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## Finding the Principles of the Commons: A Report of the Force11 Scholarly Communications Working Group

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### Introduction

While the creation and exchange of scholarly and research information now takes place within digital environments and increasingly on the open web, traditional print-based workflows

are recapitulated across the scholarly communication life-cycle, outmoded rewards systems hold strong, and crises of access, reproducibility, and reuse continue to be raised. In some respects, scholarly and scientific communication



has not changed much since the establishment of the first scientific journal 350 years ago. But, what if we could start over? What kind of system could and should we build to harnesses the resources of the digital age to maximize the communication and use of new knowledge? These questions, posed by Dr. Sarah Callaghan at the Force2015 Conference as part of the 1K Challenge, inspired the creation of the FORCE11 Scholarly Commons Working Group.

Funded by the Leona M. and Harry B. Helmsley Charitable Trust, the initiative is designed to both define and promote a set of high level principles and practical guidelines for a 21st century scholarly communications ecosystem—the Scholarly Commons. Through a series of workshops and exercises, which recognize and leverage antecedent ideas and initiatives for transforming scholarly communication, we are working to define the best practices, interfaces, and standards that should govern the multidirectional flow of scholarly objects through all phases of the research process, from conception to dissemination. The first workshop of the Force11 Scholarly Commons Working Group was held in Madrid on February 26 – 27, 2016. At the Force2016 conference, the outcomes of this workshop were presented and built upon. In September 2016, a follow-on workshop will take place in San Diego, California. The following report describes these activities, their outcomes, and next steps for the Scholarly Commons Working Group.

### **Madrid Workshop Attendees, Structure, and Intention**

The Scholarly Commons Madrid workshop included 50 invited attendees, composed to include stakeholders from across the ecosystem of scholarly production and consumption. Attendees comprised representatives from a variety of disciplines, funding, publishing, and advocacy organizations, libraries, digital repositories, scholarly communication companies, and research institutions. Men and women were equally represented, and the career-stage status of attendees was similarly balanced. While there was representation from Africa, Latin America, Asia, and Eastern Europe, attendance was dominated by individuals from North

America and Western Europe, a bias we plan to amend for future events and address through satellite workshops. Figure 1 shows the shows the distribution of invitees across various demographic characteristics. (See Figure 1.)

The workshop was conducted over one and a half days. The days were organized around 12 interactive sessions facilitated by YKON, a Helsinki-based collective of artists, scholars, and game designers who develop facilitation models aimed to generate meaningful exchange in unexpected ways. Overall, participants were charged with imagining a new system of scholarly communication—the Scholarly Commons—to maximize the accessibility and impact of scholarly works, assuming the use of today’s technologies. They were asked to ignore the restraints of the current system in order to sidestep and move beyond the assumptions that often overshadow and stunt discussions about and work to transform scholarly communication. Working in small groups, attendees considered the topic from multiple angles. All of the exercises were designed by YKON, included a specific set of instructions, and intended deliverables. Many of the exercises incorporated a game-like component. For each group, this work culminated in a vision of an alternative scholarly communication system and a set of principles underlying it. At the end of the workshop, we compared visions and principles to inform an integrated model of how the Scholarly Commons should function.

The attendees worked hard and thoughtfully. The discussion evolved in surprising ways. The organizers were expecting a lot of attention to be paid to technology and specific activities, such as peer review; instead, participants started at a fairly high level, drilling into more specific questions on the second day. Not surprisingly and very encouragingly, different perspectives were raised and allowed us to examine topics and issues from different angles. More senior individuals tended to focus on making information available and usable; more junior participants focused on fair access to the process. Everyone agreed that the Commons was for everyone, both as consumers of information and as participants in its creation. Commercial entities would be welcomed, but content could not be locked



down for sale, only enhanced. New types of and credit for knowledge work were discussed for their role in creating and enhancing content for the consumption of all types of human and machine users. While not all of the issues raised were fully explored, the participants contributed to a rich legacy from which to build.

A Google Doc and Trello board were used throughout the event to document the discussion. We also encouraged live tweeting, and the ideas suggested via the hashtags #FutureCommons and #FCviz were captured with the online tool Zapier and automatically added to Trello. This information was synthesized into a live, interactive visualization during the workshop by Martin Ignac, a London based programmer, artist, and visualizer. The visualization is a powerful tool in that it shows both the progression of the ideas that emerged at the workshop and their interconnectedness. The connections between elements in the visualization were manually curated. While our curators tried to be as objective as possible the process inevitably included some assumptions and simplification. During the workshop, 691 idea cards were added to Trello. We used 88 tags to describe them, and a total of 133 relations between the ideas were established. Figures 2 and 3 show screenshots of the visualization and public Trello Board. Both are also available online to fully explore. (See Figure 2 and Figure 3.)

