraries' digital humanities programs is often confined to a digital scholarship librarian (who may fill many other roles) and a few information technology professionals, many of whom work on contract on grant-funded projects, or have responsibilities well beyond digital humanities programs. The result is that the success of library DH efforts often depends on the energy, creativity, and goodwill of a few overextended library professionals and the services they can cobble together.

When we talk about bringing new digital programs into the library, we often focus on what individual librarians can do, encouraging them to adopt a spirit of entrepreneurialism or seek out opportunities to learn new skills (e.g., Brian Mathews, 2012; Tzoc & Millard, 2011). But I contend that much of the discussion about building a DH-friendly library environment leans too hard on individual librarians, without taking into account the set of institutional supports, incentives, and rewards that will allow DH to flourish in a sustained way (and keep these library professionals from burning out).

In fact, there are very good reasons why individual librarians may choose to eschew digital humanities work, and they have to do with the lag between libraries' enthusiasm for DH and institutions' ability to support it in meaningful ways. If we hope to develop robust digital humanities programs in the library, we need to address these institutional shortcomings. Here, I outline some of the challenges for libraries as they attempt to offer digital humanities programs, offering some suggestions for how they might be addressed.

### **What Does it Mean to do Digital Humanities in the Library?**

But before I move to these points, there remains the nagging question of what we talk about when we talk about doing DH in the library. In an earlier draft of this article, I assumed a model of DH support common to many fledgling DH programs, in which a scholar (usually a faculty member) conceives an idea for a DH project and approaches the library for help in accomplishing it. (See Posner, 2012)

But as Trevor Muñoz cogently pointed out, this approach — let's call it the service-and-support model — is not the only, or necessarily the best, one out there. "Digital

humanities in libraries isn't a service and libraries will be more successful at generating engagement with digital humanities if they focus on helping librarians lead their own DH initiatives and projects," writes Muñoz, drawing on his own work as both a librarian and the associate director of the Maryland Institute for Technology in the Humanities (Muñoz, 2012). He argues that librarians' work needs to be seen as intellectual labor, and that their efforts within library incubators (or "skunkworks," as Bethany Nowviskie describes them in a separate article in this collection) could offer invaluable opportunities for "technology transfer" to the university community at large.

The on-the-ground reality at some institutions may be that the skunkworks or incubator model, in which digital humanities activity takes place entirely at the discretion of library-based DH experts, is not a politically feasible option. But that does not mean that the service-and-support approach makes sense either.

Muñoz points to an error not only in my own thinking about libraries' support problems, but also in the way that the libraries-and-digital humanities question has been framed in the library community at large. Many of the problems we have faced "supporting" digital humanities work may stem from the fact that digital humanities projects in general do not need *supporters* — they need *collaborators*. Libraries need to provide infrastructure (access to digitization tools and servers, for example) to support digital humanities work, but they need thoughtful, skilled, knowledgeable humanists to actually work on it.

Indeed, my experience has been that the service-and-support approach, in which a scholar brings an idea to the library to build, often results in a less-than-optimal outcome. Few scholars are really trained to understand the larger environment of digital humanities tools, projects, and methods, and it can be very challenging for a librarian charged with "supporting" a project to dissuade a faculty member from barreling ahead with a half-baked idea.

Of course I do not mean that good DH project ideas cannot come from scholars. Many do! But in conceiving library-based DH programs, we need to jettison some of our thinking about providing library "services." It is important to see that some of the most valuable DH work has been imagined and designed by library professionals themselves, and that we need to support librarians who want to make these ideas happen. And when librarians do collaborate on projects, it is important to find ways to impress upon scholars that DH expertise is a specialized, crucial — and frankly, rare — skill, not a service to be offered in silent support of a scholar's master plan.

Thus, I offer this list of challenges in the hope that library leaders might use them to correct shortcomings not only in support programs, but also to rethink the possible relationships librarians might have to digital humanities work.

## **Challenges to Doing Digital Humanities in the Library**

### Insufficient training opportunities

For librarians, this problem is acute. Clearly, expertise in digital humanities requires new skillsets. But funding for training opportunities is often scarce, and it can be very hard to justify to supervisors why one needs to take a class in, say, Python, when one's job responsibilities do not currently include Python. In addition, it is not always clear where to go for training. Computer science classes often lack an obvious connection with humanities questions, and very hard for a novice to know which language or skill one needs to start with. The recent abundance of online technical training opportunities, like Coursera and Codecademy, may seem to offer an attractive solution, but in many cases these classes lack relevance to the library professional who cannot yet imagine what skills will be called for.

Moreover, some of the most valuable skills a digital humanities specialist can offer are not strictly technical, but a combination of “soft” and “hard” skills: the ability to manage a project efficiently, for example, or knowledge of how to perform an environmental scan to ensure a proposed DH project does not reinvent the wheel. These kinds of skills are best learned through participation in actual DH projects — a Catch-22 situation for many librarians.

### Lack of support for librarian-conceived initiatives

In a library, responsibilities and opportunities are (logically enough) apportioned in ways that are designed to be consistent with institutional priorities. Libraries tend to be concerned with metrics, with assigning roles efficiently, and with meeting patrons' demonstrated needs. Projects often get assigned from the top down, and it is not unusual for a project sponsor to be asked to prepare a business case to show that an initiative will meet a need and benefit the library. Many DH projects do not meet any particular demonstrated need — they are done to find an interesting answer to an interesting question. This can be very difficult to explain to one's supervisors in the library.

### Too many tasks, too little time

With all the hand wringing about whether the library has a future, it can be easy to overlook the fact that many librarians actually feel overburdened. Most subject librarians cover multiple disciplines, and with purchasing, instruction, outreach, professional development, and administrative responsibilities — well, it all adds up. Time for a DH project has to come from somewhere else, and many librarians do not feel they can keep

doing their existing jobs well if they add something else to the mix.

#### Lack of authority to marshal the appropriate resources

This may be one of the most difficult challenges librarians face. When my job was to foster DH projects in the library, I sometimes fought the urge to hide when I saw a faculty member coming at me with a project idea — even if it was a great idea, even if I really wanted to do it. I started tabulating the resources it would take to get the project done: time from a developer, time from a designer, time from a metadata specialist, time from a system administrator, project management expertise, server space, a commitment to host the project in the long term ... I just did not have the authority to make all these pieces fall into place, and neither do most individual librarians. In fact, very few individuals within a library have the ability to bring all these parts together. If a librarian has assembled these resources, he or she has probably (unbeknownst to the patron) gone from desk to desk, pleading for time from each of the people involved. You can imagine why most librarians are not eager to do this over and over again.

#### Inflexible infrastructure

Libraries, of course, are big, complex organizations, with responsibilities to patrons across the campus. It is easy to see why they place a premium on information technology infrastructure that is secure, scalable, and does not require a lot of fiddly maintenance. Alas, many DH projects require customized support, or at the very least, server-level access for collaborators. If a DH scholar needs to file a support ticket every time she, say, wants to install a Drupal module, a project is virtually guaranteed to languish. But requesting this kind of access or support from already overstretched system administrators is not an exercise for the faint of heart.

#### Lack of incentive

It may not be all it should be, but for scholars, there is some professional payoff to accomplishing a DH project: some name recognition, something to take on the conference circuit. It is sometimes less clear what the payoff is for the librarian. Too often, the “completion” of a DH project means more headaches down the road (about upgrades and server space and support) for the librarian, while it is a faculty member’s name that’s associated with the project. If the librarian’s institution is not providing support and recognition for librarians involved with DH, it is hard to see what would motivate someone to subject herself to such hard work.

## The complexity of collaborating with faculty

If a DH project involves collaboration between faculty and librarians, it is important to be attuned to the peculiar dynamics of this kind of relationship. Frequently, faculty approach librarians as service providers (and too often, librarians approach faculty that way, too). The flaw in this relationship becomes clear a few weeks into the collaboration, when the librarian really needs that dataset, decision, or brainstorming time in order to make progress on the project, but does not feel entitled to make demands from an unresponsive professor. There is no one to appeal to and no one who can help, and so the request languishes. The project will suffer if the relationship is not truly equitable.

## Overcautiousness

If a faculty member who wants to write a book, she needs no one's permission. The book may fail, but it may wildly succeed, and that is a risk she can take on herself. If, on the other hand, you are a librarian who wants to work on a DH project, you will probably need to check with your supervisor, maybe the legal department, whoever is in charge of the technical team, maybe the people in branding. And frankly, for most of these decision-makers, the safest answer is "no." When so many stakeholders are involved, the incentives for risk-taking become so diffuse as to be almost imperceptible. Oddly, the same math does not seem to apply when one calculates the potential penalties for risk-taking. At many libraries, it is easy to imagine getting in trouble for overstepping one's bounds; it is harder to imagine getting rewarded for it.

## Diffusion of effort

One unfortunate side effect of DH's new popularity is that enthusiasts, particularly at large campuses, do not always communicate with one another. So it is becoming common to see sibling digital humanities initiatives cropping up on the same campus. This may not be entirely a bad thing — there may be very good reasons to target digital scholarship efforts to, say, a particular discipline. But these multiple efforts can also create unnecessary competition for an institution's resources, as well as a confusing situation for people on campus looking for a digital humanities "front door."

## Lack of a real institutional commitment

When libraries do DH well, they are in it for the long term. That means permanent

staff, hard funding, real space to work, and an understanding that some projects will succeed and some will fail. But what we often see now is libraries hedging their bets: willing to wager a postdoc or two, but not more. Alas, this strategy often leads to more frustration than exciting DH projects. DH takes time, and an investment in relationships across the campus. When that commitment is not there, librarians know it, and so do faculty and students.

## Where Do We Go from Here?

This laundry list of challenges may seem disheartening, but it is (believe it or not) not my intention to discourage DH aspirants. It is true that there are very real hurdles to getting a functional DH center up and running in the library. But thinking through these challenges can provide an occasion to grapple with some of the most fundamental questions libraries are faced with today.

Michael Furlough, associate dean for research and scholarly communication at Pennsylvania State University, asked a question that, in my mind, gets at the heart of the matter: “Is research the Library’s core business?” As Furlough points out:

the most valued IT services in the institution are the mission-critical enterprise systems: email, financial, student enrollment, course management systems. In the Library, it’s the catalog, OpenURL resolver, or other discovery layers. We don’t hesitate to allocate permanent people and dollars to ensure that those core business activities run 99.9% of the time. But research ... sure, it’s a core activity of the faculty, but is it a core business function of the University? (Furlough, 2012)

Furlough asks a genuine question. Digital humanities scholarship, by definition, is eccentric, unpredictable, highly customized, and prone to failure. It will not match up neatly with a library’s existing workflows, and it may well negatively affect existing measures of productivity. So a canny administrator may well ask: Is the library prepared to take on a beast like this? Does it *want* to?

If DH does make sense for a particular library, some very promising models, both established and emerging, may serve as examples for how a library might balance the productive chaos of DH work with its obligations to support the needs of stakeholders across campus.

Recently, several institutions have demonstrated some creative thinking about how to provide librarians with meaningful training opportunities. At the University of Maryland Libraries’ new [Digital Humanities Incubator](#) (an initiative co-sponsored by the Maryland Institute for Technology in the Humanities), librarians participate in a semester-long series of workshops on research development, working with data, developing projects, and writing funding proposals. Columbia University has instituted a librarian [re-skilling project](#), in which 12 librarians collaborate to accomplish a digital

humanities project. Inspired by a recent report on librarians' skill gaps from Research Libraries UK, Columbia is focusing on leadership and interpersonal skills as well as technical skills (Auckland, 2012).

In both cases, librarians are offered the opportunity to participate in targeted, collaborative, project-based training in a relatively low-stakes, supportive environment. These initiatives may well point the way toward more meaningful training strategies for librarians eager to learn new skills.

The University of Nebraska's [Center for Digital Research in the Humanities](#), a well-established and highly respected DH center, is a joint program of the University of Nebraska-Lincoln's Libraries and UNL's College of Arts & Sciences. It maintains strong ties to the library, in personnel and in research activity, but it also exercises a great deal of independence when necessary — running its own sandbox server, for example, and employing its own designer and programmer.

The [Scholars' Lab](#), at the University of Virginia, is based inside Alderman Library, and identifies strongly with the mission and ethic of librarianship. But, as Bethany Nowviskie explains in her article in this issue, the Scholars' Lab's Research and Development team has also purposely embraced an iterative, informal development cycle that focuses as much on process as on end results. This "skunkworks" model gives the Scholars' Lab the freedom to experiment in a space set apart from the productivity demands of the larger library system. And, crucially, the R&D team feeds back into the library at large, in what Trevor Muñoz has described as "technology transfer."

At Harvard, the [Library Lab](#), founded in 2010, is charged with incubating innovative projects that contribute to library services. While not devoted to digital humanities initiatives, the Library Lab has adopted a model that seems promising for DH projects. Faculty, students, and staff can all suggest projects, which, if supported, receive funding and support for three months or longer, depending on how successfully the project appears to be developing. The Library Lab has given rise to projects such as the Highbrow Textual Annotation Browser and Spectacle, a library collections slideshow generator.

