

Achieving a Global Knowledge Commons for Open Science

Martha Whitehead, Vice President for the Harvard Library, Harvard University

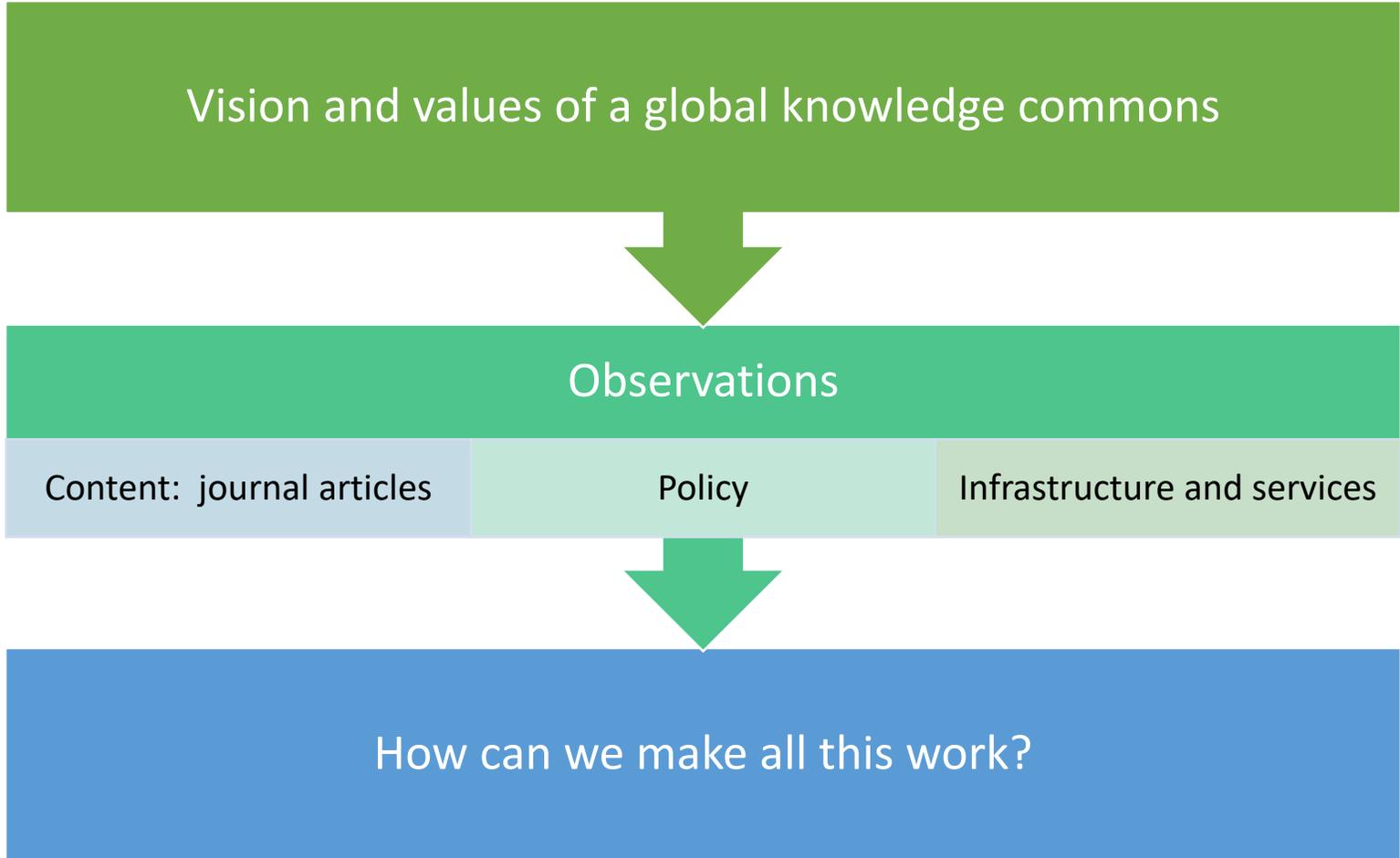
Open Science Fair 2019, Porto

September 18, 2019

My perspectives

- Institutional responsibilities / External collaborations
- Local systems development / vendor systems
- Back-end systems / learning and research services
- Infrastructure is complicated!

Outline



Grateful acknowledgements

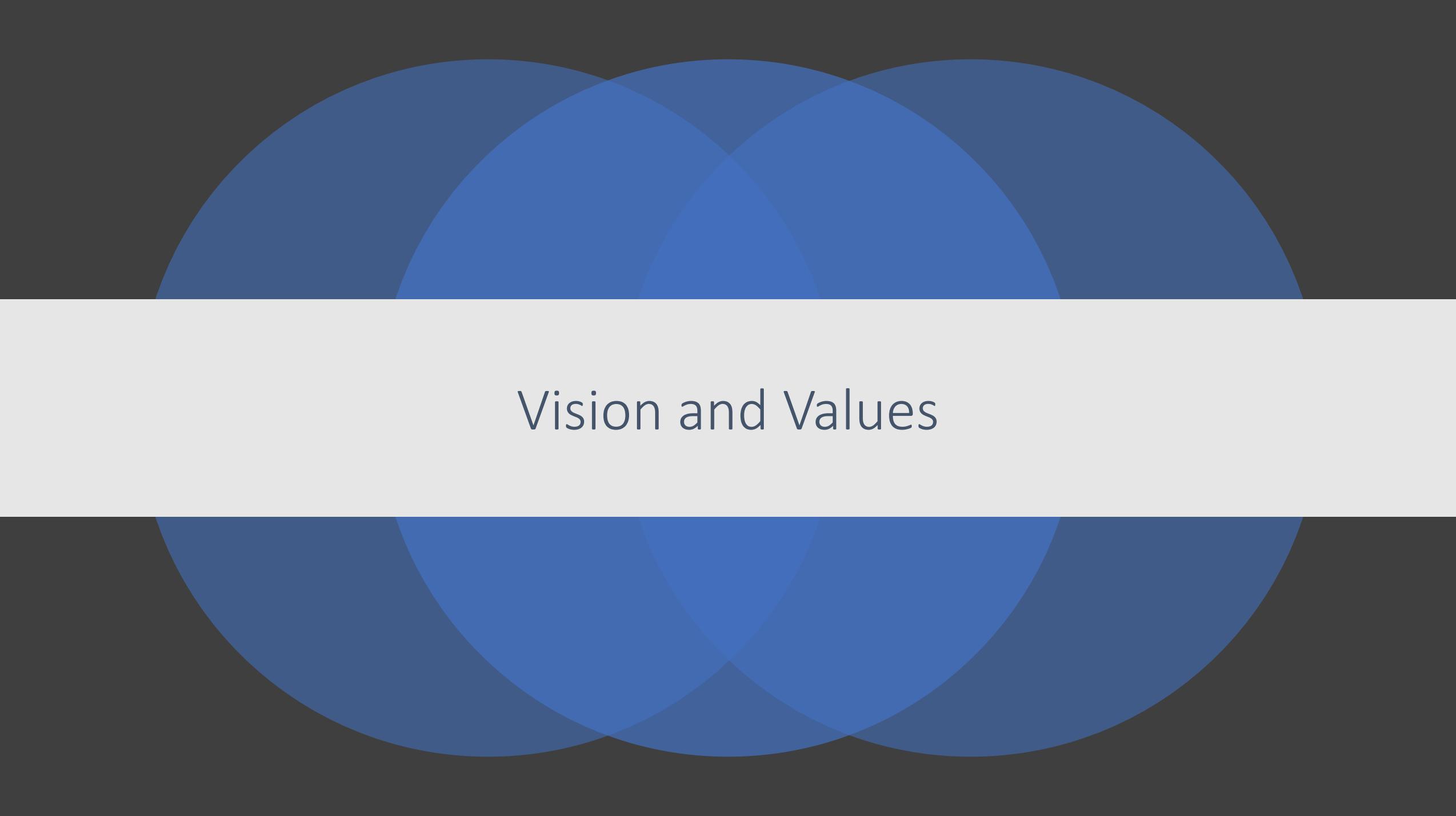
Peter Suber, Director, Office for Scholarly Communication, Harvard Library

