The scholarly dissemination environment (or engine) is complex and diverse with many component variables, including economics, technologies, laws and policies, and culture. Through this initiative, ARL will mobilize efforts to ensure wide-reaching, open, and sustainable dissemination of research and scholarship. ARL’s efforts will enable research libraries to maintain and/or expand their role in the scholarly dissemination ecosystem and focus on the widespread and open dissemination of scholarship as a permanent record of research institutions. Fundamental change to the system will require altering some of its underlying tenets and challenging the role of the large international publishing that control the system. Clearly, given the complexity of the environment, it will be imperative to work with other communities and sectors to achieve these objectives and in many cases activities will require stepping outside our comfort zone and developing new and interdependent relationships with others. Many actions initiated within this context may involve amplification or broadening of nascent or evolving projects already in place.

Activities that fall within the scope of the Scholarly Dissemination Engine will impact one or more of the component variables of the system in order to improve the dissemination of scholarship. They may also involve targeted investments that develop new infrastructure and services to support ARL’s vision. Specific topics include: deepening partnerships between university presses and libraries; supporting and enhancing the impact of library publishing efforts; expanding the range of outputs used for evaluating research; building capacity for research data management, changing the way the research impact is measured; supporting and promulgating open access; adopting novel peer review methods; establishing frameworks for the publication of emerging scholarly products from digital humanities and digital scholarship centers; and lowering the costs of journal subscriptions. A list of eleven potential topics are described in more detail in Appendix 1.
Priority Topics

The eleven different projects were reviewed by the SDE Design Team and four topics were chosen to be pursued further based on their perceived importance and impact, including three new topics and one project that is already being addressed by ARL. The priority topics are:

1. **Research Data Management (RDM)**
   The data produced through research represent a valuable asset that should be preserved in order to support verification of research results, and the reuse of data for new discoveries. Governments and funders are beginning to adopt policies that require researchers to manage and share their data. To date, the community has focused on support for domain-based data centres that foster data sharing in specific disciplines, but these types of services are available for only a portion of the datasets produced through research. There are still large gaps in data infrastructure and services across the country and internationally. Institutions and research libraries can play an important role in terms of filling in the gaps by preserving and providing access to the data produced at their institution, and by offering support for researchers to help them manage their data. In this rapidly evolving environment where roles and responsibilities are still being settled, it is essential that research libraries become engaged and build capacity around RDM.

   Managing research data is complex and involves the participation of a variety of stakeholders across the data lifecycle. No single group or institution alone can tackle the challenges of RDM. Collaborative solutions are necessary, but require that libraries work with a variety of internal and external communities including research administrators, the domain repository groups, researchers, and computing facilities, as well as emerging organizations in this area like the US National Data Service, and the Research Data Alliance. This project will explore collaborative models for ARL libraries to build capacity in the area of research data management and the feasibility of developing shared infrastructures and services.

2. **Supporting New Forms of Digital Scholarship**
   In the digital world, a diversity of new forms of scholarship are created through research activities including lab notebooks, software, encoded text, data, videos, and so on. These research products do not commonly contribute to the formal system of research evaluation and therefore have not been a priority in terms of library collection and stewardship activities. However, many of these scholarly objects have significant research and educational value.

   Many research libraries do not yet have policies and services for managing these diverse research outputs, although some larger institutions have opened Digital Scholarship Centres to begin to address the issues around how to support digital scholarship and also manage those resources. Working together with other communities including researchers, administrators and funders, this project will explore and implement a range of policies and services needed to support the stewardship of these resources and expand the range of research outputs recognized in the community. It will lead to
adoption of more holistic measures for evaluating research outputs and impact and support the adoption of library services to support those measures.

3. Fostering a sustainable global scholarly publishing system

The current costs of subscriptions to scholarly journals are unsustainable for many academic libraries. In order to ensure researchers and students have access to the published content in their fields, the system must be changed significantly. There are a number of factors in play that contribute to the unsustainability of the system including the lack of competition in the system, the impact factor as the main measure of journal prestige and research quality, the control of large international publishers over citation data, the lack of awareness by researchers about the costs of journals, and so on. This project aims to transform the current model into a sustainable, open system for scholarly publishing through strategic actions and investments that will either remove or significantly diminish the impact of one or more of the contributing factors. Actions will aim to: provide evidence that the system is over-priced and sub-optimal, lower costs of the system, introduce competition into the market, diminish levels of control by international publishers.