These success stories — and numerous others I have not mentioned — indicate that DH is possible in a library setting. But they also demonstrate that DH is not, and cannot be, business as usual for a library. To succeed at digital humanities, a library must do a great deal more than add "digital scholarship" to an individual librarian's long string of subject specialties. It must provide room, support, and funding for library professionals to experiment (and maybe fail). It must make hard decisions about what the library is *not* going to do, now that it has taken on this new role. It must find ways to offer incentives, training, and professional credit to library professionals who take risks. It must give serious thought to the technology needs it is willing and able to support.

Above all, a library must be willing to take a hard look at what it considers its core

functions. It may well be the case that DH is a distraction from a given library's basic mission — in which case, better to know that now than to set off a domino effect of frustration in semesters to come. If, on the other hand, a library decides that digital humanities is an activity it truly values and wants to support, it must find ways to value, support, and sustain the people it asks to participate in this work.

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1. I am sincerely grateful to the many respondents who provided their comments and critiques of an

earlier draft of this essay, which can be found at <http://miriamposner.com/blog/?p=1274>. They include Dale Askey, Amy Buckland, Kaetrena Davis Kendrick, Elizabeth Dill, John Fink, Josh Honn, Tim Lepczyk, Elizabeth Jo Mason, Jenn Riley, Alycia Sellie, John Vallier, and Jacqueline Wernimont. Special thanks to Michael Furlough, Trevor Muñoz, and the pseudonymous Library Loon, who responded to my post with posts of their own. They can be found at [http://www.personal.psu.edu/mjf25/blogs/on\\_furlough/2012/08/some-institutional-challenges-to-supporting-dh-in-the-library.html](http://www.personal.psu.edu/mjf25/blogs/on_furlough/2012/08/some-institutional-challenges-to-supporting-dh-in-the-library.html) (Furlough), <http://gavialib.com/2012/08/on-success/> (Library Loon), and <https://gist.github.com/3415438> (Muñoz). ↵

## 12. Skunks in the Library: a Path to Production for Scholarly R&D

Bethany Nowvskie

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**ABSTRACT.** *Library-based digital humanities “skunkworks” are semi-independent research-and-development labs staffed with librarians who act as scholar-practitioners. Their creation is an uncommon, yet uncommonly potent, organizational response to opportunities opened up by digital scholarship. This essay describes the Scholars’ Lab at the University of Virginia Library and asserts a critical role for library-embedded digital centers in forging new paths for knowledge work in the humanities.*

Library-based *skunkworks*—or semi-independent, research-oriented software prototyping and makerspace labs—are an uncommon, yet uncommonly *potent*, response to opportunities that open up when we pay increased organizational attention to digital tools, methods, and cultures across the humanities.<sup>[1]</sup> And the skunk is an oddly appropriate image for scholar-practitioners of humanities research & development (R&D) in a library setting. Wrinkled noses can result from an airing of skunkworks concepts, swirling as they do past territorial lines drawn (sometimes unwittingly) by librarians, software developers, and scholars engaged in the digital transformation of our archives and institutions. This essay describes one such skunkworks operation—the Scholars’ Lab at the University of Virginia Library—and asserts a critical, but not uncontroversial, role for libraries and library-embedded digital centers in forging pathways for new kinds of knowledge work in the humanities. We can think of these as “paths to production” for scholarly R&D—offering ways forward not only for the *works* of innovative digital scholarship, but for the technical and social *frameworks* necessary to support and sustain them.

### Walking the Paths

To readers versed in web application design and deployment, the phrase *path to production* speaks immediately to a set of well-established software release practices. These practices define a workflow that moves a developer’s code in predictable ways from areas of activity specifically carved out for mess-making, idiosyncrasy, and flux to those that have been progressively tamed. The latter include technological (hardware and

software) spaces as well as conceptual (policy and strategy) spaces, both engineered for greater stability and endurance than is required in a development environment. In this sense, a *path to production* is a steady migration of new features and systems from invention into practice. Code is walked from experimental environments that remain in the full control of their creators, to separate, communal spaces for dedicated testing and pre-release website staging.

The transition from development to testing- or staging-environments happens so that other stakeholders—like librarians, systems administrators, and scholarly end users—can contribute to the advancement of the system in a number of ways. These include by banging on it, identifying bugs, defining additional needs, assessing the usability and general success of existing functions, and (more abstractly and administratively) by helping to forge agreements about what form a public release will take and how its affordances will be communicated and supported. Through this process, variables, errors, or irregularities are sufficiently resolved that the product of the software developers' labor can ascend to a promised land: production.

*Production* is, ideally, a place where code, content, *and* expectations have been managed, and where the development team's product is put into real-world use. Ideally, the quotidian care and feeding of this product becomes the direct responsibility *not* of its original developers, but rather of its long-term stewards. These stewards may include caretakers of content (in a library or any other organization), but *always* include systems administrators, or sysadmins. This well-established and commonly adhered-to development/test/production cycle is all about sanity. It ensures that end users are well served, that other stakeholders are satisfied, and that systems administrators are not blindsided by a midnight phone call about something they didn't realize they were supporting. On the other end of the equation, it ensures that the system's developers have been freed from the burden of its ongoing support and can move on to new projects. It also allows them to circle cleanly back to private sandbox environments to work on updates and future releases of the current tool. These developers have done their jobs and adhered to their most fundamental social contract: by following established best practices of the *path to production*, they've given managers, sysadmins, and colleagues an acceptable level of assurance that the work they have created is maintainable. They have basically put their product on a shelf.<sup>[2]</sup>

Now just swap out “scholars” for every time I've written “developers,” and “librarians” for “sysadmins,” and my direction will be clear.

Until fairly recently, the path to *publication* for the fixed products of humanities interpretation (traditionally, articles and monographs)—leading to their conventional apotheosis in library preservation—was relatively clear. Everyone involved knew his or her job, and centuries of experience in scholarly communication had helped work out the kinks in expected hand-offs, from author to editor to publisher to librarian or archivist.

Now, the products of multi-modal digital scholarship complicate the identification of discrete roles, and disrupt that supposedly-terminal condition of preservation and good stewardship into something we must figure as “digital curation.” Digital humanities (or DH) practitioners see no *Last stop! Everybody off!* on our present track. If there exists an end-of-the-line, where key players in scholarly communication can mostly disengage, we have not reached it yet. And although they have demanded most of our attention in libraries over the past two decades, this essay does not concern itself with paths that seek clear end-points in digital humanities preservation and access.

Instead, let us entertain a seriously non-teleological conception of the phrase, “path to production.” Forget the end-point. A deeper understanding of digital humanities *as method*, and of library engagement *as scholarly R&D*, can help us to view the path itself as a brand of way-finding for the academy—a valued intellectual experience to position within the library, the forging of which is a critical contribution in its own right.

Paths like these will not necessarily lead to the objective many librarians have seen as our first and unique responsibility—that is, to promoting stability, and to creating libraries as manifestations or architectures of expert information management. We can no longer view our spaces (physical or digital) as sites for crystallizing the products of humanities scholarship, for making them reasonably tidy. Instead (or, in truth, *additionally*), we should recognize that walking any path is as much about the act as the destination. This one, in particular, requires that we engage as partners in messy, ongoing, and unpredictable scholarly processes. It will involve—in true collaboration with the sixty-year-old community of practice now called the digital humanities—motion along diametrical and simultaneous courses of:

- creative, iterative, unfettered, informal, (even gonzo?) development of digital scholarly interfaces and content, deeply informed by humanities research and teaching;
- mature, responsible, formal, and well-articulated *continuous integration* of new tools and methods into the existing social and technical systems of scholarly communication;
- and, above all, a collective imagination of the work of the modern research library as we would see it operate *on its very best day*.

This is the most soaring skunk you are ever likely to meet. Let’s interrogate it.

## **Skunkworks, a Natural History**

“Skunkworks” is a term that emerged at the Lockheed Martin aeronautics corporation in the 1940s. It stems from an inside joke, tied (it is said) to a *L’il*

*Abner* cartoon and the facility's location near a foul-smelling plastics factory, and was self-applied by a small team of research-and-development engineers. As Lockheed Martin's skunkworks R&D became a recognized success, the company eventually trademarked the phrase in its form as two capitalized words, not invoked here. But because people who gravitate toward skunkworks operations far and wide rarely give a fig for restrictions on language, the name has spread, and has come to signal a special kind of organizational form worthy of examination by libraries and library-based DH centers.<sup>[3]</sup>

A skunkworks is a small and nimble technical team, deliberately, self-consciously, and (yes) quite *unfairly* freed from much of the surrounding bureaucracy of the larger organization in which it locates itself. This cutting of slack and administrative tolerance of the renegade is offset by square placement, on the shoulders of the skunks, of greatly raised expectations for innovation. In other words, a special group like a skunkworks only endures on the acceptance, at the highest levels of the organization funding and protecting it, of a simple management principle: *if you seek unusual results, you cannot expect that they will come from playing by the usual rules*. That said, a skunkworks operation is not about pure research, or innovation for innovation's sake. Good work is meant to come from this team, and to be available for application by others. An enviable measure of liberty in scope and freedom from day-to-day distraction is *earned* by the skunks, through meaningful innovations that can be folded into wider operations and larger communities within and beyond their host organization. It is in *other areas* of the organization that continued project development, testing, and refinement will happen, and where deployment processes are expected to be re-shaped, if necessary, to fit the general paradigms and practices governing the skunkworks' less skunky peers.

The primary tension in managing and enabling skunkworks developers lies in keeping them disconnected enough to do good work—and connected enough that their work can *do good*. In other words, the goal in setting up a group like this is to avoid distracting its developers and (as much as possible) their immediate supervisors with *almost everything that constitutes a path to production* for the stuff they are building. These can include policies, conventions, why-we-can't pronouncements, petty annoyances of production systems, and the thousand social and administrative hurdles that Libraryland is heir to. On the other hand, administrators fostering and protecting skunkworks operations will need and rightly expect the experimental work of these teams to migrate quickly toward paths to production. Seeking areas of promise and match; inspiring and enabling the skunkworks team to explore them; negotiating, fitting and reworking its innovations into the larger organization; and loudly communicating the value of the group: all of this is the job of the manager or director working at one level of hierarchy above the skunk boss, or immediate supervisor of the development group. Skunks need patronage, they need protection from distraction, and they need

ambassadors and especially skillful diplomats. They are, after all, skunks.

There's no denying that *skunkworks* is an evocative name for a group so organized and protected—and a slightly dangerous one to apply in a library. These librarians and technologists will never be the snuggly bunnies of your organization. How easily, after all, are skunks to be tolerated within a broad library culture that values consensus and teamwork—a culture that rightly wants to see innovation blooming *everywhere* and which seems to be moving, if fitfully, toward erasure of marks of privileged status within its own ranks? How easily are they to be tolerated within a culture that retains a certain lovely (and, let's admit it, often gendered) self-conception of its members as the handmaidens of scholarship, people with a calling—a *vocation*—to serve?

### **A Digression on Service**

My own path has been that of an alternative or new-model academic, working in what the Twitter-hashtag neologism drives us to term an “alt-ac” career (Nowviskie, 2011). In fact, what is termed “new-model” in higher-education discourse was once a well-trodden path for bibliographers, curators, and other librarians. Like many from that earlier generation, I trained and was acculturated as a humanities scholar before moving into a role I more deeply desired and greatly enjoy—in my case, in library-based digital humanities administration. As librarian positions are defined at my institution, I am encouraged to continue to practice as a scholar, a teacher, a leader in academic professional associations, and as an advisor to students, although I am neither a member of the tenure-eligible faculty or nor employed as a full-time, professional researcher. In fact, it was my desire to work in ways skewed toward meaningful but largely unrewarded public humanities and higher-ed “service”—that least-valued corner of a scholar's typical research-teaching-service triad—that kept me from pursuing typical academic appointments.

Increasing numbers of alt-ac scholar-practitioners are newly positioned in libraries and in the digital humanities across a variety of cultural heritage institutions. They come not only as the result of the contraction of the market for tenure-track academics and an explosion in alt-ac job postings, meant to support digital scholarship, the management of data, and the digitization of our humanities archives—but also because a DH-driven methodological turn in graduate training, rippling slowly since the late 1990s across the humanities disciplines, has awakened in some people an undeniable attraction toward *building things* and collaborating in concrete and non-discursive ways in the context of a blossoming information economy (Ramsay, 2012). This brand of “building” in the digital humanities encompasses not just tools and archives, but new social and institutional systems as well.