### Emerging Principles

Two sets of draft principles were produced during the workshop, those derived from each group's vision and a synthesized set of common principles. The Scholarly Commons Working Group Steering Committee utilized both sets, especially the former as it contained the richest reflection of the ideas generated in Madrid, to distill the main themes that emerged from the workshop. We also utilized inputs and outputs from follow-on activities at the FORCE2016 conference. At the FORCE2016 Scholarly Commons pre-conference workshop, we presented attendees with the themes that emerged in Madrid. They were charged with both critiquing the outcomes and considering how the principles could be operationalized. Using a collaborative public Trello board in real-time, attendees

identified the primary actors in the Scholarly Commons, the infrastructures needed, and the ways in which the Commons would be both different and similar to the current system. Figure 4 shows a screenshot of the FORCE2016 public Trello board, which is also available online. (See Figure 4.)

Culling the outcomes of our activities to date, we have published a draft version of the Principles of the Commons. We view the Commons as a set of practices governing the production, flow, and dissemination of scholarship and research to facilitate access by all who need or want this information, in both human and machine readable forms, so it can be put to use for the good of society. An extension of the Open Science concept, the Scholarly Commons is model of a distributed, stable, and credited digital research and knowledge network with a long-term preservation strategy. As such, the Scholarly Commons is:

- I. Equitable
  - a. Wherein, people are its most important resource.
  - b. Everyone's participation is supported and rewarded.
  - c. There is credit and universal attribution for all activities.
  - d. The Commons acts as a skills and knowledge based marketplace.
  - e. The Commons is diverse and inclusive.
  - f. No metrics or rankings are negatively built into the Commons.
  
- II. Open
  - a. The Commons is open by default, with its content and standards free to read, reuse, and remix by humans and machines, unless there is a compelling reason to restrict access.
  - b. Content is FAIR: Findable, Accessible, Interoperable and Reusable by humans and machines.
  - c. A publisher in the Commons is any entity that will ensure that outputs are FAIR.
  - d. All outputs are considered published when they are made available according to the principles and standards of the Commons.



### III. Sustainable

- a. There is global commitment and participation in the Commons long-term viability and preservation.
- b. All activities and outputs that take place in in the Commons remain in the Commons.
- c. Use of the Commons cannot devalue the Commons.
- d. There is an expectation of service by the Commoners to support research and scholarship in the Commons.
- e. The Commons itself is continuously required to respond to the requirements of their Commoners.

### IV. Research and Culture Driven

- a. The Commons is enabled by technology, funding, and business models that are free to evolve over time.
- b. Incentives, including funding, align with producing the best scholarship and supporting the overarching purpose of the Commons.
- c. The forms of scholarly output will be optimized for broad and reusable dissemination.

As of this writing, the draft principles are still open for public comment. We are asking and are encouraging others to address the following questions:

- Do these resemble the principles of the Commons we are seeking?
- Are these statements we can envisage acting on in order to realize, build, and grow the Commons?

We are not expecting the answer to be a resounding “yes”, and it could be a resounding “no”. However, we have communicated this early distillation to encourage thoughtful feedback and provoke discussion with wider groups and individuals about how we can arrive at a definitive set of principles. Ultimately, the principles need to be owned by all of us, so it is essential to seek and welcome this input.

### Next Steps

As a follow-up to the Madrid workshop and to facilitate the incubation of the Scholarly Commons, we are organizing a second workshop entitled “Putting the Pieces Together”. The principles will also be placed into a larger framework—a conceptual map of scholarly communications. The second workshop and map will be used to compare the community’s vision of the Commons against our current state of “chaotic innovation.” As in Madrid, the workshop will be fast-paced, open, and lively meeting, devoid of long presentation. We will assess what innovations, standards, and infrastructures are currently in place to facilitate the full and sustainable implementation of the Commons. With its focus on soft and hard infrastructures, the approximately 50 attendees will be chosen to represent knowledge and experience but also bold new visions on the various aspects thereof. Demographically, attendance will be curated to ensure as broad and inclusive geographical, language, disciplinary, and age group representation as possible.