Ceilyn Boyd, Research Data Program Manager, Harvard Library

Suzanne Wones, Associate University Librarian, Harvard Library

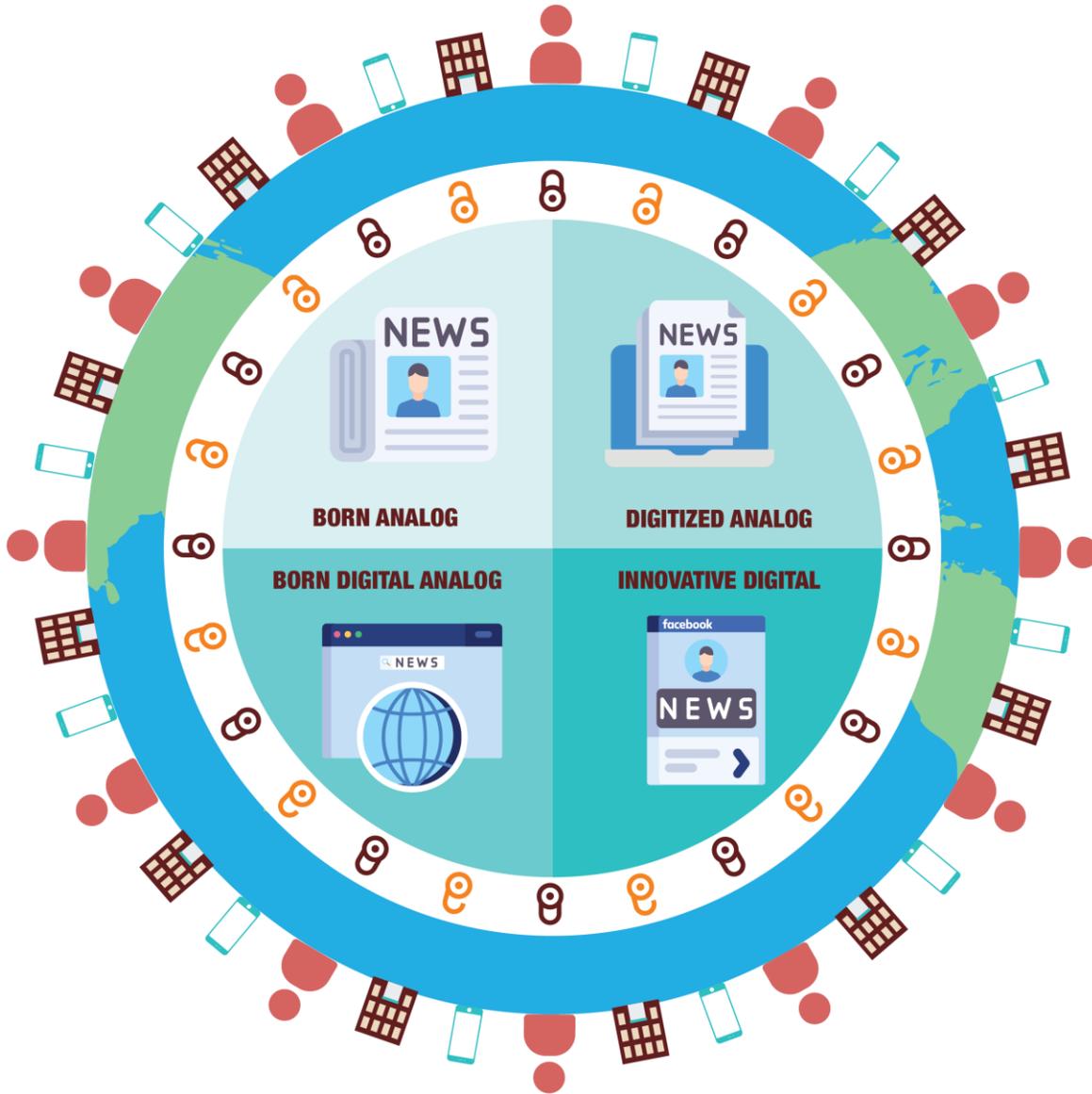
Courtney Matthews, Head, Open Scholarship Services, Queen's University Library

Kathleen Shearer, Executive Director, Confederation of Open Access Repositories

The image features a dark grey background with three overlapping blue circles. A white horizontal band runs across the middle of the circles. The text "Vision and Values" is centered within this white band.

Vision and Values

Vision: A Global Knowledge Commons



...that enables **high impact research and learning**, reflecting our **values of diversity, inclusion and open access** to information.

Data at the core, surrounded by enabling layers of:

- policy
- distributed infrastructure
- services that facilitate user engagement with data

Competition versus collaboration?

Competitive advantage equals collaboration





Browse

- All of DASH
- Communities & Collections
- By Issue Date
- Author
- Title
- Keyword
- FAS Department

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- Waiver Generator

About

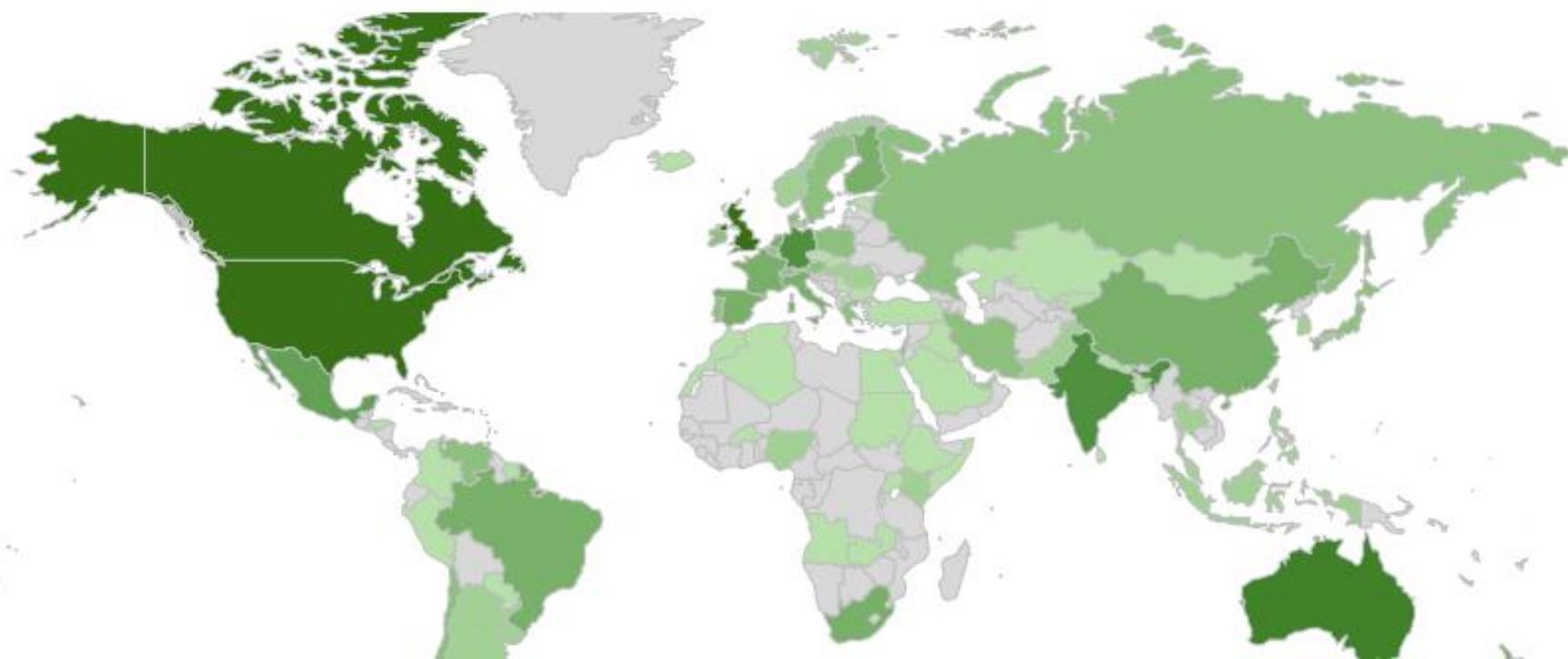
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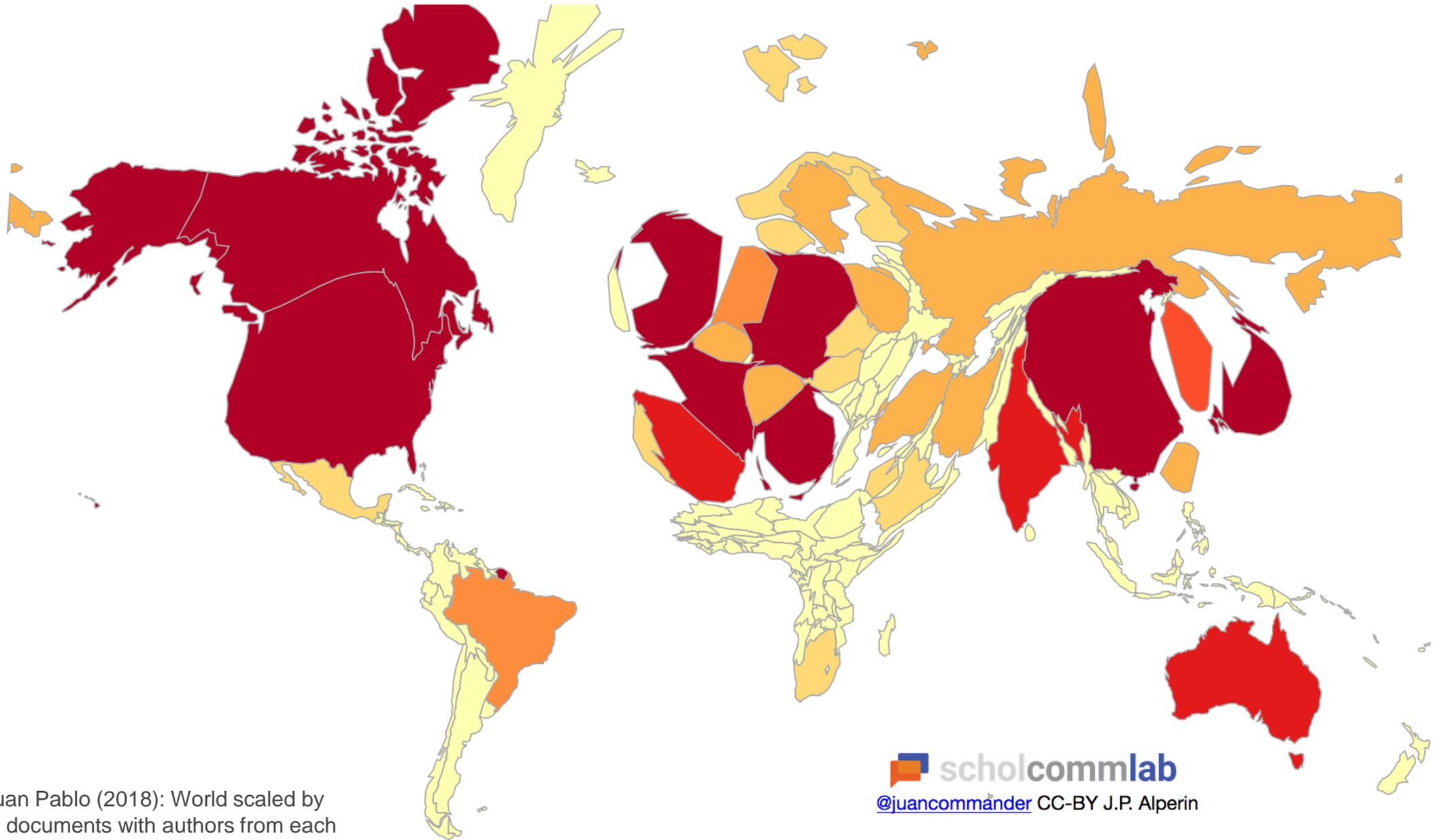
Statistics

