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Publishing Makerspace: A New Approach to Scholarly Publishing

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Publishing Makerspace: A New Approach to Scholarly Publishing

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Abstract

This article describes the concept of the Publishing Makerspace, which is a publishing environment that is reconfigured as a place where all the components of a scholarly project—books and e-books, virtual and physical exhibits, visualizations, live performance and film—can be integrated using a collaborative process. This place enables the creation of a multimodal publishing environment that fully integrates digital content with manuscripts and "traditional" scholarly content. Starting with an overview of the history of the team that devised this approach and its membership, the article describes the problem that the authors have identified with current approaches to multimodal publishing and outlines a workshop model for engaging in a reconfiguration of the publishing process, including a description of a new publishing and knowledge making ecosystem that includes librarians, publishers, and other collaborators.

What Is a Publishing Makerspace?

This project to redefine publishing is inspired by the experimental spirit of makerspaces in academic libraries. Many academic libraries have carved out physical space where patrons can experiment with designing art installations or objects and use equipment such as 3D printers to prototype their ideas; these workshop spaces and creative laboratories are, in turn, inspired by the makerspaces where engineers and computer scientists come together to take things apart and put them back together in innovative ways. Working in such inventive spaces, whether in open laboratories or prototyping studios, people are finding innovation in using old circuits or tools in new ways. Such makerspaces encourage experimentation, drawing from existing skill sets and encountering a process of discovery that leads to innovation.

In our adaptation of the makerspace concept, the publishing environment is reconfigured as a place where all the components of a scholarly project—books and e-books, virtual and physical exhibits, visualizations, live performance and film—can be integrated using a collaborative process. The goal is to create a multimodal publishing environment that fully integrates digital content with manuscripts and "traditional" scholarly content.

It is important to note that Publishing Makerspace is not solely a digital project or approach. We are interested in crossing the analog-digital divide to

recognize the ongoing interaction and interplay between physical, analog, and digital forms. The result, we hope, will be a more efficient, interoperable process of knowledge creation and production and an enhanced, more meaningful experience for multiple audiences.

What Can the Publishing Makerspace Accomplish?

Our intent is to provide an environment in which scholars work with editors, publishers, librarians, and digital specialists to explore collaborative structures and mechanisms for publication that contribute to public scholarship, that take full advantage of digital platforms, and that provide exciting models for scholarly communication.

From both a publisher's and an author's perspective, the goal of the Publishing Makerspace is to foreground the types of digital content that were hitherto relegated by publishers to appendices, addendums, and supplementary roles, and make them an integral part of the publication. From the point of view of libraries, archives, museums, and other producers of digital content, the goal is to embrace their roles as co-creators of knowledge, enabling new contexts and avenues of discovery for that content. We expect that this new approach will result in more exciting and meaningful multimodal publications and a more efficient process of knowledge production.

In terms of process, our aim is to establish a collaborative relationship among author, editor, librarian, digital specialists, and other relevant experts that makes use of the discrete knowledge and skill sets of each domain to shape the scholarship and be as effective as possible in constructing innovative models of scholarly communication. Our goal is to re-shape and expand the research/authorship process of knowledge production and devise more efficient, interoperable ways to produce multimodal scholarly work.

When successfully applied, the Publishing Makerspace model has the potential to radically alter the publishing landscape and to open up possibilities for collaborative innovation in publishing modes and formats. The end results might include, for example, research publications with various "threads" the reader can follow that replace rigid sequential formats. Another example would be the use of visualizations to enhance illustrations and enable more flexible presentations of data. A physical book could be one artifact of a project, while an online tool could draw from oral history content to allow the reader the opportunity to explore the data and interrelate it in ways previously not possible with analog-only scholarship.

The Team

In a spirit of openness and experimentation, the Publishing Makerspace project brings together people with skills relevant to publishing and opens the possibility of reconfiguring research processes and workflows to encourage new modes of output.