But for credentialed librarians, (as we were reminded last year by bitterly

contentious commentary after a talk by former McMaster University Librarian Jeffrey Trzeciak at Penn State) this shift arrives not without a great deal of justified anxiety about the future of the profession.<sup>[4]</sup> Do we face an erosion or devaluation of professional standards in librarianship? Does the incursion of differently-trained librarians herald lasting change, or is it the result of a temporary job-market fluctuation? Is the conceptual divide between scholars-as-patrons and librarians-as-personnel too deeply ingrained, either in humanities study or in library school, to be overcome in the workplace? We can perhaps all agree on one thing: PhD-holding librarians and alt-ac digital scholarship staff come at their work from a certain useful vantage. They have performed scholarship and experienced our humanities collections, interfaces, and services as students, as researchers, and as teachers—in a word, as library users. They are our new colleagues, who have taken a long look at librarians from the other side of the reference desk.

I've written a bit, from that helpful if uncomfortable vantage point, about what I see as a fundamental misunderstanding or misplaced impulse that we librarians inculcate in one another, in our dealings with faculty. It stems from one of the most lovely and crucial qualities of library culture—its strong service ethic—but poses a distinct danger to our participation in scholarly R&D. The impulse is to provide self-effacing service, projecting quiet and efficient perfection, with the abiding goal of *not distracting the researcher from his or her work*. A library may start this stratagem with the best of intentions, but it can lead to an ad-hoc practice of laying a smooth, professional veneer over increasingly decrepit and under-funded infrastructure—effectively, of hiding the messy innards of an organization from one's faculty, the very people who might become a library's strongest allies if the building in which they operate were not a kind of black box.

And then there's the degree to which the ingraining of an organizational service mentality can prevent librarians and library staff from engaging with faculty as true intellectual partners—from developing the kind of peer-to-peer relationships that foster frankness, fellow-feeling, and respect. These relationships are essential, for any given digital humanities project may benefit from a diversity of expertise, but absolutely requires unanimity of purpose in collaborative R&D. Both the voluntary impulse toward a smooth veneer and the grinding excoriations of the academic caste system blunt our notions of “good” service. And our most naturalized assumptions about how libraries best serve scholars are relevant to the core idea of the skunkworks, because a true DH research-and-development team is one library department that will never appear conventionally service-oriented.

### **Preserve Us (a Second Digression)**

We might therefore consider a digital humanities skunkworks operation not only as a site for research innovation, but as an organizational experiment in breaking away

from shop-worn service relationships. Clearly, not every institution is at the same stage of preparation for digital humanities engagement, and we do not all experience the same level of need in these matters. What I suggest will never present itself as a straight and narrow path, or be the right one for all occasions.

However, cultural heritage institutions tend to share one common direction, and thanks to a new emphasis by funders on data management, even independent digital labs and centers—those not administratively part of a library, archive, or museum—are waking up to it. The library world is deeply and rightly concerned with digital preservation. The most proactive among us have established metadata and digitization consultancy programs for affiliated scholars' projects. These are informed by and feed directly into libraries' digital preservation services.

Data preservation and curation are critical work, and if I am critical about them in tone, I don't wish to give the impression that they should be de-emphasized. (In fact, many libraries without intimate and longstanding relationships with the digital humanities actually need to *start* programs of this kind.) Preservation and curation programs are responsible and frankly necessary. But libraries launch them as our signature efforts in the digital humanities and then wonder why we sometimes feel kept at arm's length from the intellectual excitement of the scholarly projects we mean to benefit—or why the experts who staff digital services units are seen by faculty as service providers more often than as research partners.

Perhaps we should listen to ourselves. We broach subjects like digital curation in somber tones, “for the full life-cycle of the scholarly project.” We propose the creation of virtual research environments (or VREs) as an unquestioned good: scholars' workbenches, forming end-to-end systems that permit digital objects to be most easily collected and preserved by the library—often without realizing that these environments appear to scholars as hermetically-sealed boxes, *Matrix*-like battery farms, into which digital projects are born and from which they are never allowed to escape. We must learn to regard our professionally-designed prophylactic, advisory, and end-stage services from the scholar's point of view: “metadata requirements for digital preservation.” It is as if your nutritionist were your undertaker!

This kind of goal-oriented thinking, similar to the dev/test/production cycle in its stolid pragmatism, would be hard and not at all healthy for libraries to escape. And in fact, our native tendency to think teleologically and plan pragmatic paths can lead us to something better than a PR problem. Our tendency to *operationalize* represents the library community's best opportunity, at the present juncture, to make a meaningful *organizational* contribution to digital humanities scholarship.

## **The Scholars' Lab**

What if part of our obligation—part of the *operational service* libraries provided to the digital humanities world—were: to experiment; to iterate; to assert our *own* intellectual agendas as part of the DH research landscape; to be just as “bad” at service (conventionally conceived) as some of our scholarly partners are at being served? What if we were to advocate for embracing the salutary ephemerality of digital resources in cases where “dev/test/*discard*” is an approach that best gets scholars where they want to go—cases where we may only be *assuming* our partners care about preservation as much as experimentation, remediation, and intervention in a *current, contemporary* discourse field? What if our obligation were to play? To play *in public*? To make the things we want to see made? To collaborate like mad, with local scholars, other librarians, and the wider, public open source and open access community that encompasses them both? What if we were to enable sectors of our own organizations to demonstrate a path to production not just for stable content, but for *deliberately unstable* scholarly R&D?—to demonstrate many possible paths, that is, by walking them, and by sharing narratives of failure, success, and ongoing experimentation.

All of this is to ask: what would happen if we saw our libraries’ obligation to the DH community as being less about the provision of smooth and reliable services leading to the *continuation* of smooth and reliable services, and more about building on our own organizational and operational knowledge to model the digital humanities *being done well*? What examples of multiple paths to production might we set for traditionally educated humanities faculty, for graduate students at a moment of great transition, and for present and future generations of DH practitioners and alt-ac professionals?

The required components for doing DH well (that is, as a clearing of paths) in a library environment are simple: we need greater investment in digital humanities R&D groups that are fundamentally scholarly in staffing and inclination, and liberated enough to be skunky—in other words, groups that can pursue their own research agendas in a way recognizable as academic to fellow scholars—but which are nonetheless well integrated into the larger organizations around them. This kind of deep integration will allow the personnel of library-based DH skunkworks—and their protectors or ambassadors, library administrators—regularly to demonstrate high-profile examples of collaborative work, “in production” and fitted in various ways to the contemporary scholarly communications ecosystem. Regular, public demonstration in both the library and scholarly communities is key, because, in the schema I present, the primary function of a digital humanities skunkworks is educative: to make sure that others learn alongside it, both when the team succeeds and when it fails.

Models for this work therefore become essential. My own department at the University of Virginia Library (Digital Research and Scholarship, commonly known as the “Scholars’ Lab” or “SLab”) is one. It sits at the nexus of two large, internal divisions we have worked hard over the past few years to dismantle, merge, and blur. These

common library divisions were at one time called “Public Services” and “Production and Technology Services” at UVa—and no entity like the Scholars’ Lab can be launched without either balancing or obliterating the distinctions between them.

The UVa Library Scholars’ Lab was opened in 2006 in a beautifully-renovated, sunny space—the West Wing of the main floor of our flagship building, a humanities and social-sciences research library. It includes a suite of open offices, with a layout that keeps Digital Research and Scholarship staff close to the faculty, students, and community members who use our 4000-square-foot public lab. The SLab itself is set up for individual and group work at well-equipped workstations, “collaboration cubicles,” and around coffee-tables and moveable work-tables. We hold lectures, luncheons, and workshops in the Common Room of the SLab and in a large, adjacent classroom. There’s a little “ThinkTank” for small-group discussions, a seminar room, and a big lounge and workspace just off our offices, reserved for graduate students working in one of two signature initiatives: our individual Grad Fellowships in Digital Humanities and the collaborative internships of our Praxis Program.<sup>[5]</sup>

Organizationally, the SLab was a combination of three existing centers at UVa. Two were long-standing services of the Library: the Electronic Text Center (or Etext) and GeoStat, a Geospatial and Statistical Data Center—both of which had been in operation since the mid-1990s. Employees from a third center, for research computing support (ResComp), come our department not from the Library but from UVa’s central IT division. ResComp supports everything from statistical software licensing, distribution, and use, to hardware access and consultation for high-performance computing.

The combined staff of Etext, GeoStat, and ResComp knew their mission: they were dedicated to content production and walk-in or by-appointment consultation on digital tools and methods, whether these related to teaching and research with geospatial and statistical data or to the analysis and production of electronic texts and other media. They were the highly-educated service personnel of the Scholars’ Lab, and—at the point I joined the Library in 2007—despite holding higher degrees in the disciplines they supported, they all occupied staff or para-professional positions. In fact, the whole space of the SLab had been subtly designed to point patrons to a gigantic, always-on service desk, which had sometimes been described as “your one-stop shop” for help with digital scholarship in the humanities and social sciences.

But that was not the whole complexion of the department. We also included a little rag-tag crew lacking a name, a few developers who had migrated to Digital Research and Scholarship from elsewhere in the Library, and who had been in something of a holding pattern, waiting for the arrival of a new director. To date, they had not really considered themselves part of the SLab. Interestingly, this—rather than our public services staffing—became the group that, to an avid digital humanities audience beyond UVa, is most prominently and visibly identifiable as the “Scholars’ Lab.” They are our little

skunkworks R&D, a team of three to four developers, first ably managed by Bess Sadler and now by Wayne Graham.

Scholars' Lab R&D is a skunkworks operation by virtue of its protected position and the contrapuntal mandate we have developed for it within the Library. It is not a technical group regularly charged with supporting mission-critical systems like the catalog or our digital repositories, or with developing *only* those things that can be clearly specified and whose utility and desirability is well agreed-upon. That said, the team does a great deal of immediately useful work—helping to solve problems and prototype and improve services both within the Scholars' Lab and in the larger Library. Recent projects along these lines have included design and deployment of a discovery portal and web-services delivery system for GIS data and scanned historical maps, and the implementation of Omeka (together with plugins we have created for Fedora objects, Solr indices, and TEI) as a more stable and maintainable way for our Special Collections curators to offer online exhibits. They also undertake teaching (serving as key faculty for our Praxis Program, advising Grad Fellows, and offering a popular series on software development for humanists), collaborate on a number of specific discipline- or content-focused projects with UVa faculty, and are the home base for a funded R&D effort called Neatline, a digital humanities project centered around geo-temporal visualizations of archival collections.

Much of this activity falls under the rubric of a basic principle to which we have held in the Scholars' Lab, since it became evident that—although we are organizationally a department of the Library—we are resourced and staffed adequately and granted enough latitude to constitute a major digital humanities center in our own right. The principle is that we never forget to make our library-embeddedness meaningful. Primarily, however, Scholars' Lab R&D is a laboratory for speculative computing (Nowviskie, 2004; Drucker, 2009). A quintessential skunkworks, on a daily basis it undertakes an exercise the pioneering digital humanities scholar Jerome McGann called “imagining what you don't know” (McGann, 2004).

The difference between Scholars' Lab R&D and the purely academic, faculty-driven digital humanities teams with which I have been involved in the past is simple: our library faculty and staff have a deep appreciation of best practices in software development and deployment, and a first-hand understanding of technical aspects of the path to production. Furthermore, they understand the way that open source communities are cultivated and the benefits of investing in them. The digital humanities community pays a good deal of lip service to open source, but not many scholarly projects do it well. Most “open source” DH is only nominally so, in the sense that project owners may zip up and share their code on request, often with a degree of hemming and hawing about how it really should be “generalized out” from the idiosyncrasies of their particular content or

domain. This hesitation surely stems from the training of scholars in traditional humanities disciplines to work almost in secret, only sharing findings when they've polished them to perfection. Library technologists—accustomed to cooperation, to releasing code iteratively, and to working to deadlines and for broader audiences—more easily do open source well, and can thereby demonstrate its value.

For a group that collaborates closely with faculty and graduate students and responds to research agendas of its own collective making, those understandings (how collaboration functions in open source, and how a team moves projects from conception to production) can *themselves* make library-embeddedness meaningful. Scholars' Lab R&D serves for us as a conscious experiment in modeling effective relationships of research-and-development work by librarians and library IT, both to the digital humanities as an exciting community of practice, and to our own future—the future of libraries within a scholarly communications ecosystem experiencing rapid reconfiguration.

Our primary challenge lies in talking about what we do with a library audience. Running part of one's department as a skunkworks within a library setting can be uncomfortable. It helps that (as with the case of Blacklight, the open source OPAC we developed, which later catalyzed the multi-institutional Hydra collaboration)<sup>[6]</sup> the Scholars' Lab wins a Good Citizenship Award from our colleagues frequently enough to keep us out of trouble. We are also much beloved of our grad and faculty collaborators, who often credit us for a re-blossoming of digital humanities culture at UVa. We win some grants; we launch nice projects; we get good press. But we are not lulled into thinking that this makes the subversive side of what we do undetectable to our peers.

If there is one thing you already know about skunks, it's that there's no mistaking them.

## **Come With Me to Ze Casbah**

It takes a constant internal and external public relations campaign to run a skunkworks within a larger library department. Inside Digital Research and Scholarship, we constantly assess shared priorities and take the pulse of our collaborative spirit. Our own Outreach and Consulting staff are not at all out of line to ask R&D, “What have you done for me lately?” Beyond our own department, resource disparities come into play, with time itself—time spent on proactive experimentation as opposed to reactive or responsive service—emerging as everyone's greatest resource. In the context of the larger library, one valid question is: “What makes you so special?”