Overall, we will be working to address the following questions: How close are we to realizing the vision? Where do we have and where are we lacking infrastructure, expertise, and tools? Where are there significant barriers? And, how can we create community buy-in around proposed solutions? As an output of the workshop, we aim to create a set of collaborative and concrete recommendations for moving forward. As has been our practice, all materials from the Scholarly Commons program will be made publicly available through FORCE11, so that any individual or organization seeking to effect change can take advantage of this work.

### Get Involved

We invite you to explore and comment on the materials on the Scholarly Communications Working Group website. In addition to the next steps outlined above, we will be publishing a toolkit of education materials, so individuals and communities can utilize and adapt the workshop and other materials for satellite events. All are welcome to join the working



group and contribute this project, and the broad dissemination of its outcomes.

Figure 1: Demographic breakdown of workshop attendees.

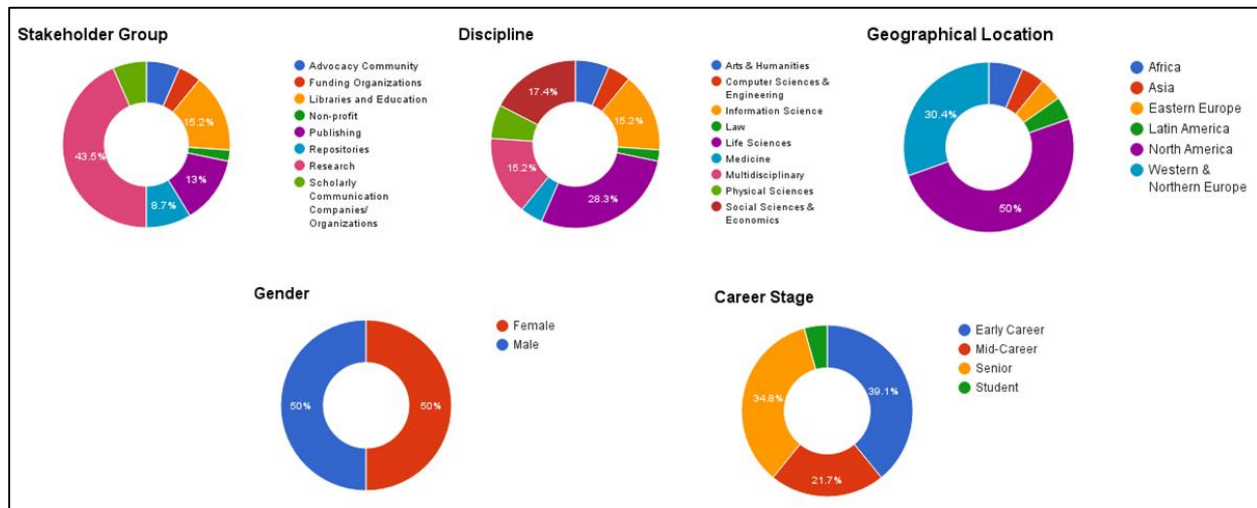


Figure 2: Visualization showing all groups' visions as interconnected elements (triples), with common elements overlapping.