Clearly many of these issues intersect with both the ARL Advocacy and Public Policy Committee, the SPARC agenda, and Collective Collections, and the design team will ensure to collaborate with others whenever appropriate. In addition, the system is international, and change can only come about if we work on these issues closely with colleagues from other regions.

Several specific target activities are outlined below. Although it will be difficult for ARL to undertake all of these actions simultaneously, it is important that the problem is tackled from many different angles:

- **Economic modeling** In order to develop sustainable economic models, there are some critical economic questions that need to be investigated. This project will define some possible early actions that could affect the “cost of scholarship” challenge in journal publishing. The aim will be to work with economists to assess and critique the existing economic model around scholarly publishing and develop solutions for introducing more balance and competitions into the system.

- **Flipping subscriptions to APCs** (Max Planck proposal) This project proposes a large-scale transformation of the current corpus of scholarly subscription journals to an open access business model. The existing journals, with their well-tested functionalities, should be retained and developed to meet the demands of 21st century research, while the underlying payment streams undergo a major restructuring. If supported internationally, this project could achieve the full transformation to open access while ensuring the stability of existing journals.

- **Consortial licensing** This is a project to assess the feasibility of ARL libraries entering into a consortial licensing project. Consortial licensing is a solution for lowering the costs of subscriptions that has been adopted in numerous
jurisdictions around the world. It enables participating libraries to realize cost savings, take advantage of operational efficiencies, and to exert appropriate influence over the scholarly publishing market.

- **Alternative metrics** This project will aim to evaluate and build consensus around the adoption of new metrics for assessing use and impact of digital content in the context of subscription journals, institutional repositories and library-based journals. New metrics are strategically important because they better reflect the impact of a research output that the traditional measures, and, once adopted, they will begin to subvert some of the perceived value of prestigious journals.

- **Implement a peer review layer on top of open access repositories.** This project will develop and incorporate peer review services and technologies of top of repository content. The library community has invested significantly in developing repository services, yet these services remain largely underused by researchers because they do not contribute to the incentive structures for faculty which are based on publishing in prestigious, peer-review journals. These services will begin the gradual conversion of existing open access repositories into evaluation platforms.

4. **Strengthening Library & Local Publishing Efforts**

The AAU/ARL/APLU Task Force on Scholarly Communication began developing a proposal to promote the production of digital versions of scholarly monographs in 2013. The task force began by looking at a number of related problems including the “first book” problem, the sale and use of monographs, and the sustainability of university presses. The Internet and digital technologies address these issues by reducing distribution costs and making such scholarship in the humanities and humanistic social sciences more widely available, usable, and accessible to both the academic community and public at large through open access. Recent studies regarding direct subventions and the acceptance of digital scholarship by faculty and university administration suggest that as long as digital monographs meet the same criteria as print versions and are the product of the editorial and publishing process, they are coming to be accepted as equivalent to print.

To advance the subvention proposal, the task force is currently working to assess and align university and press interests, to better understand and take into account publisher risks, and to develop a viable financial model for the shift from university subsidies to direct subventions. The task force is revisiting its near-term tasks and strategy as a result of several important developments this fall:

- John Vaughn (AAU) and Paul Courant (Michigan) presentation about the subvention proposal to the Chief Academic Officers of the American Association of Universities;
- Presentations from teams from Emory, Indiana and Michigan on the results of their Mellon-funded studies at the 2015 ARL Fall Forum; and
Discussions about strategies for implementation of the proposal among John Vaughn, Peter Berkery (AAUP), Don Waters (Mellon), and Elliott Shore (ARL). A small group of press directors are working with the task force with the goal of implementing a pilot subvention program as more detailed work is done in conjunction with Mellon on the technical aspects of this proposal.