The primary management practice I use to keep things fair among Scholars' Lab personnel likely just pushes unfairness out to our borders—although here, too, models of operations done differently are useful. All faculty and staff in my department are granted

20% of their time to pursue self-directed (often, as it happens, collaborative) research and development projects. For software developers, who can command a higher salary outside the academy, this is a compelling benefit. For alt-ac staff, trained and acculturated as academics, time allotted for independent R&D is almost a psychological necessity.

Caveats are few: staff must share the outcomes of their R&D work in appropriate publication venues (relevant journals and conference proceedings, talks and workshops, informal blogs, code posted to open repositories, etc.), and they must be prepared, at the drop of a hat, to articulate how the work they are undertaking relates, even in oblique ways, to the larger mission of the department. Eligibility for “20% time” is extended to developers in our formal R&D unit as well as to GIS and statistics consultants, outreach and public services staff, and our departmental administrative assistant. This is a philosophical decision I stand behind: egalitarian awarding of research leave makes it evident that the Scholars’ Lab promotes a culture of enquiry and experimentation, top to bottom. But a director cannot expect to put practices like this in place without other departments taking notice, and without hard questions being asked about differences in management styles and job descriptions across his or her organization. Which brings me to a second truism: no one is especially excited to have a nest of skunks as neighbors.

I have observed library-based groups that operate like Scholars’ Lab R&D—but almost in secret. The value of a skunkworks to its encompassing, more traditionally organized institution evaporates if it remains covert. Mid-level library administrators should acknowledge that, if they hide units like these too securely (possibly even with good intentions, in order to protect them), they might not be operating a true skunkworks at all. There are fine lines between skunkworks operations and disconnected, wasteful, private empires—empires which are easily and rightly overthrown.

Although conversations can be difficult with colleagues who desire to run their neighboring departments without the perceived perks of R&D time and some non-operational mandates (or who must do so, simply because they do radically different kinds of work), transparency is essential. In the long run, we work on the theory that openness about the strategy behind our formal skunkworks, and frequent conversations about how skunky attitudes permeate everything we do, will create more spaces for innovation throughout the library and more opportunities for staff to collaborate and learn from faculty, students, and peers. If nothing else, it will help us, together, interrogate our ingrained notions of effective service and operate in a more mindful way across all library units. Likewise, we hope it will foster conversation about how *all projects* can walk their varied paths to production—no matter where they come from and regardless of whether they constitute technical innovations or changes in operations, originating with librarians or with our (increasingly blended or hybrid) digital humanities scholars.

Many of us sense that we are moving into a kind of alternative academic universe where long-held stereotypes of faculty and librarian personalities, research interests, devotions, inclinations, and native capacities break down. If that is true, it might be because there are always more skunks than you think.

It profits higher education little to protect or maintain sharp professional distinctions between the ranks of its own researchers and service providers. That said, formidable organizational and management challenges remain to fostering digital humanities R&D in a library environment. R&D “done well” is well-informed and well-integrated into the larger stream of digital humanities inquiry. It is legible to scholars not only as something that promises to meet a need, but that constitutes a research contribution in its own right: matching a scholarly mindset, scratching a disciplinary itch, or speaking to the academy’s commonly-held and deeply valued explorative ethos. Well-done R&D, in the terms in which I have presented it here, is also—despite the temptation it faces to hunker down and hide—frankly brazen about what it does, and why. It is also thoughtful in prompting its innovations to engage with both the scholarly community and their many publics, and surfacing the manner in which it drives all of these (research products and processes alike) toward solid, well-supported cycles of test and production.

For library-based R&D to play a meaningful role in the exploding arena of the digital humanities, this last piece is key. As the DH community grows, it desperately needs well-managed projects and teams that can serve as role models in demonstrating healthy paths to production. It needs spaces and practitioners that are capable of staging open, well-informed, and honest conversations about how any particular scholarly path should wend. Of all sectors of the academy, libraries and library-based centers are uniquely positioned to meet these needs—if we can embrace both teleological and non-teleological notions of our *own* paths. To waste the opportunity to foster digital humanities skunkworks at the moment they are most possible and most looked-for in the academy would, frankly—sorry!—stink.

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1. I'd like to thank the University of Nebraska Library for a 2011 invitation that afforded me the opportunity to introduce the Scholars' Lab at the University of Virginia as a practical and philosophical skunkworks. This essay stems from that talk. ↴
2. For an example of this "social contract," see Sadler, 2010. ↴
3. The most condensed accounting of the origin of the term "skunkworks" or "skunk works" can be found on Lockheed Martin's website and at Wikipedia:  
<http://www.lockheedmartin.com/us/aeronautics/skunkworks.html><http://en.wikipedia.org/wiki/Skunk>
4. See this round-up of responses, compiled by John Dupuis:  
<http://scienceblogs.com/confessions/2011/05/17/mcmastergate-in-chronological/> Trzeciak's talk itself is available here:  
<http://live.libraries.psu.edu/Mediasite/Play/c16bf3c92af14d76a316a5acb5faa0af> ↴
5. See <http://praxis.scholarslab.org/> and <https://www.scholarslab.org/graduate-fellowships/> ↴
6. See <http://projectblacklight.org> and <http://projecthydra.org> ↴

## 13. Evolving in Common: Creating Mutually Supportive Relationships Between Libraries and the Digital Humanities

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*ABSTRACT. The authors lay out practical ways for libraries to involve themselves in this evolving area, especially focused on current strengths of many libraries including commitments to resource accessibility and project development. Finally, this article proposes that the role of the research librarian is evolving in order to effectively integrate the library as a partner in the scholarship of digital humanities.*

### Introduction

Libraries and the humanities have always had a great deal in common. Each in their own way, they are tasked with collecting, organizing and preserving our shared, collective memory. They help us remember the past, understand the present and build the future. They are also both experiencing an extremely challenging historical moment where external critics are questioning their value. Libraries are constantly plagued by doubts about their continued relevance (DelGuidice, 2012) and gloomy assessments about the death of the humanities (Fish, 2008) are equally common. One could get the impression that both are shushing and critically-theorizing themselves down the drain hole.<sup>[2]</sup>

However, this is certainly not the impression one gets from the inside. Taking care to avoid any narrative that makes technology out to be a savior, it is clear that the recent relatively widespread adoption of digital tools by humanists has had an invigorating effect on both scholarly research and pedagogy. The Digital Humanities, as they are often called, is a broad term that covers many kinds of scholarly work. Some digital humanists focus on how technology is transforming teaching by giving students multiple and exciting ways to connect with course materials. Others focus on how the Internet has revolutionized scholarly publishing by making previously hard-to-find resources and

scholarship available to the world. Still others are experimenting with ways to ask questions and look for patterns in collections of digital texts using sophisticated programming and data visualization tools.

As different as these uses may be, a common thread that runs through each is the realization that technology is allowing humanities work to be both more engaging and more accessible. Similarly, libraries are undergoing revolutionary changes as information technology evolves to make a librarian's wildest dreams seem eminently possible. The roles and responsibilities of research librarians are shifting to encompass the broadening scope of scholarship, especially involving digital archival and special collections, digital tools and progressive service models. The research community, which has moved toward technology over the past 10-15 years, is coalescing around the ideas of open access to scholarship and the benefits to the public, the library and the scholar. Pairing with the digital push in the humanities, the library can reinvent its place in the cycle and production of scholarship.

There is a real opportunity in these parallel moments of technological innovation for exciting new partnerships to form between libraries and the humanities. Each section of this paper starts with a key text from the digital humanities community and tries to offer both a birds-eye view of the issues and practical ideas for libraries. The first section teases out the practical and philosophical reasons why digital humanities and libraries make natural partners. The second section focuses on how to make these partnerships work. The third section turns to the library as a physical space that is well positioned to be a hub for the kinds of experimental collaboration the digital humanities often generates. The final section begins to imagine new directions for libraries and librarians as they engage the digital humanities.

## **Why Digital Humanities? – on Spiro**

In her presentation "[Why Digital Humanities?](#)" (2011), Lisa Spiro outlines what she sees as the goals of the digital humanities. As the Director of National Institute for Technology in Liberal Education (NITLE) Labs and Editor of the Digital Research Tools (DiRT) wiki, Spiro focuses on five areas where digital humanities aims beyond traditional academic scholarship:

1. Provide wide access to cultural information
2. Enable manipulation of data
3. Transform scholarly communication
4. Enhance teaching and learning, and
5. Make a public impact.

To those of us who live in libraries, these goals should sound very familiar as concern for access and public impact are among our most important values. This convergence of values probably explains why there is already a rich tradition of library partnerships in digital humanities projects. Indeed some of the longest running and most venerated projects are essentially online archives and have often been produced by faculty-library partnerships. The Rossetti Archive at the University of Virginia, the Walt Whitman Archive at the University of Nebraska and Emory's Women Writers Resource Project<sup>[3]</sup> are just three examples of such partnerships where technology is used not only to provide wide access to valuable collections but to add value to those collections as well. Furthermore, emerging library resources such as digital repositories, cooperative linked data projects and technologically enabled collaborative working environments offer exciting new ways for scholars to work with libraries, not just in them. Even projects that build scholarly tools (such as the digital exhibit builder Omeka and the data visualization tool Voyant) are still generally focused on increasing access.

Even the goals on Spiro's list that seem to resonate less with traditional library work –manipulating data and transforming scholarly communication, for example – point toward exciting new paths for libraries. This is important because, as a recent [College and Research Libraries News article reported](#), “Academic libraries must prove the value they provide to the academic enterprise... unless we give our funding bodies better and more compelling reasons to support libraries, they will be forced by economic reality to stop doing so”(ACRL Research Planning and Review Committee, 2012).

The digital humanities offer libraries multiple ways to prove their value but they involve expanding beyond collection building and partnering with scholars in the act of creation. Whether these partnerships produce a website, a digitized collection with a built in text-mining tool, or a tool to add layers of meaning to maps, making “stuff” indicates effectively that there is work being done to provide valuable, useful, interesting content to an information-hungry world. Additionally, these projects have the ability to grow, develop, adapt and entice a wide variety of users including programmers, armchair historians, high-school students, and, potentially, funding bodies. Tying the library's strengths, people and ideals to tangible products of scholarly work, whether they be publications or not, will give libraries a powerful response the next time a legislator claims “it's all on Google anyways.”

Just as the digital humanities offer libraries an opportunity to expand into exciting new directions, libraries can help the humanities as they have also found themselves on the defensive in recent years. Eloquenty making the case for open access, itself an important issue for libraries, Kathleen Fitzpatrick, Director of Scholarly Communication for the Modern Language Association, [pointed out the need](#) for the humanities to take access and engagement more seriously. “Closing our work away from non-scholarly readers, and keeping our conversations private,” she writes (2012), “might protect us

from public criticism, but it can't protect us from public apathy, a condition that is, in the current economy, far more dangerous." Libraries are well positioned to help the humanities open up to the broader public.

There are a few specific things libraries can do to make it easier to begin these partnerships. For example, establish a digitization strategy that gives priority to collections that are unique and particularly attractive to users. Subsequently, ensure that users can get the most out of these collections by making them searchable and linkable by format, metadata and persistent URLs. Lastly, promote digital collections to the point that only those faculty members who are conducting research under large rocks will be unaware of them.

### **What is Digital Humanities, and What's it Doing in the Library?**

In the summer of 2010, Matthew Kirschenbaum, Professor of English at the University of Maryland, published a piece for the Association of Departments of English titled "[What Is Digital Humanities and What's it Doing in English Departments?](#)" That piece became one of the central works in defining the movement toward a Digital Humanities (DH). Kirschenbaum's thesis is that over time "digital humanities has accumulated a robust professional apparatus that is probably more rooted in English than any other departmental home" (2010). As definitive (and well-supported) as that claim is, he leaves room for an expansion and ends the article writing that:

...Digital humanities today is about a scholarship (and a pedagogy) that is publicly visible in ways to which we are generally unaccustomed, a scholarship and pedagogy that are bound up with infrastructure in ways that are deeper and more explicit than we are generally accustomed to, a scholarship and pedagogy that are collaborative and depend on networks of people and that live an active 24/7 life online.

In this publicly visible, collaborative, online network and infrastructure, the Library should begin to see potential to become a true scholarly partner.

These partnerships need not be viewed as a radical departure from the traditional strengths of a research library. Indeed, these strengths mirror and complement the needs at the core of the digital humanities. Librarians have a sophisticated understanding of copyright and fair use, ready access to a wealth of material culture, a keen sense of the organization and usability of information and the enthusiasm and passion to see a project through. Additionally, scholars with graduate degrees are often turning to the library to pursue careers outside the traditional tenure track. While the presence of scholar-librarians is not particularly new, the current crop of so-called Alt-Acs<sup>[4]</sup> (alternative academics) is increasingly being called upon to occupy the space between the library and the academic departments and serve as digital ambassadors and

experimental researchers.