Your Story Matters

Click to find out what readers are saying about DASH!

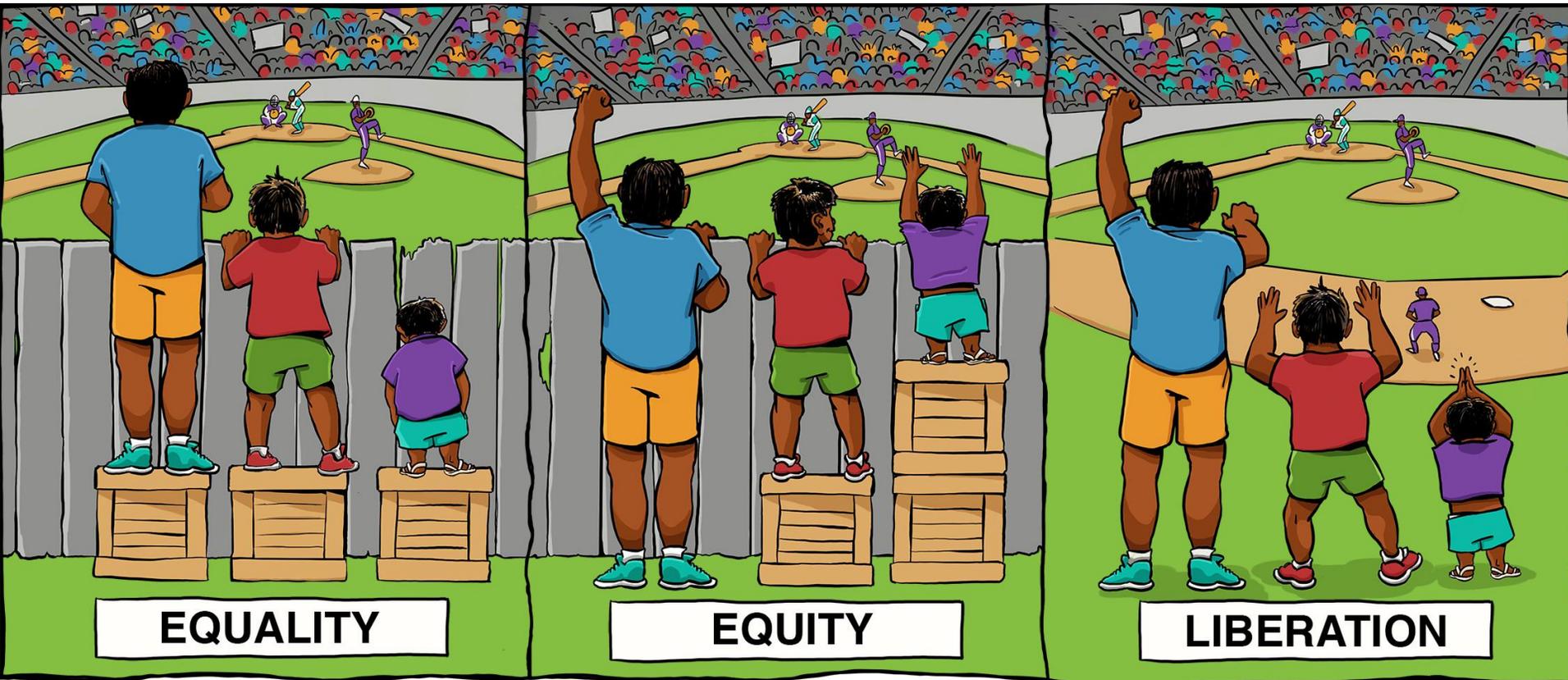






Alperin, Juan Pablo (2018): World scaled by number of documents with authors from each country in Web of Science: 2016. figshare. Figure.

Diversity and Inclusion



Diversity and inclusion of:

- Authors
- Languages
- Publications
- Services
- Tools
- Infrastructure

How to avoid centralization, monopoly, loss of control?
How to achieve open sustainable infrastructure?