Our team members regard our skills and experience as tools that might be bent to new uses. We also recognized as we began to work together that our cross-functional team might serve as a model for other future Publishing Makerspace teams. Our group currently includes a scholar (David P. Phillips, Wake Forest University); a digital librarian (Chelcie Rowell, Wake Forest University); a technology expert (John D. Martin III, doctoral candidate, School of Information and Library Science, UNC-Chapel Hill); an editor from a university press (Courtney Berger, Duke University Press); a manager of e-books and digital assets, and her colleague who heads their new publishing services operation, from another university press (Marjorie Fowler and John McLeod, University of North Carolina Press); a former publisher and librarian who has started an open access venture (Rebecca Kennison, K|N Consultants); and a former editor and publisher who also has extensive experience with collaborative scholarship (Sylvia Miller, Consortium of Humanities Centers and Institutes).

We also found that our backgrounds melded and overlapped variously; for example, four of us had extensive experience in book production at some point in our careers; three of us had deep experience in libraries; three of us had grappled

extensively with business models and sustainability (perhaps needless to say, not at all the same three each time); five of us had been involved in developing digital publications and databases; and so on. A Venn diagram of our collective expertise might look like a mesh net. What might we catch together? Once we had formed our group, we were excited to find out and began to meet and learn from each other right away.

Scholarly Communications Institute

The Publishing Makerspace working group first came together in the Fall of 2014 and had the extraordinary opportunity to refine our goals as one of four groups selected to participate in the prestigious Scholarly Communications Institute (SCI) retreat in Chapel Hill, NC, in November 2014; six members of the group described above participated. At the end of four days of brainstorming and planning, we presented a summary of our ideas and plans to an assembled audience of expert scholarly-communications advisors, including publishers, scholars, librarians, and funders. We received an enthusiastic reaction and several invitations, leading to a talk to UNC-Chapel Hill's Scholarly Communications Working Group, the DH Kitchen at Wake Forest University, a workshop with the PhD Lab in Digital Knowledge at Duke University, and other invitations. Each event has been an opportunity to continue developing and refining the project.

What Does the Design Process Look Like?

At the SCI, we used a design process called a *design charrette*, which David Phillips facilitated based on his experience in design and urban planning.

Charrettes are visioning workshops consisting of multidisciplinary teams of collaborators who explore multiple solutions to complex questions or challenges. This approach is frequently used in urban planning and urban design, with intensive half-day, one-day, or multi-day intense workshops, bringing in a wide range of expertise and knowledge, such as a waterfront neighborhood redesign project that brings in architects, planners, residents, planning officers,

and other stakeholders to create teams that draw, sketch, and develop ideas addressing existing design challenges. Borrowing this page from design thinking, we conducted our own design charrette.

In a design charrette, we start with the "faucet," or the idea-generation phase, and end with the "funnel," or process of convergence and refinement. A facilitator walks us through these phases as we narrow in on key objectives and steps toward our goal. Each phase is timed; at SCI we recorded our ideas quickly on post-it notes ("faucet"), which David placed on the wall in constellations that began to form categories ("funnel"), which we then discussed and refined.

Our central question for this visioning exercise was: What would we like the scholarly publishing environment to look like in the Year 2030?

In the backcasting visioning process, we start with the envisioned future and its characteristics and capabilities without the restrictions of considering the limitations of the present that might preclude such a future. Next, as a team, we strategize how to reach back from that future to the present, sketching backward the various steps that would be required to get us from the present to the envisioned future.

We realized that we had modeled a process that could be crucial to authors' visioning of their own Publishing Makerspaces that would lead to important questions such as "How can collaboration with your librarians and digital project specialists help you achieve your envisioned goals?"