Keen to exercise both their library skills and their academic training, these new librarians are often eager to develop projects with colleagues both in the library and in the departments. Some research libraries, anticipating these partnerships, have established centers to facilitate digital work. The Scholars Lab at the University of Virginia, Maryland of Institute of Technology and Humanities (MITH) and the Digital Scholarship Commons (DiSC) at Emory University are each focused on finding ways to leverage their experiences and strengths so that the Digital Humanities can thrive in the library.

Even in libraries that have not established dedicated digital centers, partnering on digital projects is common for library staff. An [ARL SPEC Kit](#) completed by library staff at Emory University found that nearly half of the libraries that responded to the survey support digital humanities work at some level (Bryson, Posner, St. Pierre & Varner, 2011). However, the survey also revealed that this support is generally ad hoc with processes being created on the fly for each project individually. As it is now clear that partnering with scholars on digital projects is an exciting new direction for libraries, creating a well-thought-out process for how these partnerships work is a valuable use of time. Here are a few points to keep in mind:

- At the conception of a project, assess what copyright and intellectual property questions might emerge. Many digital projects depend on digitizing items and making them available online. It is important to determine what legal and the ethical challenges may emerge in doing so.
- If it is legal and ethical to digitize items, the library will also want to determine if it has the capacity to do so. Many libraries have established digitization programs with set strategies for determining which items are processed and in what order. If your library has done this, see if it is possible to get the to-be digitized items into the queue.
- Decide what applications your library will support and what it will not. The trick is to find the fewest number of tools you can offer while satisfying the most needs. Look for reusable, open-source tools with large user communities. For example, WordPress and Omeka are excellent, easy-to-use tools for creating web pages.
- After you have answered all the questions about how you are going to build your project, decide what is going to happen when you are finished. Can your library continue to host the project as long as it is active? What about long-term preservation? Unlike books, many digital projects continue to grow even after they are “finished” and you cannot just stick them in a climate-controlled room when you are ready to archive them. It is crucial that everyone understands these challenges and that agrees to the same plan.

## **What do you do With a Million Books, Screwmaneutically Speaking: the Library as Place – on Ramsay**

Wayne Wiegand, historian of print culture and libraries, has a [simple mantra for libraries](#); he says that rather than understanding “the user in the life of the library, we must see the library in the life of the user”(2005). Clearly, many of the changes we have seen in libraries in recent years have been in response to the evolution of the library user. Computer terminals have replaced the card catalog, programming now includes training in effective web searching, and coffee is always close at hand.

As the library continues to evolve, it must increasingly function as a place where scholars can try new things, explore new methodologies and generally experiment with new ways of doing scholarship. Stephen Ramsay, Associate Professor of English at the University of Nebraska-Lincoln and a Fellow at the Center for Digital Research in the Humanities, in his [The Hermeneutics of Screwing Around; or What You Do with a Million Books](#) (2010) suggests that browsing, in opposition to searching, is a cultural imperative. Browsability, in the most traditional sense, is still a relatively sore subject in librarianship. As resources move digital, and space is reallocated from stacks to “labs” and “commons,” the argument has been that browsing is non-imperative to the mission-critical tasks of the modern library. However, as Ramsay puts it:

It’s not a matter of replacing one with the other, as any librarian will tell you. It is rather to ask whether we are ready to accept surfing and stumbling—screwing around, broadly understood—as a research methodology. For to do so would be to countenance the irrefragable complexities of what ‘no one really knows.’ Could we imagine a world in which ‘Here is an ordered list of the books you should read,’ gives way to, ‘Here is what I found. What did you find?’

The library can no longer be simply a place to get the right answers or to be directed to the correct resource; it must facilitate Ramsay’s “Screwmeneutical Imperative” in browsability and playfulness. The reference interview, guiding a patron to a specific research question in order to provide a specific research answer, rather than offering a method of way-finding, needs to adapt to allow for exploration, particularly in dealing with scholars and students in the humanities.

Further, the library must be willing to allow dedicated time for what happens after exploration. The “serve ‘em and send ‘em along” model is no longer serving a patronage whose information needs include planning, building and executing projects that utilize the strengths of librarianship (information organization and broad contextualization).

Reframing the library as a productive place, a creative place engaged in producing and creating something – whether that be digital scholarly works or something else entirely – will open the door to allow the library into the life of the user. One role for the

library in DH, then, is to support the journey of research as a means in itself, and encourage imaginative, new, transformative uses of the products of research.<sup>[5]</sup>

Paradoxically, the best way to understand where to begin transforming the library into the kind of space where experimental digital humanities work can thrive is to leave the building, literally and virtually. Don't wait for users to come to you and tell you what they want; get out into the community to get a sense of what people are working on. For example:

- Attend events put on by the departments and centers you work with. It will be particularly valuable to attend events where scholars present their work. In addition to events like prospectus defenses, many departments host colloquia for the express purpose making sure everyone knows what everyone else is working on.
- In addition to keeping up with what is going on in person, sign up for department listservs and keep up with social media, if that is common in the department you serve. Also, become a fountain of information in these channels by announcing resources, projects and events.
- See if there are councils or committees that might like to hear from you. Most colleges have umbrella organizations like the Humanities Council or the Social Science Committee. These groups are often great resources for thinking about campus-wide initiatives and are, thus, an important source of information and a potential venue for librarians who want better understand and even influence the way scholars use the library.

In addition to keeping up with what is going on around campus, it is important for librarians to be connected to what the broader Digital Humanities community is talking about. By keeping up with this network, librarians are able to see trends that may not have reached their campuses yet and get ideas for projects from leaders in the field. Here are a few tips on how to stay current:

- Get involved in the online social networks where Digital Humanities is a big topic. For better or worse, DH communicates via Twitter. Pictures of [cats](#) and lunch are kept to a minimum but conferences and projects are announced and questions are asked and answered.
- Once you have signed up for Twitter, follow [Digital Humanities Now](#). This resource filters the overwhelming quantity of writing about Digital Humanities and delivers only the work that gets the most attention.
- Attend (or host!) a [THATCamp](#)
- Read Lisa Spiro's fantastic blog post, [Getting Started in the Digital Humanities](#)
- Join [ACRL's Digital Humanities Discussion Group](#), a recently formed venue for

ACRL members to meet and share ideas related to Digital Humanities and the role of librarians in this emerging discipline.

- Familiarize yourself with the tools that exist to facilitate digital scholarship. The [Digital Research Tools](#) (DiRT) Wiki is a directory of tools, services, and collections that can facilitate digital research, is an incredible resource for faculty and librarians alike.

By understanding the kinds of work scholars on your campus are doing and being familiar with the work being done at the cutting edge of digital humanities, you will be well positioned to make your library an integral part of the intellectual lives of your users.

### **#Alt-LIS, Skunks, Hybrarians and “Strange Institutions” – on Nowviskie**

Recognizing why and how libraries can be an important part of the digital humanities and reimagining the space of the library itself all points toward a deeper, more fundamental shift that is underway. This is also connected to the other transformations and upheavals that have characterized the recent history of research libraries. Altering the organization of the institution, doing away with reference desks, introducing new media, and all other growing pains libraries endure are ill-informed developments if the librarians, paraprofessionals and support staff have not re-imagined themselves and their skill-sets.<sup>[6]</sup> Digital humanities, already redefining the humanities and scholars therein as per Kirschenbaum’s aforementioned piece, offers a looking glass through which to step. As mentioned above, the shift toward alternative appointments in libraries (#alt-LIS = scholarly communications, digital humanities librarians, data librarianship, E-Science, digital archivists, project-based appointments, etc.) is building the capacity for the library to be productively integrated in digital scholarship.<sup>[7]</sup>

Bethany Nowviskie, Director of Digital Research & Scholarship at the University of Virginia Library, is an advocate for this great migration away from traditionally understood librarian roles. Several articles available on her blog, “[Fight Club Soap](#),” “[Lazy Consensus](#),” and “[A Skunk in the Library](#),” challenge the concept that a good librarian is a servant to the academic community, sitting in wait to provide for whatever the need may be. She writes, plainly and boldly:

...[There is] a fundamental misunderstanding that librarians make in our dealing with faculty – and it comes down to what is, honestly, one of the most lovely qualities of library culture: its service ethic... The impulse is to provide a level of self-effacing service – quiet and efficient perfection – with a goal of not distracting the researcher from his work. You start this with the best of intentions, but it can lead to an ad-hoc strategy, in good times and bad, of laying a smooth, professional

veneer over increasingly decrepit and under-funded infrastructure – effectively, of hiding the messy innards of the library from your faculty, the very people who would be your strongest allies if the building weren't a black box (2011).

These kinds of statements produce a high level of anxiety in librarians. However, approaching a new frame of mind as an opportunity rather than a death sentence would seem to be the more productive response. Accepting the responsibility to (quickly) adapt and evolve may incite a greater enthusiasm for the library among patrons, and propel its changing role in scholarly processes.

At the July 2011 meeting of the Scholarly Communications Institute, of which Nowvskie is a Co-Director, Shana Kimball, Head of Publishing Services, Outreach & Strategic Development for MPublishing at University of Michigan Libraries, [proposed the idea](#) that what is necessary are more “strange institutions,” blending libraries, research centers, publishing houses and technology-producers (2011). These peculiarities, she goes on to comment, would require a workforce of “Scholar Programmers,” elsewhere called “scholar technologists,” or in the context of the library, hybridarians. More often than not, this new breed of worker is not-necessarily an MLIS holder, to the chagrin and horror of library-land. However, DH, and those invested in its future, are seeking these skill-sets, again providing an open door for librarians to revamp their self-perception and thus their perceptibility. Echoing Nowvskie's Fight Club reference, and as a challenge to librarians, “You decide your own level of involvement.”

Part of the process of deciding your own involvement will be deciding what you can give up. By now it is obvious to anyone who has been paying the slightest bit of attention that the job of the librarian is changing in ways both large and small. While librarians have a great history tackling new responsibilities they still have to deal with the constraints of the time/space continuum. Librarians – and, very importantly, library administrators – will have to take a look at the workload and see what could change. The absolutely crucial thing to remember here is that new roles and responsibilities do not require an entirely new staff (though you may need a bigger one). Librarians are, practically by definition, intelligent, curious and adaptable. They are not afraid of new challenges but they are afraid that they will not be given a chance to face them. With the right support, an experienced librarian can play a pivotal role in helping the library effectively and meaningfully engage with the digital humanities.

## **Conclusion**

In closing, several points remain. This has all been said before.<sup>[8]</sup> There are already advocates inside and outside the library for deep collaboration on projects that fit into the DH mold. What, then, is digital humanities and what's it doing in the library? In every real sense, the library always/already has the necessary pieces in place to support,

engage in and do digital humanities work. The underlying issue is simply this: Digital Humanities doesn't have a place in the library. Digital humanists do.

“Librarians” working in and across digital areas, who have been called many things over time, need to proudly identify themselves as DHers, and fully expect to be regarded as such by peers, colleagues, faculty and administrators, and let the broad work they do engage with that community.

The problem is not browsing or access; it is timidity. And until librarianship moves away from our academic inferiority complex, and embraces the calling of digital work in contrast to the vocation of servitude, digital humanities will continue to be led by smart, capable, progressive faculty members in English and History. Quoting Ramsay again, in order for the library to do digital humanities it must embrace the charge to become “a bunch of people who had found each other through various means and who were committed to the bold and revolutionary project of talking to one another about their common interests” (2012) outside the four walls of the library.