YOUR IDEA HERE

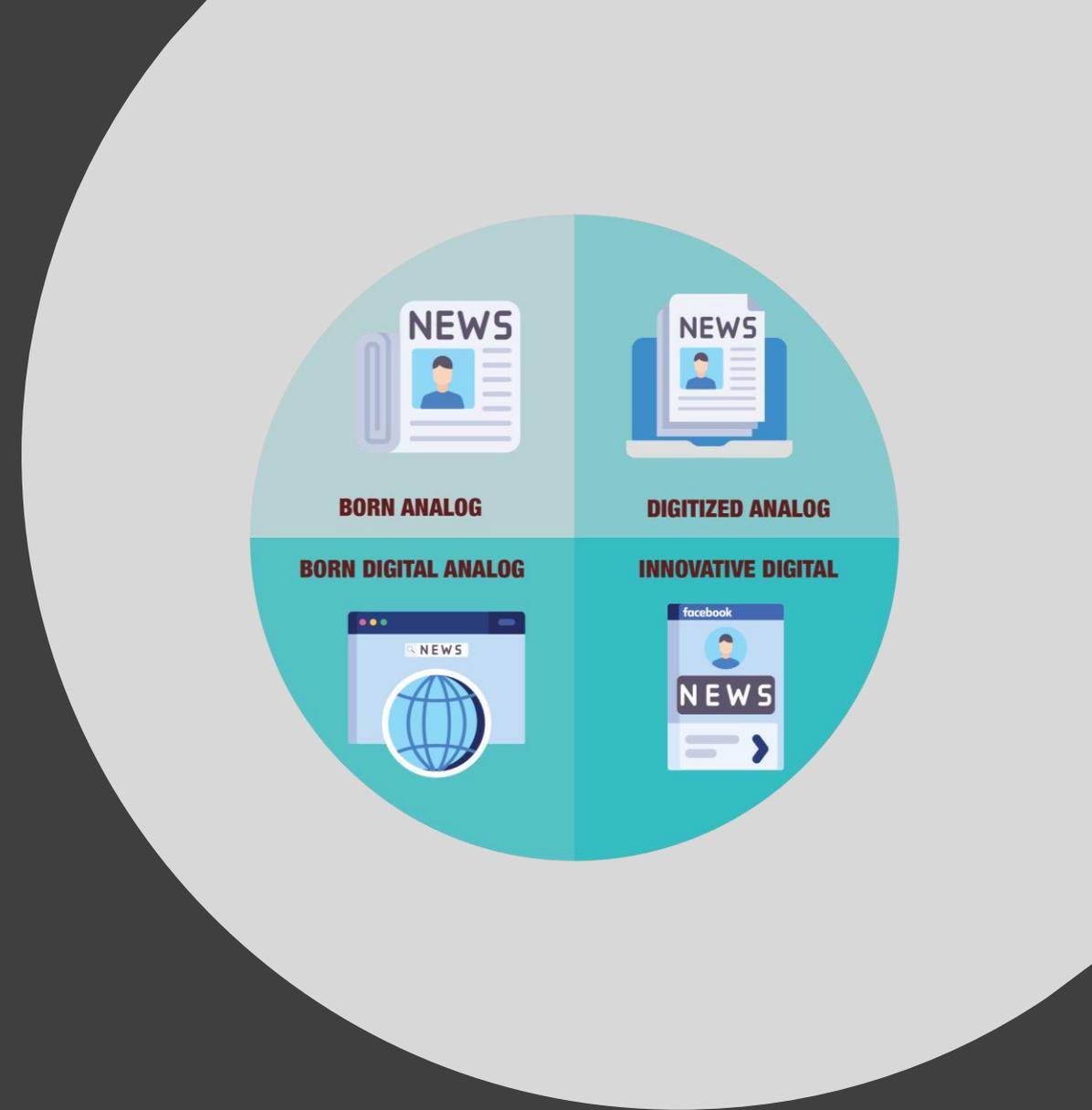
The image features a dark gray background with a central white horizontal band. Above and below this band are three overlapping circles in shades of blue, creating a decorative, symmetrical pattern. The word "Observations" is centered within the white band.

Observations

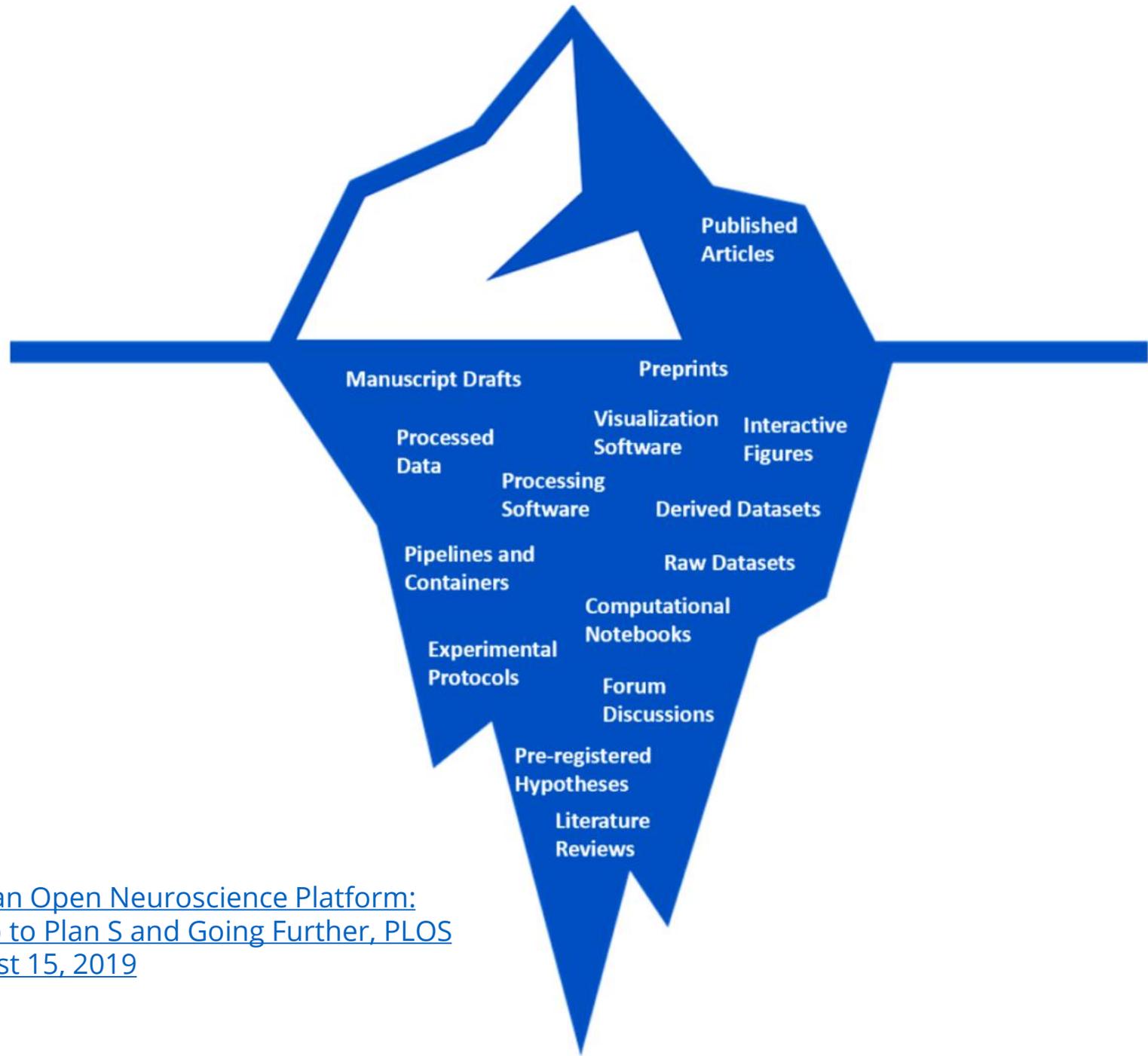
Data at the core

There are distinct associations, initiatives and parts of our organizations focused on these different forms of data, but they have similar concerns:

- Acquisition and production
- Discovery, access and delivery
- Preservation



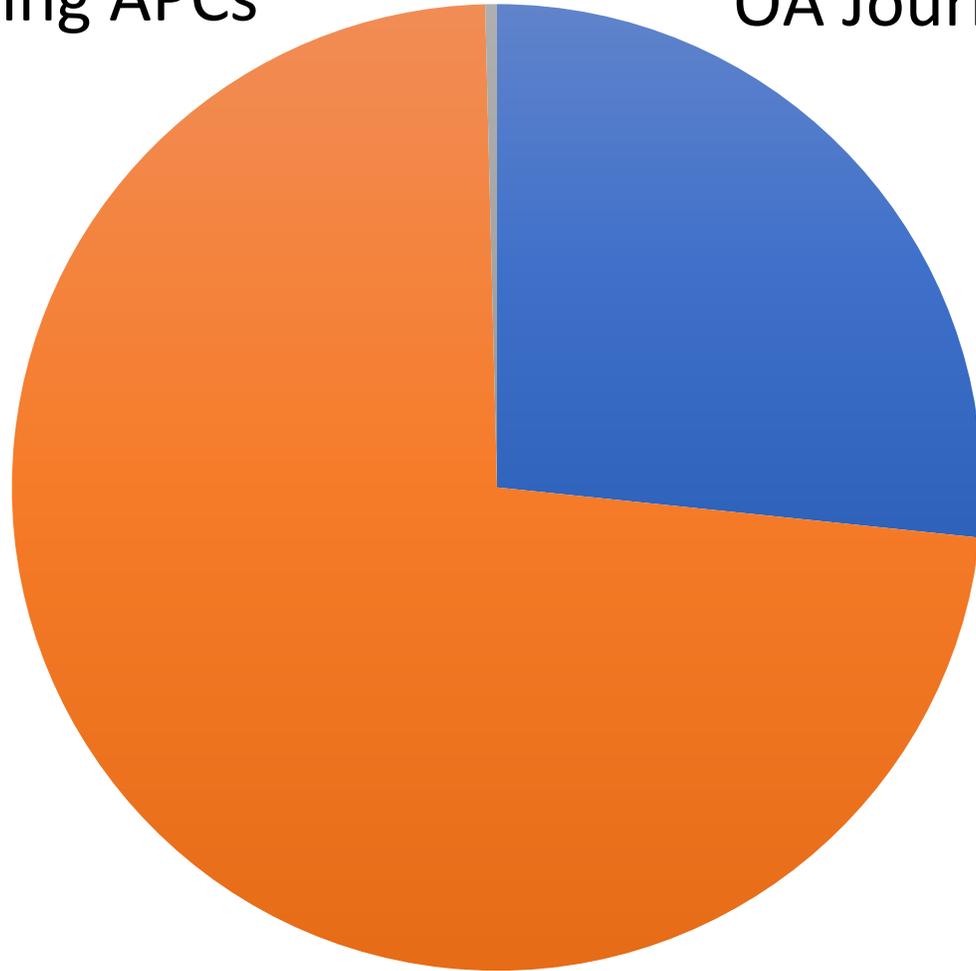
Journal articles: the tip of the iceberg