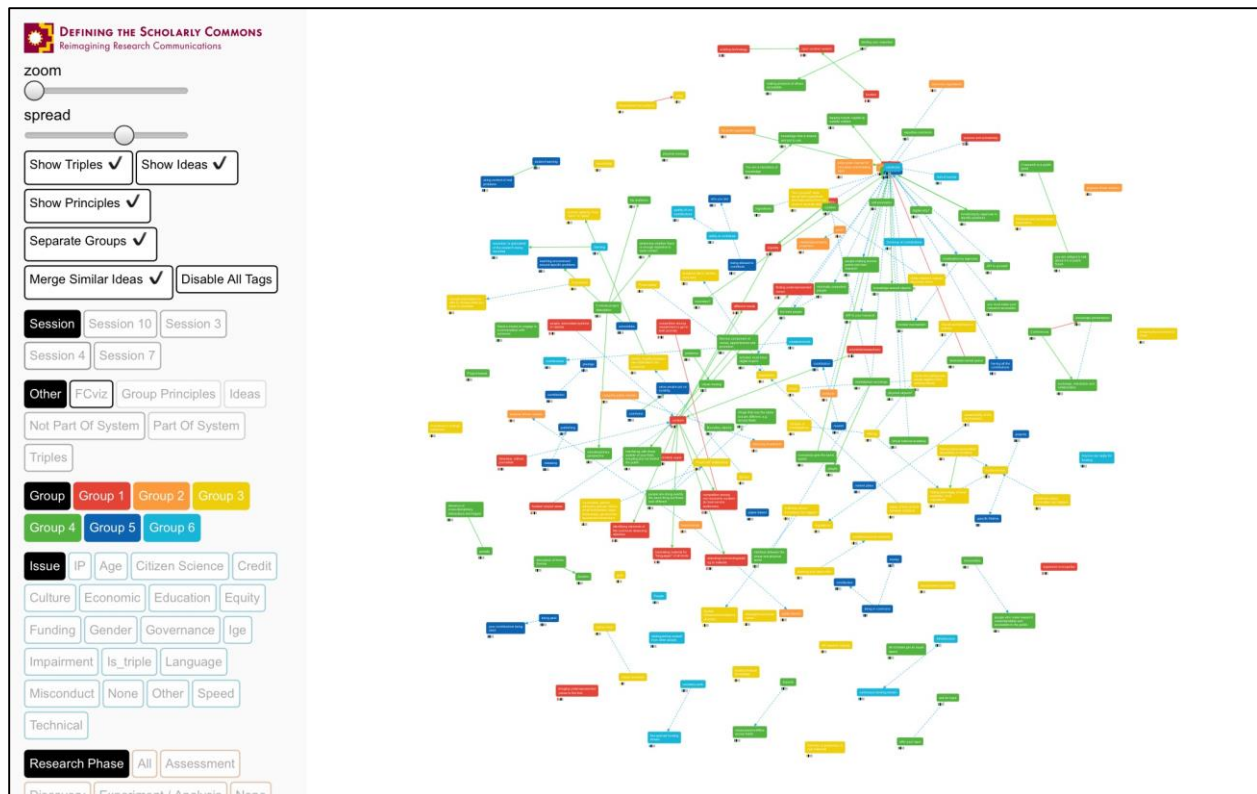


Figure 3: Screenshot of the Madrid workshop public Trello board.

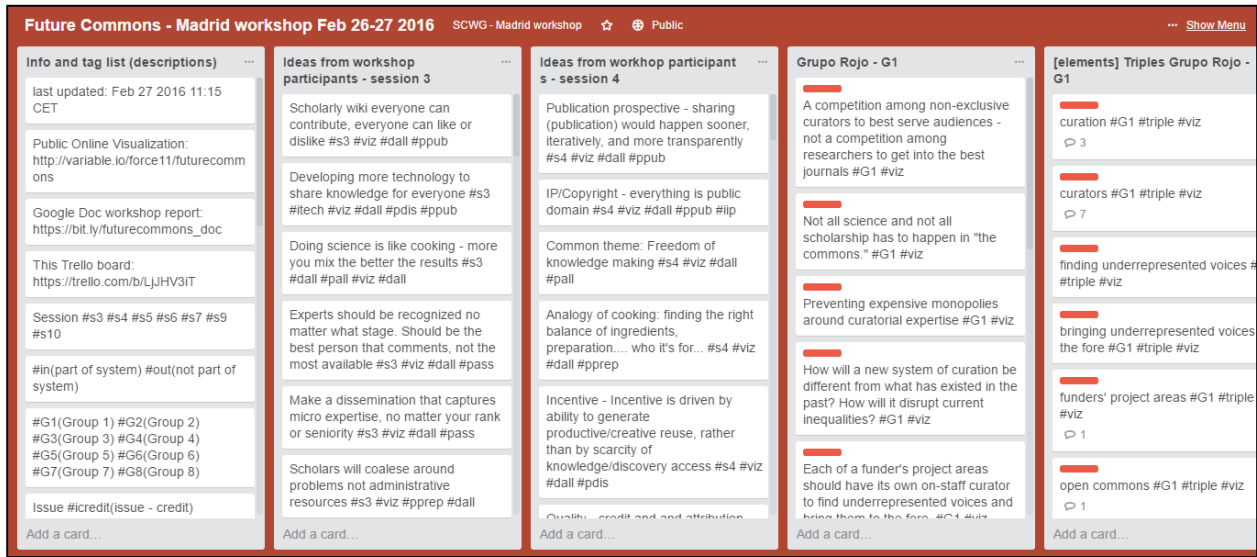


Figure 4: Screenshot of Force2016 workshop public Trello board.