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2. See also The Huffington Post’s Libraries In Crisis section - <http://www.huffingtonpost.com/news/libraries-in-crisis> ↴
3. <http://www.rossettiarchive.org/>, <http://www.whitmanarchive.org/> and <http://womenwriters.library.emory.edu/> ↴
4. <http://mediacommons.futureofthebook.org/alt-ac/> ↴
5. Also noted in the recent CLIR report “One Culture. Computationally Intensive Research in the Humanities and Social Sciences.” Brief commentary with links to the report available at <http://digitallibrarians.org/node/6150> ↴
6. For recent news items about these developments see: <http://www.npr.org/2012/05/29/153900929/libraries-grapple-with-the-downside-of-e-books>, [http://www.libraryjournal.com/lj/home/890714-264/librarians\\_are\\_the\\_future\\_mls.html.csp](http://www.libraryjournal.com/lj/home/890714-264/librarians_are_the_future_mls.html.csp), <http://lj.libraryjournal.com/2012/02/academic-libraries/harvard-library-releases-org-chart-offers-buyouts/> ↴
7. From a session at THATCamp Southeast (2012) titled “Alt-LIS OR The Question of the Hybrarian OR What is digital humanities and what’s it doing in the Library?” Accessible at <http://southeast2012.thatcamp.org/03/08/alt-lis/> ↴
8. See: JISC: [Does the library have a role to play in the digital humanities?](#), Jennifer Vinopal’s [Why understanding Digital Humanities is key for libraries](#), [Digital Humanities: Roles for Libraries](#) by Hitoshi Kamada, [Roles of librarians in digital humanities centers](#) from the Digital Libraries Initiative 2010 meeting. ↴

## 14. NYPL Labs: Hacking the Library

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*ABSTRACT. Over the past couple of years, The New York Public Library has made significant strides in jumpstarting a digital humanities research program through the establishment of a curator-focused, R&D technology unit called NYPL Labs. This article will examine the first three projects produced by Labs, a trilogy of online experiments exploring methods of mining new humanities data sets from special collections material, and of translating the Library's public mission to the web via user collaboration and crowdsourcing. In just two years, NYPL Labs has demonstrated how much can be accomplished when technical resources are focused and procedural constraints loosened, though the challenges of sustaining this work are already becoming apparent as the team must continue to innovate while maintaining a growing portfolio of projects.*

The New York Public Library (NYPL) is a strange platypus: a sprawling branch library system, with 88 facilities serving neighborhoods across three of the city's five boroughs (Brooklyn and Queens, formerly separate towns, have independent systems), crowned by four research centers of international stature, with collections rivaling those of the world's great academic libraries. In contrast to their university counterparts, NYPL's research libraries have no resident faculty or student body. They are open and free to the public, serving a diverse array of independent researchers, artists, writers and miscellaneous autodidacts drawn to the exhaustive collections, deep archives, free electronic resources and lofty spaces. In this respect, NYPL more closely resembles the Library of Congress, the British Library, or any number of other national libraries, yet it is also a quintessentially New York institution, conditioned by the dense urbanism and intellectual energies of the metropolis. And its collections, with notable concentrations in Anglo-American literature, the performing arts and black culture, have been shaped indelibly by the literary, political, artistic and ethnic strands of the city's history.

The NYPL's century-old flagship central branch, renamed the Stephen A. Schwarzman Building in 2008, sits at the epicenter of midtown Manhattan (5<sup>th</sup> Avenue between 42<sup>nd</sup> and 40<sup>th</sup> Streets), on a site that at various points in the layer cake of New York's history held bodies (a potter's field), 20 million gallons of fresh water (the Croton Distributing Reservoir), a crystal palace (Exhibition of the Industry of all Nations, 1853)

and since 1910, one of the world's great repositories of human knowledge, now totaling 4.5 million books and over 60,000 linear feet of archival material.

NYPL Labs (Labs), an unlikely crew of artists, hackers and liberal arts refugees, works in the south courtyard, in a decade-old architectural insertion dug directly into the building's foundation — like a bit of extra RAM slotted into the aging library motherboard. Labs is a new group, several years in the making but only acquiring full-time staff in the past year. Like many cultural organizations still reeling from the digital shift, NYPL has undergone frequent reconfigurations of its technology staff in recent years, establishing large new teams with broad mandates only to dismantle and redistribute them after a couple of years as leaders came and went.

Labs emerged amidst one such transition, as part of a strategic planning process that sought to better position the NYPL vis-à-vis the burgeoning field of Digital Humanities. Focusing on NYPL's public mission and deep collections, the program was sketched with a heavy emphasis on user collaboration and open data, envisioning a kind of in-house technology startup that would venture proactively into the library in search of curatorial collaborations. The work was envisioned as inherently inter-disciplinary, empowering curators to think more like technologists and interaction designers, and vice versa.

Labs' first round of investigations built directly on the foundations laid by a now shuttered unit called the Digital Library Program (DLP), which had served from roughly 2000-2008 as a soup-to-nuts digital production and curation team, covering everything from scanning to metadata creation to software development. Through the DLP's efforts, NYPL digitized sizeable portions of its visual research material, making many of its most prized collections accessible on the open web, along with lesser known curiosities. The great public legacy of this work is the [NYPL Digital Gallery](#), which launched in 2005 and remains heavily used to this day.

The Digital Gallery marked the NYPL's first major effort toward large-scale public access to digitized content. Despite a few redesigns, and a near quadrupling of the amount of material it provides, the site's architecture and user interface remain largely the same as when it launched seven years ago. The site provides free, straightforward access to approximately 800,000 digital images: one of the largest open cultural heritage repositories of its kind. There you can digitally peruse a wide range of visual marvels ranging the full history of photography, and a dazzling range of prints, illustrations and other visual documents.

Given a strong directive to experiment, but with minimal access to the NYPL's digital infrastructure (and without any remit to digitize new collections), NYPL Labs looked to the impressive legacy left by the DLP and imagined ways of going deeper with certain collections already available via the Digital Gallery. These projects looked at digitization as a beginning, not an end, the first step in a process of remediation and user interaction that might lead to entirely new derivative collections and data sets native to

the digital medium. And, in the process, new experiences for the publics who engage with them.

### **The Map Warper: How to Build a Time Machine**

The sine qua non of Labs' work is the [Map Warper](#) (2010), a project that predates the formation of the team and whose existence was crucial in making the case for establishing the curator-focused digital skunkworks<sup>[1]</sup> that Labs has become today. The Warper project is helmed by a geospatial librarian and like all but one of Labs' six members, the geospatial librarian<sup>[2]</sup> comes from a non-library background, having studied art and cartography, but his hybrid sensibility makes him an ideal curator for a collection so uniquely poised for digital transformation. The art and science of mapping have undergone a revolution in the digital era that can hardly be overstated. The most quotidian interactions with maps today draw upon startling convergences of data that allow us to query a vast range of information within the frame of a specific locale.

In Google Maps, for instance, or any comparable digital map service, one can search for "Soho NYC" and be dropped directly into this neighborhood on the western part of lower Manhattan between Houston and Canal Streets. From there one can view up-to-the-minute traffic conditions, overlay public transit routes, bring up user-generated photos of the area, even check the local weather conditions. One can also search for restaurants, banks, shops, theaters etc., and read reviews and ratings of these places — even do a virtual walk of the storefronts. And all of this is via an intuitive interface in which the Earth is rendered as seamless spatial canvas through which one pans, zooms and queries. Today this startling ability is commonplace. It is how we expect maps to work.

These advances in geospatial technology led to an extended thought experiment for the Labs team: could a historical equivalent be built (at least for New York City) of Google Maps (or more properly, its open source competitor, Open Street Map)? Essentially, a digital map interface with a "go back in time" function, allowing you to compare changes in the urban landscape over the years. Imagine if the Library's vast quantities of New York City historical source material could be retrievable through such an interface.

The mind boggles when one extrapolates outward because what is being imagined is a kind of time machine: detailed, drillable layers of urban history down to the individual address or landmark. And when the lens expands outward to include other library collections with a geographical dimension (both at NYPL and beyond) — residential and business directories, local newspapers and periodicals, literary archives, corporate records, photographs, prints, menus, playbills, church registries, the list goes on — one begins to see an intricate needlework of inter-stitched data, cross-referencing through

time and space.

On the NYPL Digital Gallery today one can explore thousands of digitized New York City maps, originally published by fire insurance or real estate companies, whose businesses depended on fastidiously detailed records of the City's layout and architecture down to the individual structures. Taken in the aggregate, these maps comprise a dazzlingly granular data set of the built environment of New York City going back hundreds of years. But scanning the maps does not automatically give you access to this data.

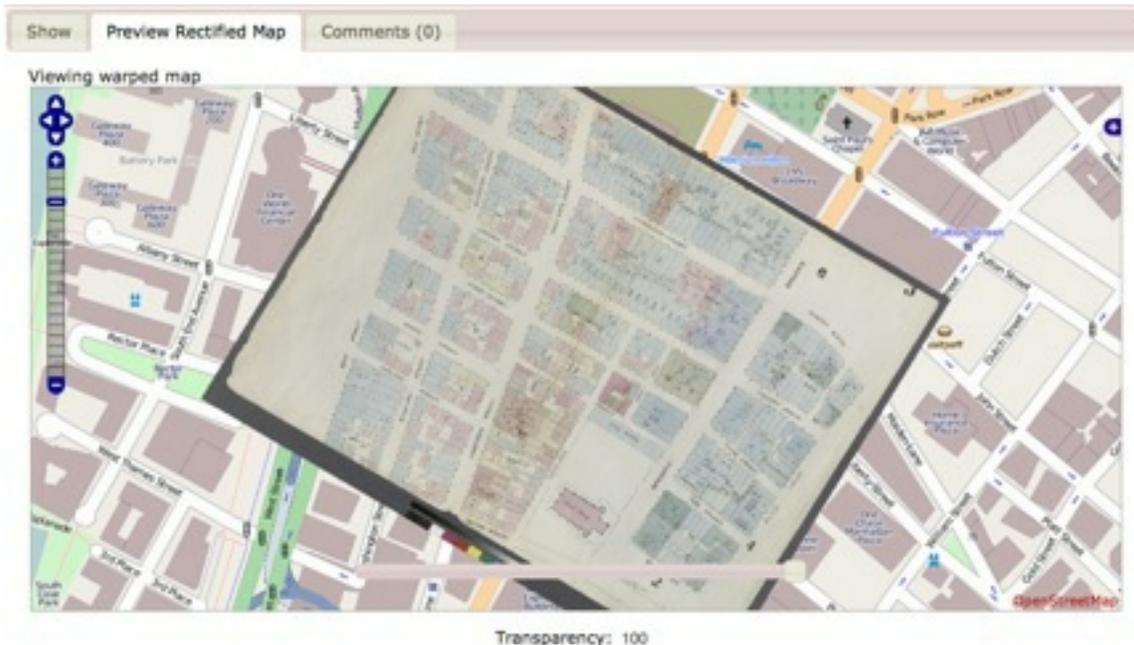
A simple geographic query in the Digital Gallery, say for "Wall Street", illustrates the limitations of the available bibliographic records. Atlas sheets of lower Manhattan with Wall Street running right down the middle of the page often, frustratingly, will fail to turn up in the results. The metadata tends to contain only the bounding streets of the handful of square blocks depicted on a single sheet: the data on the edges. Information on such edges is in relatively good supply since it is by these edges that the traditional user of a bound atlas volume has to mentally stitch together geography that has been sliced and diced into paged denominations. But maps, in their essence, are not naturally codex-shaped. They contain many nested edges, an infinite number of possible frames of inquiry, and the names of interior streets are just the tip of the massive iceberg of submerged data — street addresses, named landmarks and building footprints with all their related attributes (e.g. wood structure, three stories, commercial use etc.) — that can be extracted only *after* the maps have been digitized. To get at this data, Labs created the Map Warper. (2010)

The Map Warper toolkit, developed by an external geospatial technology firm called Topomancy, is an open source, web-based alternative to commercial software such as ArcGIS designed to create, compile and analyze geographical data. The Map Warper is used heavily by Map Division staff, and also by members of the public, who are invited to create an account and learn to work with our maps through a video tutorial. Or, if based in New York, users can learn directly from staff in our Citizen Cartography workshops, held on a roughly monthly basis in the Map Division reading room.

With the help of a generous grant from the National Endowment for the Humanities, tens of thousands of NYC atlas sheets have been digitized in recent years and fed not only into the Digital Gallery, but into the Map Warper, where, through a series of manipulations, they are enriched with spatial reference information.

Here is how it works: once maps have been scanned and converted to high resolution digital images, users (both Map Division staff and interested members of the public) walk the maps through a process of "georectification." Also known as "rubbersheeting" or "warping," georectifying is the process of aligning pixels on an old map to precise latitude/longitude points on a contemporary virtual map. Given the high precision of the insurance atlases, the process works remarkably well, resulting in near-perfect synced

historical maps that can be viewed against today's geography.



*Rectified map of several square blocks in lower Manhattan, 1857*

After warping, users then crop away page borders and any other non-map information and proceed to tie the atlas sheets into comprehensive layers. This is when the maps truly begin to transcend their original format: the books are unbound, their pages laid across the geography they describe. For example, an 1854 New York street atlas created for insurance companies by the civil engineer and surveyor William Perris, becomes Layer 861. This layer appears as a seamless canvas of streets, blocks and buildings that lies across Manhattan Island like a quilt running from the Battery up to 42<sup>nd</sup> Street (calling to mind Borges' famous parable of the map so exhaustively accurate that it literally draped itself across the territory at a scale of one to one). This layer is a new type of library resource: a skein of historical geodata that can be freely downloaded and explored in programs such as Google Earth or Quantum GIS, and potentially mashed up with other data sets.



*William Perris street atlas (1854-55) in Google Earth*

But warping, cropping and layering are just, as it were, the groundwork. Next comes the real time-eater: capturing by hand (via polygon tracing tools and text transcription) the vast quantities of information contained in the maps which are readily viewable to the human eye, but invisible to machines. In GIS parlance, this is called digitizing “features” from the maps — rendering them in machine-readable forms. In the case of the NYC atlases, the features include ward boundaries, landmarks and points of interest, hydrography, building footprints, addresses, and anything else the map may convey via writing, color coding or other markings. Great strides have been made in harvesting these sorts of data from the afore-mentioned 1854 William Perris atlas (Layer 861). As of this writing, over 58,000 building footprints, with their corresponding attributes, have been traced from the georectified map mosaic. This represents yet another derivative resource, another skein of data that can be visualized, analyzed and referenced in the digital datascape.