[The Canadian Open Neuroscience Platform:
Catching Up to Plan S and Going Further, PLOS
Blogs, August 15, 2019](#)

OA Journals not charging APCs
72.9%

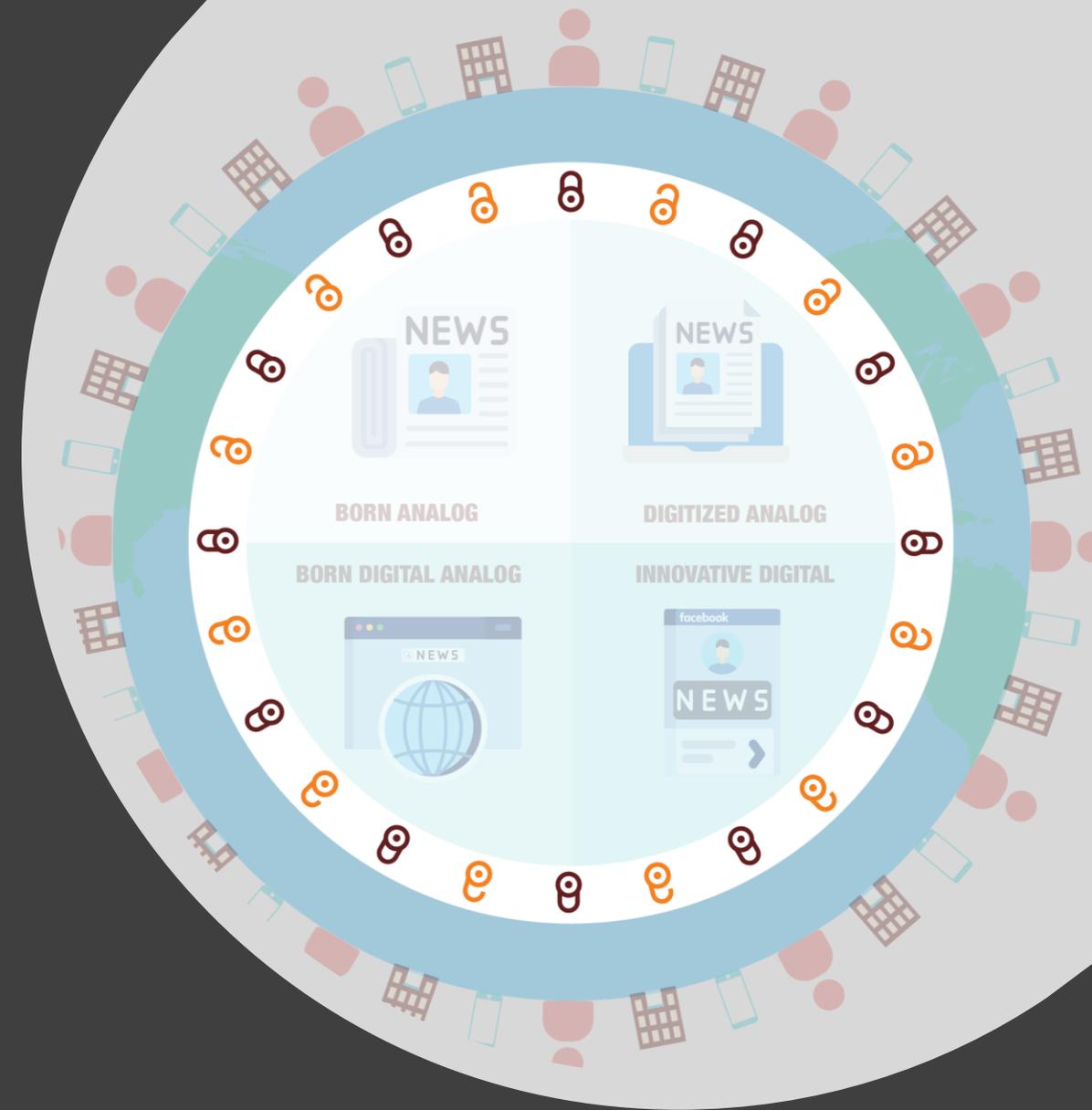
OA Journals charging APCs
26.6%



Policy

Our ability to support diversity, inclusion and openness is dependent on policy set by governments, funding bodies and universities. This includes:

- Value systems of tenure and rankings
- Data governance, e.g.
 - Freedom of information, privacy
 - Copyright, rights statements
 - Indigenous knowledge
 - Data management plans
 - Open access to publications



São Paulo Statement on Open Access

Joint Declaration by the African Open Science Platform, AmeliCA, cOAlition S, OA2020, and SciELO

São Paulo, 1 May 2019

The representatives of African Open Science Platform, AmeliCA, cOAlition S, OA2020, and SciELO – five of the major worldwide Open Access initiatives – met on 1 May 2019 during the annual meeting of the Global Research Council in São Paulo, Brazil. They are united in their common mission of making knowledge available and accessible wherever it can have the greatest impact and help solve humanity's challenges regardless of where it was produced.

The combined effect of the five initiatives has generated a new momentum in the push towards universal, full, and immediate Open Access.

The Five Initiatives Jointly State That:

- They consider that scholarly and scientific knowledge is a global public good. When generated by public funds, free access to it is a universal right.
- They share one common ultimate objective: providing universal, unrestricted, and immediate Open Access to scholarly information, including use and re-use by humans and machines.
- They share the belief that this common goal can be achieved through a variety of approaches.
- They will pursue points of alignment among their approaches and ways to co-operate towards reaching the shared objective.
- They seek an active dialogue with all stakeholders, including researchers, research funders, universities, libraries, publishers, learned societies, governments, and citizens to take into account the diversity of the global scholarly community.

Global Research Council

Common mission of “making knowledge available and accessible wherever it can have the greatest impact and help solve humanity’s challenges regardless of where it was produced.”

They “share the belief that this common goal can be achieved through a variety of approaches.” – May 1, 2019



Scholarly Communication and Open Access
Actions for a Public Policy in Latin America

LA Referencia - May 2019



Actions for a Public Policy in Latin America

The document concludes with the need to discuss initiatives such as "Plan S", specifying the points of agreement and disagreement, given the regional context, regarding topics such as article processing charges (APC) or an assessment of the role of repositories. – May 31, 2019