The Problem

As our ideas converged on a vision of the future of scholarly publishing during the SCI retreat, our working group stepped back to articulate the central problem that we wanted to address. We agreed that many scholars do not recognize that the fragmented publishing activities that they are pursuing could have dynamic connections and make a more powerful impact if planned in a more coordinated fashion. Other scholars might recognize potential connections but not know
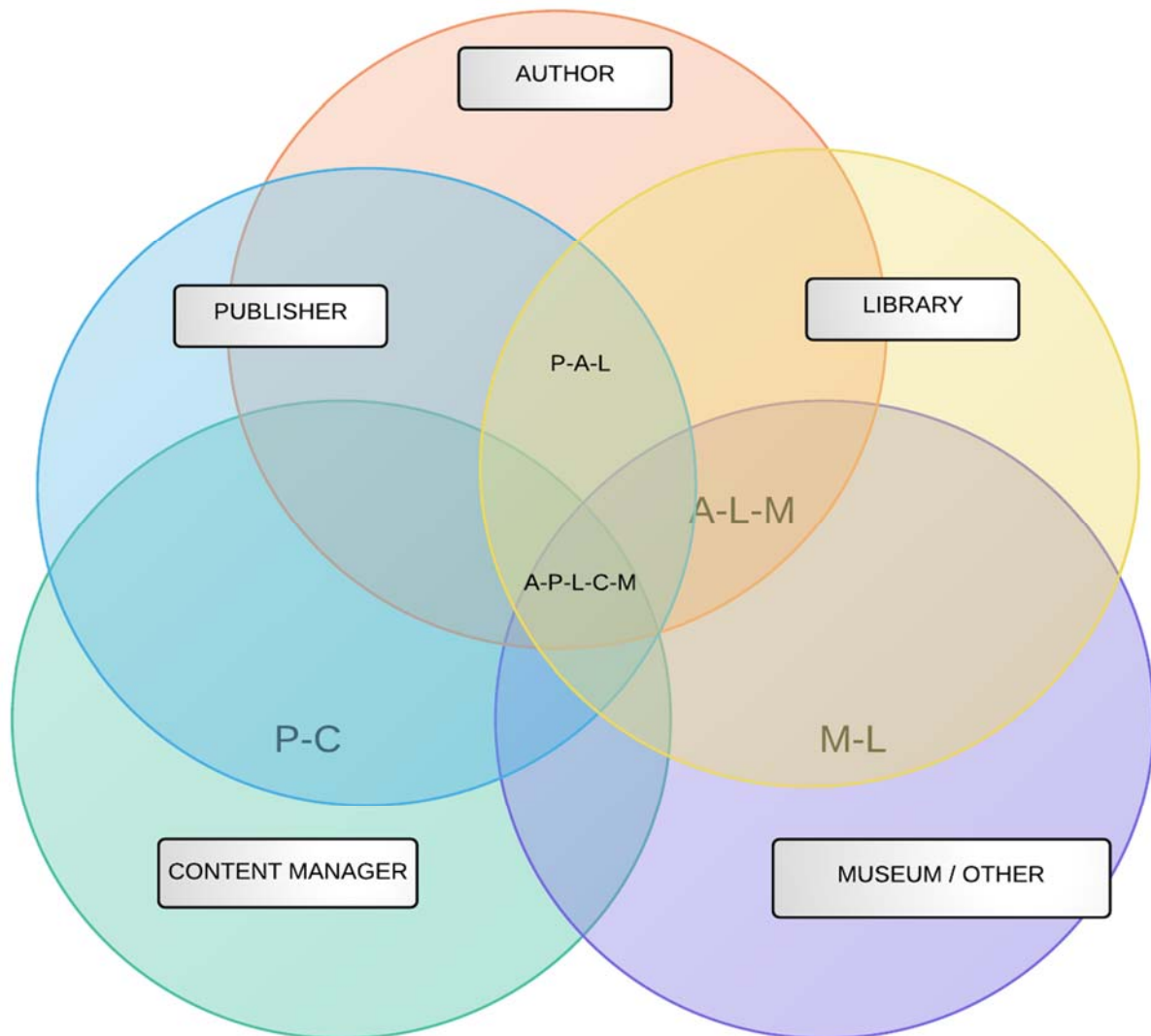
Figure 1. Overlapping collaborative roles: A first sketch of a new publishing ecosystem.

how to realize them. For example, a monograph might have the potential to be more than just a book if linked to an online multimedia archive; exciting possibilities might emerge from the scholar's research that take vision, planning, and practical expertise of multiple types to realize.