*Abstraction of William Perris 1854 building data in QGIS*



*Detail of Layer 1861 building data viewed as overlay in Google Earth*

NYPL Labs and Topomancy are now at work on a spin-off project: a geographical index, or gazetteer, of historical New York City. This database and web service, provisionally titled “NYC Chronology of Place,” will contain place names and geospatially bounded locations going back to the beginnings of the city’s recorded history. It will aggregate both existing public data sets such as GeoNames, Open Street Map, and historical county and ward boundaries, as well as the fine-grained, hand-gathered features from the Map Waper, tracking changes to the built environment over time. The gazetteer will function both as a web-based directory of New York’s geographical past, and as a historical georefencing service: a tool for placing pins on maps, not only in specific places, but specific times.

However, the vast majority of feature digitization has been within map layer 861, covering approximately eight square miles of Manhattan Island in 1854. To continue harvesting data at this level of detail and to populate the gazetteer, Labs will have to ramp up the crowdsourcing efforts around the project, which at this point are relatively modest. Though there have been notable successes (one user, for instance, single-handedly georectified nearly an entire Brooklyn street atlas, well over 200 sheets), public participation is currently more of a supplement to work carried out steadily by Map

Division staff. The Labs team is currently doing some initial work on making these currently expert-level tools a little more user-friendly, and even contemplating more game-like experiences to engage a broader audience.

## **What's on the Menu: Deeper Into Crowdsourcing**

The next project that took shape, and the first to be launched formally under the Labs rubric, put user collaboration more squarely in its sights.

The [menu archive](#), begun by a donation from Miss Frank E. Buttolph, is one of those testaments to the wildly omnivorous collecting carried out by The New York Public Library in its more than a century of existence. Comprising more than 45,000 items going back to the 1840s and the origins of public dining culture, it is the largest collection of its kind, with particular strengths in New York City in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries.

The collection has always been popular, playing a prominent role in two major NYPL exhibitions in the past decade alone: “New York Eats Out”, curated by former *New York Times* food critic William Grimes, whose book *Appetite City*, on the origins of New York restaurant culture, is based heavily in research carried out in the NYPL’s menu archive; and the currently running “Lunch Hour NYC”.

Culinary and social historians consult the collection frequently, as do novelists looking for period detail (e.g. the price of a pint of beer on the Bowery in 1870), and of course chefs seeking gastronomic inspiration. For most of the collection’s history menus were arranged in boxes by date, and for years this was the only way researchers could request them. A decade or so ago, on-site volunteers created bibliographic records for approximately two thirds of the menus, resulting in an online database where users could query by keyword, enabling them to search for particular restaurants, social organizations or other peculiarities, and to request specific menus by call number.

Anyone wanting to investigate the actual *food* in the menus, however, had to pore through them by hand and see what they stumbled upon. There was no way to ask questions of the collection as a whole, for example, to request all menus with “abalone” or “macaroni”, or to observe the changing price of coffee over the decades, or to uncover the first appearance of instant coffee or diet soda. A few researchers had made such queries the old-fashioned way: going through thousands of menus individually by hand. In 2005, an oceanographer from Texas A&M University meticulously traced the fluctuating prices of seafood over decades of menus, making inferences regarding the health of local fisheries over time. A culinary historian from Yale University conducted a close reading of thousands of late 19<sup>th</sup> century New York hotel menus to paint a more nuanced picture of high-end dining in that era.

But to all but these brave few, the archive remained opaque, its data riches still

largely untapped, despite the fact that nearly a quarter of the collection was freely available online via the NYPL Digital Gallery. A librarian, who specializes in culinary collections, along with the curator of the Rare Book Division<sup>[3]</sup> (where the menu collection is housed), began to look into what it would take to get full-text access to this already digitized set of menus.

OCR (optical character recognition) scanning would undoubtedly get usable output from a portion of the menus. But many items are handwritten, or printed in idiosyncratic type fonts or fanciful layouts. Moreover, as initial conversations progressed in Labs, we agreed that what was of most interest was building a *structured* data set out of the menus, where each individual dish had an instance (and, frequently, a relationship to a price), and that these instances could be tracked, aggregated and visualized. Given these aims, manual transcription into a predefined schema seemed the best way to produce a high quality data set. But who would carry out this immense work? Drawing on our modest user collaboration through the Map Warper, and considering the persistent public interest in the menus (and in all things culinary), this seemed like the ideal project to push the crowdsourcing experiment further. And so *What's on the Menu?* (WOTM) was born.

A no frills beta version launched in late April of 2011 and was an immediate success. From the get-go, Labs had made usability of the core transcription tool the top priority. We were banking on the task being not only simple and easy, but ideally fun (and maybe even a little bit addictive). Technical resources were tightly limited (the WOTM menu was built entirely as a spare time project by a few developers on NYPL's web team), and there was no official project staff (as in the Map Division) to keep the work going if public participation waned. So getting the tool right, and broadcasting a clear motivational message ("Help The New York Public Library improve a unique collection"), were essential. Taking the pulse of the Twitter feeds in the days and weeks following launch, and observing how quickly users were making their way through the menus, Labs knew it had hit the mark.



*Menu transcription interface*

By mid-summer, Labs was nearly finished with the initial batch of digitized menus and were scrambling to begin moving the rest of the collection in the direction of the scanners. The sudden real-time public demand for fresh digital content was something NYPL had never experienced in quite this way, where there was something very specific users wanted to *do* with the collection, and right now. The site continued to draw attention from press, blogs and social media. A class of deaf fourth graders in San Antonio were even using the site to practice typing skills. It was no small feat to re-prioritize digitization queues, re-assign staff, and establish a reliable new process for maintaining steady stream of new menu content to the site amidst competing priorities. And although these efforts were largely successful, thanks in part to generous start-up assistance from the NEH and IMLS), Labs still periodically had to endure content droughts, sometimes a week or more, during which we would be assailed by benevolently impatient emails and tweets from the hard core users.

Unlike the Map Warper, which requires users to create an account in order to take part in the georectification and feature digitization tasks, WOTM does not require (or even offer) registration. This was a deliberate choice at the outset, to keep the barriers to participation as low as possible. Labs built in basic security measures using browser session tracking to prevent abuse or malicious scripts. To this day, we have seen virtually no instances of vandalism and the general quality of transcription is exceptionally high. Menus go through a basic workflow. “New” menus are fresh from the scanners and ready to be transcribed. When a user finishes a menu, they promote it to the “Under Review” category, where it remains editable and project interns and other users can look it over

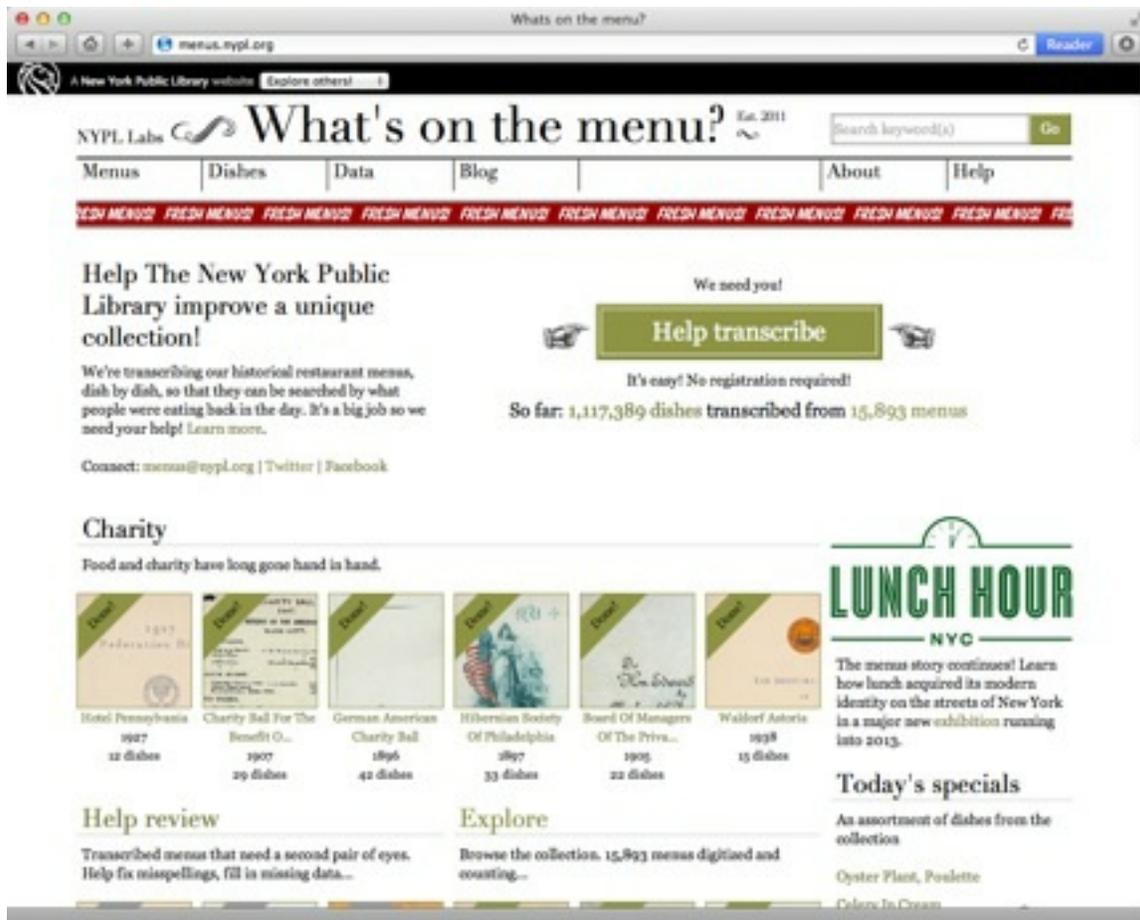
for mistakes or missing data. From there, it gets nudged into the “Done” pile, where editing is turned off. Users can always email the site administrators if they spot further errors, and the menu’s status can be changed.

Despite the success of the low-barrier approach, the staff in Labs sometimes lament that we were not better able to recognize the contributions of the top transcribers, or to develop a hierarchy of tasks where more challenging work might be offered to the more experienced participants.. Beyond raw analytics, all of the user stories are anecdotal, but we do nevertheless have a sense that the project tends to attract people with a strong culinary or library science interest, that our most vocal users (the ones who most frequently email us with software bugs, bibliographic errors or clamoring for new menus) are women, and that judging by the traffic logs, transcription happens all throughout the day, and approximately 90% of visitors come to the site on a daily basis. We also know through web analytics that the project, while drawing predominantly from the English-speaking world (about 75% United States), has an audience that far transcends New York. A little less than a quarter of overall visits originate within the state.

Building on the Map Warper’s success, WOTM has undoubtedly impacted the internal conversation at NYPL around digital strategy, user engagement and collections policy. It has helped shift the attention, at least in part, away from static online exhibitions, which notoriously struggle to retain users’ attention, toward participation-oriented websites with longer life cycles, involving the public in the grand (if painstaking) work of building the digital library. It has also jumpstarted policy discussions around user-contributed content and its relation to Library-authored metadata.

In the spring of 2012, with the Labs team established, the new developers began a total revamp of the WOTM site. The functionality of the transcription tool in the beta version was good, but the beta version lacked features that would enable users to browse, search and visualize the collection, and the enormous heap of data that had been harvested from it. There was also a certain amount of “technical debt”, incurred from the quick-sketch coding of the pilot phase that had to be paid down in order to get the site on a more sustainable track.

The new WOTM site, redesigned and re-engineered, also offered users access to the data set in a variety of ways. Bi-weekly exports (containing all dishes, prices, page coordinates, and bibliographic data for each menu) are available for download. Labs also created NYPL’s first publicly promoted API (application programming interface), providing more technically advanced users programmatic access into the data set. In the months since release, dozens of requests have come in for API access, representing initial interest from a wide range of constituencies ranging from food-focused tech startups, to computational linguistics researchers, to journalists, to library and museum hackers.



*The revamped WOTM*

The future applications of the WOTM data remain to be seen. Undoubtedly, the crowdsourcing effort has raised the profile of the collection many times over, landing it frequently in the press over the past two years, and consistently generating small ripples through the culinary and techie social media subcultures. It also has radically enhanced the accessibility of the collection. A perusal of keyword-driven traffic to the site reveals a plethora of fascinatingly obscure “long-tail” searches that have brought users serendipitously to our menus:

- “eggs argenteuil” — a scrambled egg preparation found in 1910, reappearing in 1961 (88 visits);
- “remus fizz” — a citrusy gin cocktail with egg whites, mid-century (40 visits);
- “moskowitz and lupowitz” — a vanished Romanian-Jewish eatery from the Lower East Side (23 visits);
- “ss Homeric” — an ocean liner, originally German, relinquished to Britain as war

reparations in 1919 (16 visits).