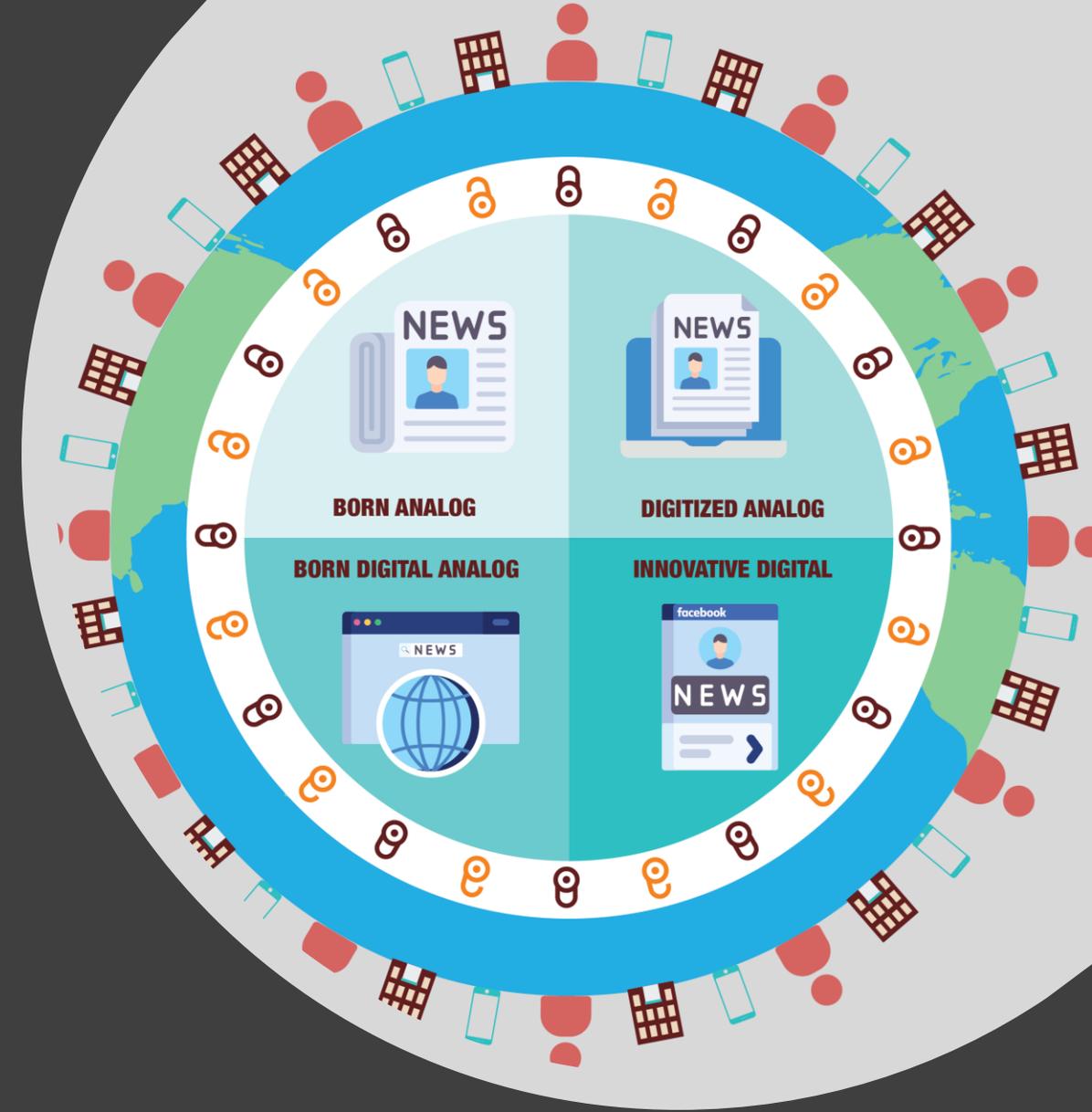
Jussieu Call for Open science and bibliodiversity



Infrastructure & Services

We want to *truly leverage digital opportunities* and not replicate old models. We want:

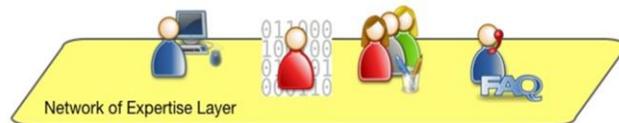
- Distributed, trusted networks (avoiding centralized control, single points of failure, oligopolies)
- Easy processes for authors and researchers
- Academic control
- Reasonable and transparent costs for infrastructure and no cost for the data itself



A research data management example



The Portage Network is a national initiative of the Canadian Association of Research Libraries (CARL), developed with multiple research stakeholders, with the goal of building research data management capacity in Canada



Network of Expertise

Pan-Canadian RDM expertise with over 100 in-kind experts contributing to development of RDM resources, tools, training, and policy



Infrastructure Platforms

Working with library consortia, institutions, and other infrastructure partners to develop and deploy essential RDM infrastructure and service components

Challenges

- Ensuring that each institution feels ownership and benefits at the local level
- Establishing shareholder governance *and* stakeholder governance
- Moving from seed funding to larger project funding to sustainable operations

A small overlay journal demonstration project

Launch an overlay journal through collaboration between an academic editorial board, formed by Sir Timothy Gowers, and a sponsoring library, Queen's University (Canada): *Advances in Combinatorics*

- Explore collaborations between academic libraries and editorial boards
- Leverage open publications from arXiv
- Demonstrate that a high quality journal can be run on a small budget using existing tools
- Explore the management of the peer review process as a service layer for next generation repositories, in collaboration with the Confederation of Open Access Repositories (COAR)

“I hope that it will demonstrate once again that starting a serious new journal is not that hard.”

– Sir Timothy Gowers, Royal Society
Research Professor, Centre for
Mathematical Sciences, University of
Cambridge; Fellow of the Royal Society;
Fields Medalist



Model

- Modelled on [Discrete Analysis](#)
- [arXiv](#) is both source and keeper of articles
- [Scholastica](#) academic journal management software
- "Ethical" journal: no charges for readers or authors
- Editors "do not lend their names," they actively participate
- Peer review, analytics tracking, integration with DOAJ, PubMed, etc.

Administrative tasks for the library

- Service level agreement covering:
 - Responsibilities
 - Funding
 - In-kind staff support
 - Term of commitment
- Registering DOI prefix, ISSN, custom domain
- Listing articles with reviewing services like MathSciNet, Zentralblatt
- Listing journal on indexes like the Directory of Open Access Journals (DOAJ), Open Access Scholarly Publishing Association (OASPA), Scopus