More and more, scholars are producing multimodal and multimedia projects that include many content types that do not fit in traditional journal and book publications. But they are operating without the infrastructure and specialized knowledge that will help them to fully realize their goals. Modes of work often include articles, blogs, multimedia interviews, databases, timelines, maps and other visualizations, photographs, collections of historic documents, physical and virtual exhibits, print books, and e-books. Traditional scholarly publishers are seldom able to publish more than a book or article. Libraries and humanities centers and institutes have filled the gap in supporting digital scholarship in experimental forms, often resulting in exciting products, but without much integration with the rest of the scholarly output. A systematic method of making all of the work archivable and discoverable per library and publishing standards has yet to be fully envisioned and deployed.

The Publishing Makerspace Workshop

Having envisioned a future for scholarly publishing in which publishing was redefined to include all forms of scholarship efficiently and elegantly interconnected in useful and enlightening ways, our backcasting exercise encouraged us to identify a practical, feasible first step. Our idea for a first step that would be relatively simple for any author, publisher, library, or other institution to organize was a meeting that we dubbed the Publishing Makerspace Workshop.

The idea for a workshop was inspired partly by the manuscript workshops hosted over the past few years by the John Hope Franklin Humanities Institute, in which a junior scholar has the opportunity to discuss his or her book manuscript with a group of experts in the field; it is a peer-review process done in person. However, the Publishing Makerspace Workshop would happen much earlier in the research process, when the scholarly project is at the proposal stage. While the design-charrette process might enable scholars to overlook current problems in envisioning future realities, participants would likely be acutely conscious of the problems they need to overcome in integrating content. To address this practically, in addition to peer reviewers, the participants in the workshop would be experts in editing, marketing, digital tools for scholarship such as mapping, databases, digital archives, etc., as suggested by the incipient plan for the project.

We are often asked whether Publishing Makerspace is a physical place. We do believe that the initial meeting of a team should happen in person, but subsequent collaboration can be conducted in a virtual space or shared workflow. Publishing Makerspace might be described as a moveable feast that exists wherever and whenever potential collaborators come together to envision and begin to plan a project. While a dedicated space for a team to meet and to work long term is desirable, it need not be a requirement if it sets the bar too high for many collaborations to begin.

Roles in the New Ecosystem

Our first attempt to draw the new ecosystem in which knowledge-makers collaborate from the ground floor is a Venn diagram (Figure 1).

Where the circles overlap, we see librarians, publishers, and others learning from each other and working closely together. Here we focus briefly on the three categories of participants most often represented at the Charleston Conference:

- Librarians have stepped in to fill the gap left by publishers who have been less willing and able to experiment with digital scholarship; libraries continue to provide software development, digitization, hosting, metadata, and archiving services as well as grant-seeking support. They might find that a publisher-like proposal and vetting process will help them to improve control over the allocation of scarce resources.

- Vendors will be increasingly important to the discoverability and accessibility of scholarship as more multimodal scholarship is produced. Digital platforms will need to accommodate multimodal work; file types and metadata will change.

- Publishers offer a useful discipline in identifying and reaching audiences and in budgeting, cost recovery, and sustainability, as well as expertise in visioning, editing, design, and production. Publishers will have to respond creatively to the fact that the forms of scholarship that they produce are often only one piece of a larger whole, and sometimes narrative is not the primary form. Increasingly publishing will become democratized and decentralized. Eventually traditional publishers might have to decide whether to fight this or join it and find their place in the new ecosystem.

An interdisciplinary entity such as a humanities center or institute can be a useful locus of connection for collaborators, as neutral territory.

We have been asked what the business model is for this new kind of publishing. For now, there is not necessarily a new one. Rather, it is a hybrid of existing models. For example, the publisher of the book or article component of a project makes copies available in their usual manner, while archives generally make digital collections freely available for research but might charge permission fees for other uses. The integration of the two (for example, an e-book that includes outbound links to an archive) might produce experimental new business arrangements, and over time, new business models will evolve from new forms of publishing. We are excited to participate in that process, and a couple of our team members are actively involved in developing new business models in other projects, but our focus in Publishing Makerspace is on the scholarship.