By these and other measures, we can witness the collection's weaving into the fabric of the web.

### **The Stereogramimator: Remixing Collections**

Completing the trilogy of projects diving deeper into existing digital collections, the [Stereogramimator](#) (2012) stands out of the NYPL Labs portfolio in that it was inspired not by a curator but by a user. Joshua Heinemann, a San Francisco-based artist and writer, had caught the attention of NYPL Labs several years ago with a delightful art project on his website, *Cursive Buildings*. Rolled out gradually over several years, "[Reaching for the Out of Reach](#)" (2009) is a series of eerie, flickering animations, rolled out gradually over several years, created out of the NYPL's vast collection of stereographic photography. Stereographs are pairs of images taken from slightly different angles, recreating binocular vision to produce an arresting 3D effect. Without a handheld stereoscope device, however, the images appear flat and two-dimensional, and it is in this diminished artifactual form that they are presented on the NYPL Digital Gallery — over 40,000 in total. Like the map and menu collections, with their valuable but difficult-to-extract data, the digitized stereographs, despite now being more accessible via the web, were as remote as ever from their original intended user experience.

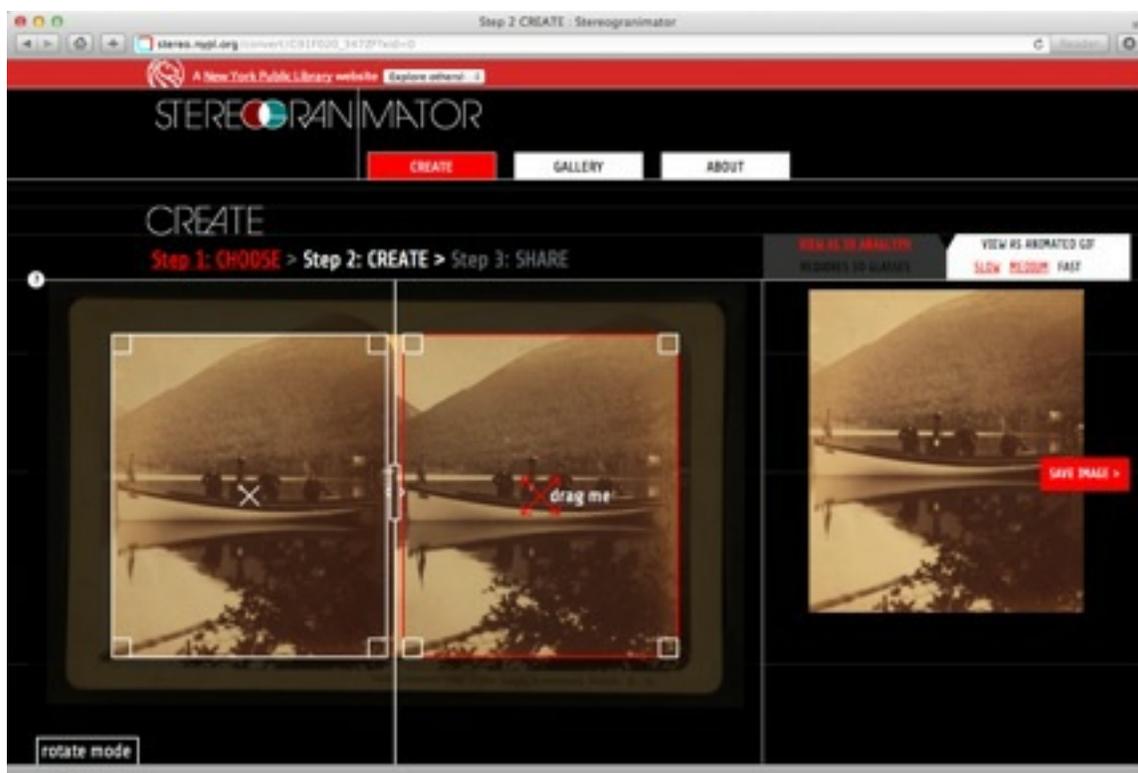
Heinemann's idea was to reacquaint the viewer with the original immersive nature of the images in a web-native way. To do this, he employed one of the oldest and hardest forms of Internet multimedia: the animated gif. Animated gifs are nothing more than a sequence of two or more images, typically run as an infinite loop. In the early days of the web, long before Flash, HTML 5 or streaming video, animated gifs were wildly popular with the stewards of hand-crafted HTML home pages, adding a splash of visual dynamics to otherwise static, text-heavy screens. Heinemann's gifs toggle between the stereo images, tweaked to just the right degree of parallax, producing twitchy cinematic fragments with alluring depth in which the subjects (or the scenes around them, depending on the settings), seem to tremble like mysterious ejecta from the past.

So-called 'wobble gifs' have been employed before to convey stereoscopic effects on digital screens (they are a popular byproduct of NASA's Mars rover photography, for example). But Heinemann's images ingeniously remind us of the original impact of this once popular art form, and also that the web too has been around long enough to have its own trail of forgotten artifacts. Vernaculars a century apart unite in the glitchy aesthetics of Heinemann's series of 60 animated stereo-gifs.

"Reaching for the Out of Reach" is an example of the sorts of wondrous remixes and derivative works that can arise when collections are made accessible on the web,

simultaneously reinterpreting them and drawing public attention back to the originals. The NYPL has always looked kindly on these sorts of activities, but what if it were to actively encourage them, building tools and services expressly for creative reuse? When the Labs team convened, we set about investigating whether a simple, browser-based tool could be built that would allow even a novice user to quickly create gifs from our stereographs and instantly share them via the web.

Faster than expected, an intuitive interface was developed, and to it Labs added the option of creating (via the same interaction) red-cyan anaglyphs (glasses required), for the 3D connoisseurs. In the lead-up to launch, Labs contacted Heinemann to let him know that his work had inspired our latest project and invited him to write a brief blurb or artist's statement to accompany the site. He responded with a lengthy essay on his lifelong relationship with stereographs (his father had employed aerial stereoscopy in his work as a state forester in Minnesota) and his accidental discovery of their potential effects as gifs in web browsers. Heinemann's essay became the introduction to our site, and a longer version was published in *The Huffington Post* the day the site launched.



*Stereogramator creation interface*

The Stereogramator enjoyed a bigger response in its initial days than any other NYPL micro-site. In one month, it racked up more visits than all of the NYPL's static

online exhibitions put together over the previous year. Media coverage was extensive and spanned arts, design, science and pop culture domains. Admittedly, this attention was of a more transient nature, fitting the viral meme-ish nature of the project, and traffic has slowed to a small but persistent trickle in the months since. But the Stereogramator powerfully demonstrated a new disposition toward the NYPL's patrons, explicitly inviting them to make new works out of old ones via tools that were themselves inspired by user creativity. It is also suggestive of the sorts of inventive apps that might be built when NYPL eventually opens up all of its digital collections through APIs.

In the months since launch, the site has steadily accumulated new user creations, now totaling over 34,000. In the spring of 2012, the Labs team built a connector to the Flickr API, allowing the inclusion of over 600 stereographs from the Boston Public Library's collections. In this modest way, Labs modeled how one library might build a tool that many collections can benefit from. Early discussions are currently underway with other great menu archives, exploring similar collaborations.

### **Next...**

In the interest of working fast with minimal constraints, NYPL Labs' apps have mainly been built outside of the NYPL's infrastructure, served from the cloud on "platform-as-service" hosts such as Heroku and Amazon Web Services, which are better suited to a more iterative development style. This has helped us to build a portfolio quickly, sidestepping some of the usual institutional inertia, but it is not a sustainable strategy. Working outside NYPL's infrastructure enables the developers to work fast, but with each successive project, it adds administrative overhead to the managers, who must keep track of a range of systems duties usually handled by dedicated specialists. Fortunately, these pilots have helped to accelerate discussions already underway in the IT department about moving systems architecture to the cloud, and embracing a more agile approach to software development. In this way, Labs has also served a technical R&D function for the Library, alongside its more visible experiments in user collaboration and data transformation.

Audience outreach has also been largely DIY. Currently, Labs projects are not visibly tied to the Digital Gallery, whose contents they draw so heavily upon, or any core NYPL platform beyond a basic information page on the main NYPL website. Each project therefore develops its own pocket community, rather than drawing from and expanding upon the broader NYPL user base. Our sites have attracted vigorous participation in spite of these obstacles, but it is hard not to wonder how the impact might multiply if these projects were placed more at the heart of the NYPL's web experience.

We may find out before too long. NYPL is now in the early stages of implementing a

new “Virtual Library” plan, which among other things, will support the development of a crowdsourcing platform, where projects like the Map Warper, What’s on the Menu? and the Stereogramimator will be more prominently featured and tracked in a kind of public participation dashboard. Inspired by initiatives such as the Citizen Science Alliance’s [Zooniverse](#) (2007), the National Archives’ [Citizen Archivist Dashboard](#) (2011), and the University of Iowa Libraries’ recently launched [DIY History](#) site (2012), the still-to-be-named NYPL crowdsourcing platform will weave participatory projects and tasks into a cohesive user experience, promoting a culture of online participation at NYPL. A high visibility hub of this nature not only can attract more volunteers, but better exposes the resulting data.

The data too will soon have a new, more centralized home. As the Digital Library Program was winding down in 2008-2009, a massive Digital Repository project was begun to lay down infrastructure for the long-term preservation of NYPL’s digital assets. Now nearing completion, the repository will provide not only trusted, redundant storage of all digital collections and data, it will serve content into all NYPL Labs applications, as well as whatever ends up taking the place of the Digital Gallery. Our hope is that eventually the Repository will serve this content to external developers and researchers via a suite of open APIs, turning NYPL into a full-fledged technical platform for the public to interpret, improve and build upon: a data clearinghouse for digital humanists<sup>[4]</sup>.

Labs’ initial success has strengthened our experimental mandate, but we have also inherited some larger digital access projects which had been previously stalled by departmental reorganizations. As we prepare a new round of participatory apps, the team (now expanded to four developers), is currently at work on an archival data platform that will power a new web-based finding aid interface and digital asset viewer. Labs is also building a new video platform, piloted around deep audiovisual holdings in the Library’s Dance Division, that will replace antiquated analog playback consoles with high definition streaming web video.

Managing these two work streams — developing small, innovation-focused apps alongside larger access platforms — can be tricky, but ultimately the two worlds reinforce one another. The lessons learned in our more imaginative crowdsourcing sites infuse the core projects with a more user-centered philosophy, improving access to the collections while building tools and methods for their enhancement. The dance video site, for example, will include tools for user annotation, juxtaposition and mashup of time-based content. Similarly, the new archives platform, following an initial beta release in early 2013 with several signature U.S. history collections, will eventually include tools by which users can augment collections with item-level metadata, georeferencing, document transcriptions and other value-adding information.

Digital collections allow Labs to be more bold with materials — at times even promiscuous and playful, as with the Stereogramimator. But as countless institutional and

personal data losses testify, digital assets can be alarmingly ephemeral. We speak of “trusted” repositories and “long-term” preservation of digital content, but the difficulties encountered in accessing even decade-old formats make us duly cautious. The track records of such systems just are not long enough to shake off the scare quotes. But the more that digital collections are used — the more data they accrue, the more they are copied, linked repurposed, remixed and remediated — the better their chances of survival in the volatile digital medium. As Bethany Nowviskie elegantly and succinctly puts it: “public access is tactical preservation.” (2012)

For NYPL, this suggests a powerful rediscovery of its mission. We are coming to see crowdsourcing not only as a way to accomplish work that might not otherwise have been possible, but as an extension of our core institutional duties. It is, in Library of Congress digital archivist [Trevor Owens’ words](#), about “offering our users an opportunity to participate in public memory.” At a time when libraries have been massively disrupted by new information technologies, when we are only beginning to get a handle on the new mechanisms of memory, deepening our bonds with the public through networked collaboration literally helps us to remember our purpose — and our stuff.

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1. The term “skunkworks” originates from a secretive subdivision of Lockheed Martin producing experimental aircraft designs beginning in World War II. The name itself is a now-obscure reference to the *Li'l Abner* cartoons popular at the time. It is generally understood today to refer to small innovation units within an organization operating outside normal procedural constraints, and generating new products or methodologies to be absorbed into general practice. In this issue, [Bethany Nowiskie elaborates](#) on the the idea of digital skunworks in a library context.↵
2. Matthew Knutzen is NYPL's geospatial librarian and director of the Map Warper project↵
3. Rebecca Federman, NYPL Culinary Collections Librarian; Michael Inman, Curator of NYPL Rare Book Division↵
4. David Weinberger of Harvard's Library Innovation Lab has elegantly sketched the notion of the “library as platform”, modeling in part on technology companies like Facebook who have opened their data to outside developers, but also delineating more library-specific aspects (geographically defined communities, more emphasis on end-users as opposed to software developers). See: Weinberger, David. (2012). Library as Platform. *Library Journal*. Retrieved from <http://lj.libraryjournal.com/2012/09/future-of-libraries/by-david-weinberger/> ↵