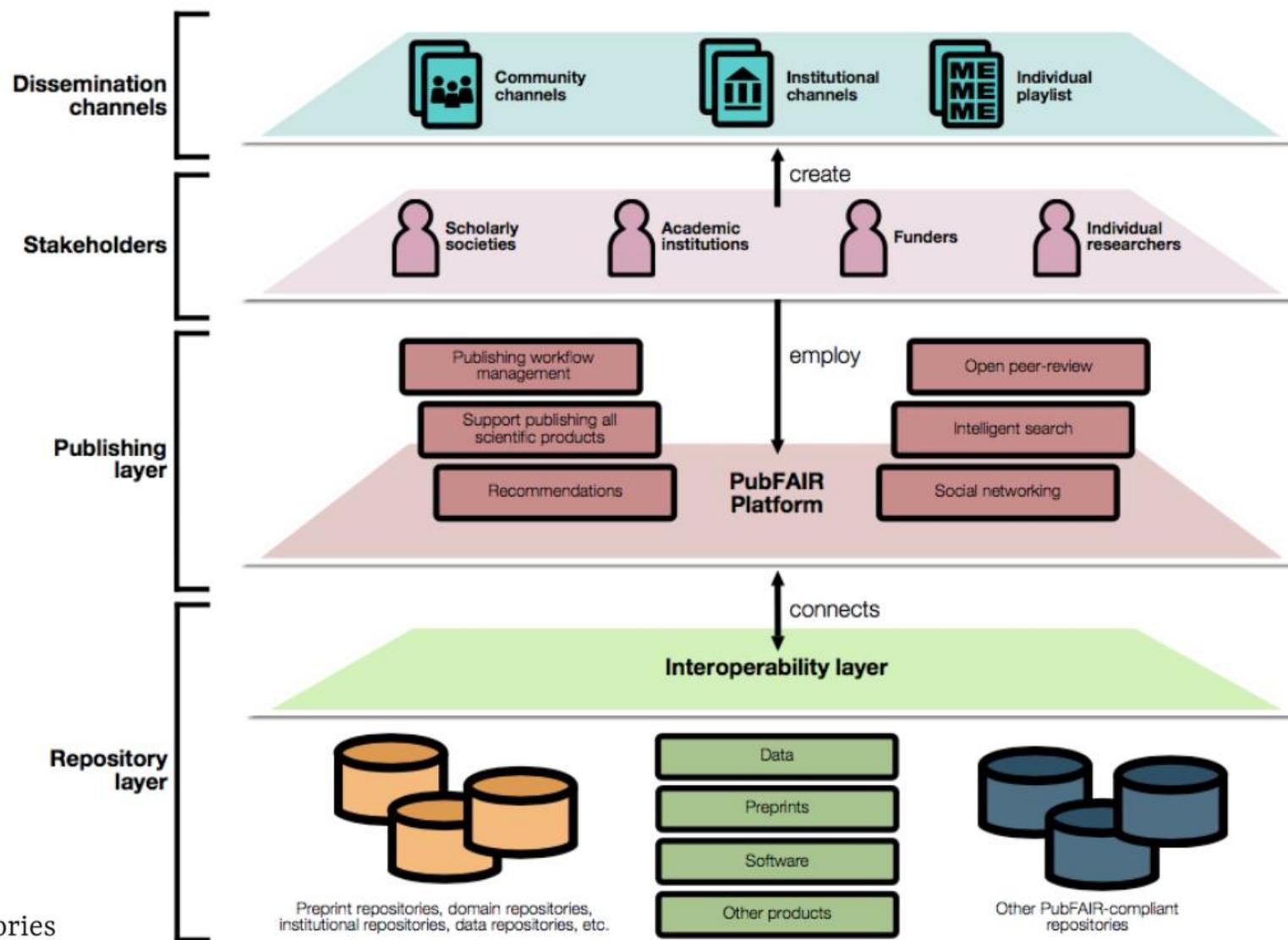
Estimated library costs for 2018-19

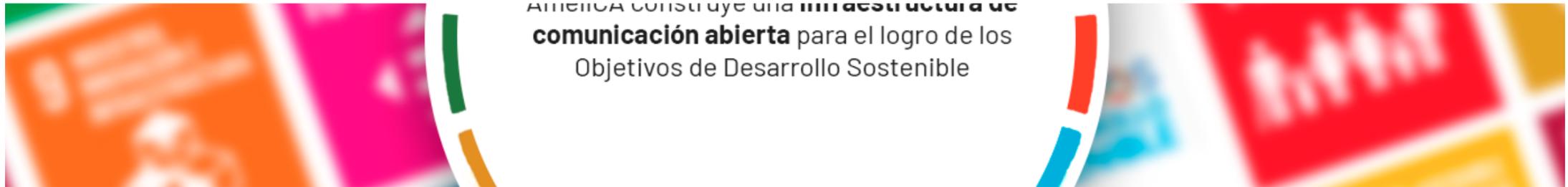
Comparable to the cost of Article Processing Charge (APC) for a single article			
Expense	CAD	USD	Euro
Scholastica subscription	\$1597.42	\$1188.00	€1060.19
Scholastica author submission fees	\$336.18	\$250.00	€223.13
Domain name	\$11.00	\$8.18	€7.30
In-kind staff	\$1073.8	\$798.8	€712.8
Total	\$3018.4	\$2244.98	€2003.42

Challenges

- Which journal software?
- Reliance on a 'public good' platform and its funding models, governance, priorities
- Institutional priorities – why this journal?
- Scaling up in a distributed environment

Pubfair: A Framework for Sustainable, Distributed, Open Science Publishing Services





AmeliCA is a **communication infrastructure** for academic publishing and **open science**, cooperatively supported.

[About AmeliCA](#)



Redalyc is an **indexing system** that integrates **open access** journals of certified scientific and editorial quality.

[About Redalyc.org](#)



Redalyc  AmeliCA

[See: AmeliCA vs Plan S: Same target, two different strategies to achieve Open Access.](#)

The Global Alliance of Open Access Scholarly Communication Platforms (GLOALL)



Meeting of Open Access Platforms in a session titled "Access to Scientific Information – Are we ready for the Global South and SDGs" at the WSIS Forum 2019 © UNESCO

**Global Alliance of Open Access
Scholarly Communications
Platforms (GLOALL)**

Invest in Open Infrastructure

An effort to enable durable, scalable, and long lasting open scientific and scholarly infrastructure to emerge, thrive, and deliver its benefits on a global scale.

Our Statement

Our Supporters

Join the Census

Leadership

Blog

Events

Media Coverage

Our Statement

We imagine a world in which communities of researchers, scholars, and knowledge workers across the globe are fully enabled to share, discover, and work together. It is clear that the needs of today's diverse scholarly communities are not being met by the existing largely uncoordinated scholarly infrastructure, which is dominated by vendor products that take ownership of the scholarly process and data. We intend to create a new open infrastructure system that will enable us to work in a more integrated, collaborative and strategic way. It will support global connections and consistency where it is appropriate, and local and contextual requirements where that is needed. [Read more >](#)

Sign Our Statement

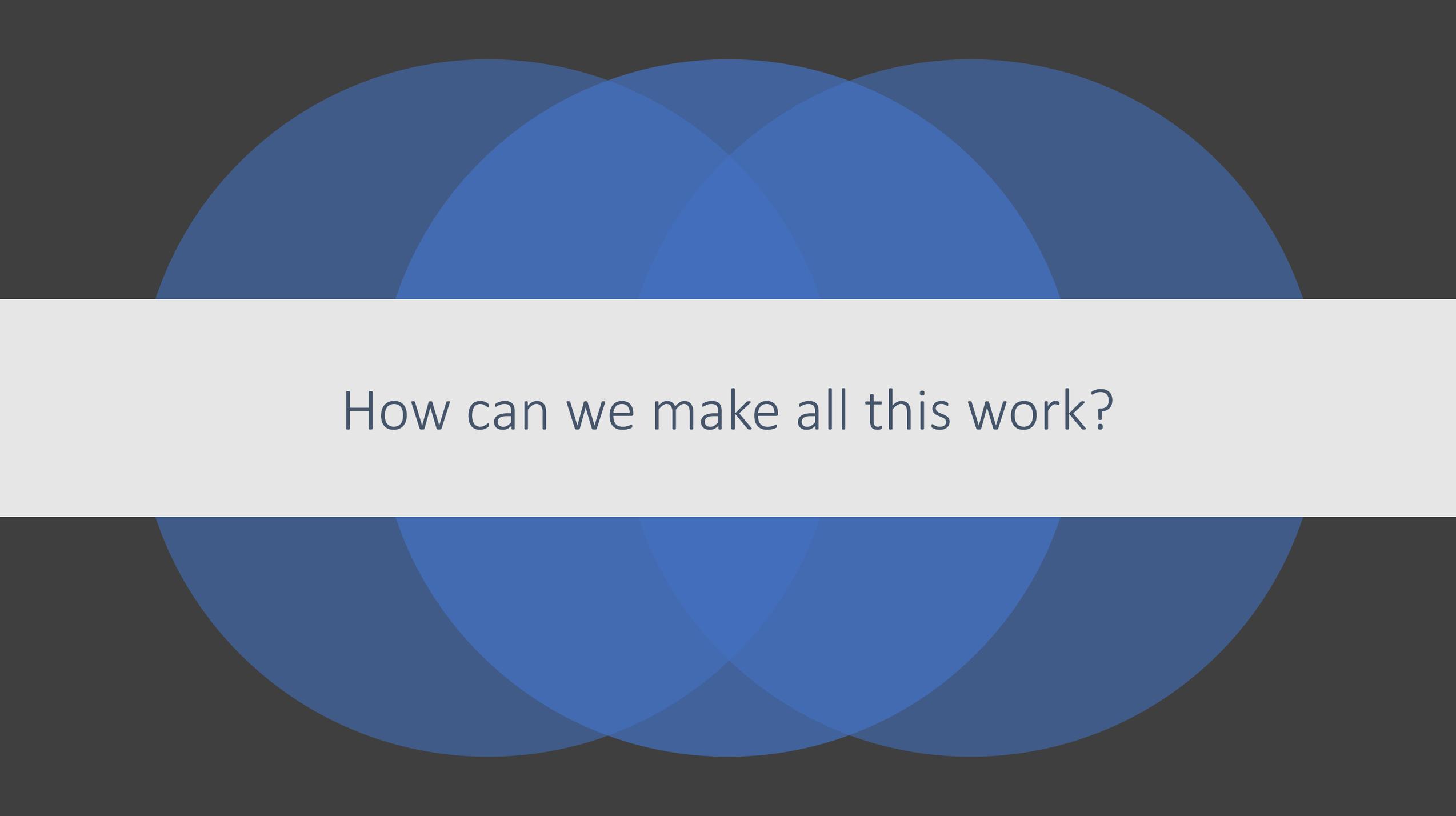
See [who's supporting IOI](#) and add yourself and/or your organization as a supporter.

[Sign the statement >](#)

Join the Census

The Census of Scholarly Communication Infrastructure is now open. We invite projects and programs, for profit and nonprofit corporations, and hosted initiatives of all kinds to contribute to this growing body of information.

[Complete the census >](#)

The image features a dark grey background with three overlapping blue circles. A white horizontal band is positioned across the middle of the circles. The text "How can we make all this work?" is centered within this white band.

How can we make all this work?