Scholarly Dissemination Engine Design Team

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Appendix 1

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<tr>
<th>Strengthening local publishing efforts</th>
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<td>Press / library partnerships</td>
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<td>Scope some specific actions around shared economic models involving university presses &amp; libraries, especially in cases where there is some degree of organizational integration — perhaps using those integrated organizations as a testbed context for something like cross-institutional publishing subsidies. Mellon is working in this area, and perhaps after some deeper thinking and specification of the “how” we approach them with a start-up project.</td>
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<td>Publication “kick-starter” models</td>
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<td>Review different approaches being adopted elsewhere which ARL could adopt to gain traction around local library publishing services. For example, emerging publication support frameworks like “Knowledge Unlatched”.</td>
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<td>Monograph publishing collaborative models</td>
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This project involves seeking affiliation with and exploring paths toward directing support to such initiatives as Luminos at U of California; should we find ways to help other presses beyond California to engage in such efforts. Ditto for an enterprise like the Open Humanities Press. These projects attempt to share costs between all parties who benefit from publication—author or institution, publisher, and libraries. In our model no one entity carries the whole burden, making it sustainable for the long haul.

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<tr>
<th>Expanding the range of recognized research outputs</th>
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<td><strong>Open educational resources (OER)</strong></td>
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<td>Identify a framework, action mechanism, and funding system to bring libraries and presses together to enhance OER dissemination and adoption, impacting student costs and leveraging library expertise in the open access space. High-level convening, cross-pollination and mutual support could be extremely valuable in this still nascent domain.</td>
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<th>Collaborative models for research data management (RDM)</th>
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<tr>
<td>Research data management is an important new and expand role for research libraries. But, no one institution can do this alone. RDM requires collaboration across institutions and with other stakeholder communities (such as IT services and researchers). This project will explore collaborative models that would enable ARL libraries to develop cooperative resources and services for managing research data that will result in building national capacity for managing research data in the ARL community.</td>
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<th>Non-traditional forms of digital scholarship</th>
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<td>Build services to support the management of new and emerging outputs from Digital Scholarship Centers within our institutions. Is there the possibility of a new kind of publishing / vetting collaborative that rises above the level of the local and that thus promulgates under that brand the most solid work being produced therein? This project will lead to an expansion of how our communities assess the value of research and an expanded understanding of research outputs.</td>
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<th>Research assessment and impact</th>
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<td><strong>Alternative metrics</strong></td>
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<td>Develop a consensus (or recommended best practice) at ARL to adopt new metrics in the context of subscription journals, institutional repositories and library-based journals. This will begin to remove the strong influence of the impact factor and take away some of the control and perceived value of the major journal publishers. In addition, ARL could undertake a promotion campaign to promote the adoption of these measures for evaluating research by institutions and funders.</td>
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**Supporting/promulgating open access**

**Flipping subscriptions to APCs** (Max Planck proposal)

This project proposes a large-scale transformation of the current corpus of scholarly subscription journals to an open access business model. The existing journals, with their well-tested functionalities, should be retained and developed to meet the demands of 21st century research, while the underlying payment streams undergo a major restructuring. If supported internationally, this project aims to achieve the full transformation to open access while ensuring the stability of existing journals.

**New peer review methods**

**Implement a peer review layer on top of open access repositories**

This project is already being discussed by COAR (Confederation of Open Access Repositories), the COS (Centre for Open Science) and some leading open access advocates/researchers. This project aims to develop additional services on top of the expanding global network of open access repositories, increasing their value significantly and contributing to the development of a sustainable and more equitable international knowledge commons managed collectively by research institutions around the world.

**Lowering the costs of journal subscriptions**

**Consortial licensing** (This may belong with Collective Collections, but I wanted to make sure it was documented somewhere)

This is a proposal to collaborate across a number of ARL libraries to license published content. Consortial licensing enables participating libraries to realize cost savings, operational efficiencies, and to exert influence over the scholarly publishing market.

**Economic modeling**

There are some serious economic questions that need to be investigated and modeled if we are to develop sustainable economic models for scholarly publishing. The objective is to define some possible early actions that could affect the “cost of scholarship” challenge in journal publishing. This notion came out of an informal group that met in Chicago last year, after the final design workshop. Artemis Kirk from Georgetown integrated a pair of economists who have been thinking about this at a more technical economic level (John Rust and Ted Bergstrom) into the conversation and we could re-engage them further to explore new models.