We hope that Publishing Makerspace will be a place—whether physical or metaphorical—in which librarians and publishers work together in a collaborative spirit, checking their contentions about business models at the door and appreciating what each collaborator brings to the table.

We also hope that expanding the definition of publishing might influence a change in peer-review practice and the kinds of work that academic promotion committees will consider.

Axioms

As we have developed the idea of the Publishing Makerspace, we have recognized that there are certain principles at the foundation of the project.

1. *Transparency.* Publishing has always been collaborative; in a publishing company, acquisitions editors, developmental editors, copy editors, managing editors, designers, typesetters, proofreaders, indexers, publicists, and many others know this in their day-to-day work. If they do their work well, it is invisible. In digital projects, often archivists, programmers, GIS experts, and others are co-creators of knowledge. The Publishing Makerspace advocates surfacing the invisible and admires the Collaborators' Bill of Rights (http://mcpress.media -commons.org/offthetracks/part-one -models-for-collaboration-career-paths -acquiring-institutional-support-and -transformation-in-the-field/a -collaboration/collaborators%E2%80%99 -bill-of-rights/).

2. *Replicability and extensibility.* We hope that the idea of the Publishing Makerspace Workshop will take off on its own; once we have shared our experiences and published some helpful guidelines online, we do not expect that our team will be needed to help run Publishing Makerspace workshops across the US and around the world.

3. *Interoperability.* At this point, the Publishing Makerspace is not a project to build a new publishing technology or platform. However, we are very interested in critiquing and helping to improve existing tools and practices— whether open source or vendor-controlled—to make them interoperable where now they require wasteful and tedious re-keying, re-tagging, re-coding, etc.

Our First Test Run

On November 19, 2015, we had the opportunity to run our first Publishing Makerspace workshop. At the suggestion of our host, Duke University's Franklin Humanities Institute, we began the session with an introduction to the Publishing Makerspace concept and then addressed three scholarly projects in turn, allowing each a half-hour for a lightning-round presentation by the scholar/author, a design-charrette visioning exercise in which the audience and the Publishing Makerspace team participated, followed by a brief discussion.

There was a positive feeling of excitement and creativity in the room, and the scholars were good

sports about participating in a visioning exercise in front of an audience; conversations among participants continued long after the event had officially ended. It was helpful to have augmented our team with experts who could address specific aspects of the projects (mapping in two cases and multimedia journal publishing in the third). In retrospect, a half-hour was scarcely enough time for each project; other feedback and assessment will have to be reserved for another article, but it was clear that only actual practice could help us refine the workshop model.

What's Next for the Publishing Makerspace Project?

The project has sparked widespread interest, and we plan to seek funding to support an expansion of our activities. Our wish list includes a website modeled on THATCamp (http://thatcamp.org /help/organize), where people who want to hold a Publishing Makerspace workshop could find guidelines and examples and spin off their own Publishing Makerspace website. Using GitHub for site development, we would incorporate improvements made by individual workshops into the master site. This platform allows for splitting and merging different branches of projects easily and makes the process transparent to all involved. We have started to build an advisory board and listserv, and we continue to seek guinea pigs who

would like to try the evolving workshop model to help them develop their ideas both conceptually and technically and find collaborators, while we learn from the experience and refine the workshop model.

As we move toward refining our model and making it available to the public, we are seeking funding to test our prototype, conduct additional research, and implement its principles in several experimental publication projects. Feedback and assessment will be key to the improvement of the model, as will an analysis of the scholarly projects that initially implement the Publishing Makerspace approach. Documentation of the steps involved in the process will enable us to develop tutorials, training modules, and "best practices" literature.

Ultimately, we envision Publishing Makerspace as an approach that any researcher, academic press, or higher educational institution can utilize. We hope to inspire an inclusive view of publishing that will change official tenure-review guidelines at institutions of higher education, in the process expanding the parameters of scholarly publishing to more fully embrace the digital revolution that is transforming the publishing environment. Along the way we look forward to working on some fascinating and exciting scholarly projects.