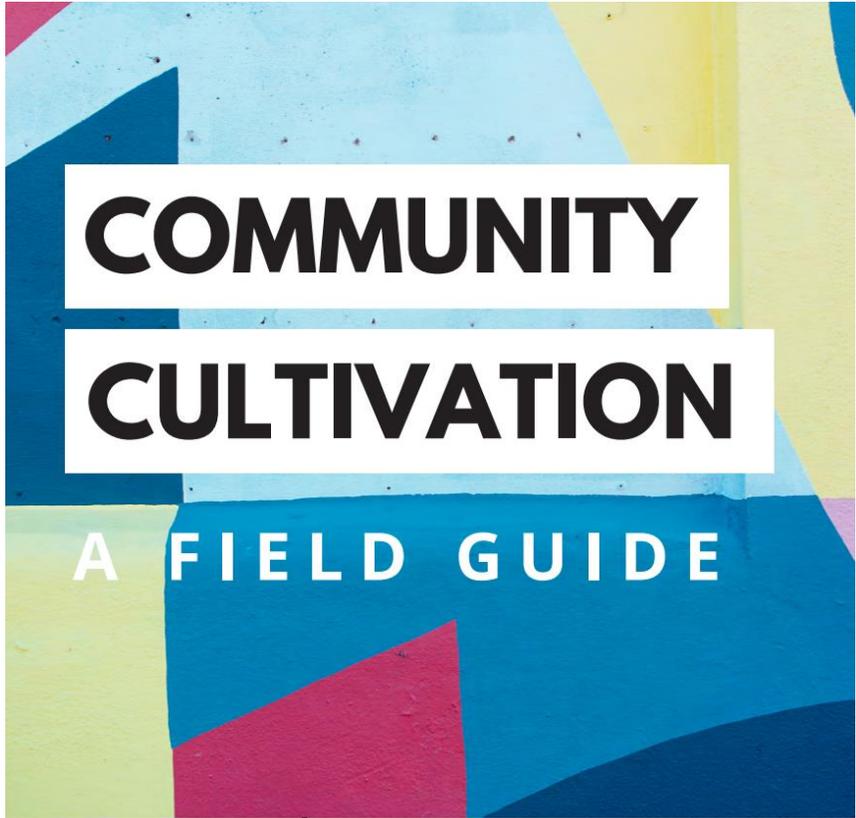
Several ways on my mind today...

1. Recognize that infrastructure is social
2. Explore the questions to be answered
3. Adopt good practice principles for open infrastructure
4. Be inclusive of industry in good practices
5. Support *truly* transformative models, not simply APCs

1. Recognize that infrastructure is social

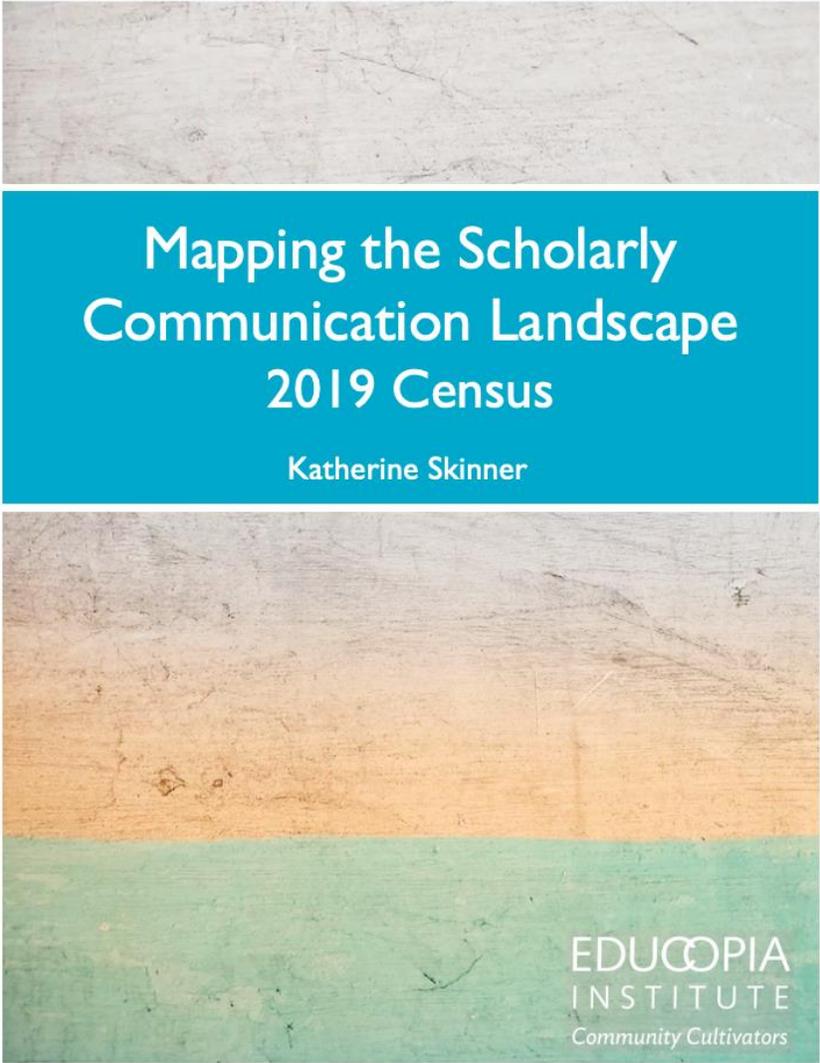
“An infrastructure occurs when the tension between local and global is resolved.”

Susan Leigh Star and Karen Ruhleder, *Steps Toward an Ecology of Infrastructure: Design and Access for Large Information Spaces*, Information Systems Research, Vol 7, No. 1, March 1996



RELEASED
NOVEMBER
2018

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Mapping the Scholarly
Communication Landscape
2019 Census

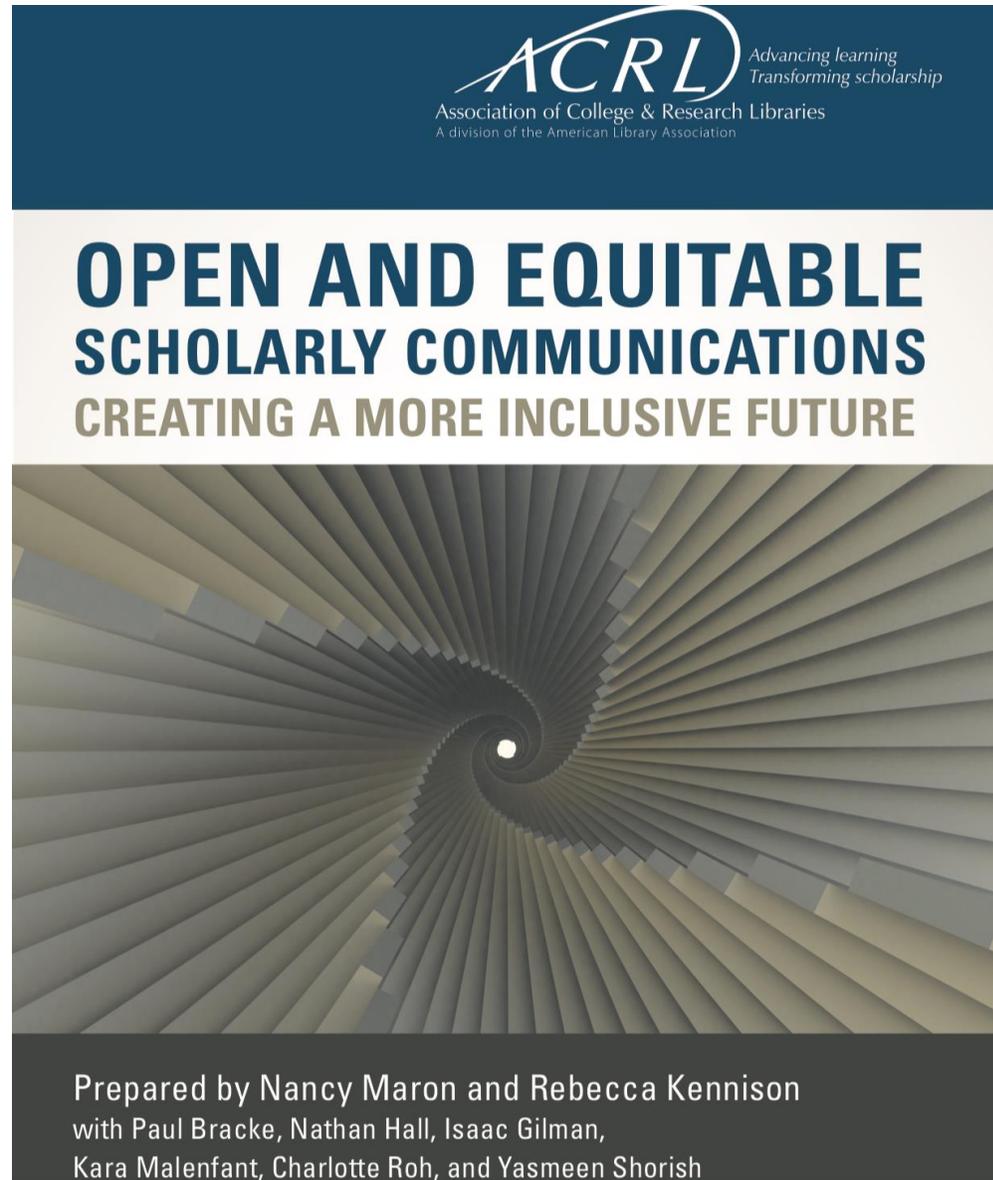
Katherine Skinner

EDUCOPIA
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Community Cultivators

2. Explore the questions to be answered, e.g.:

- How can financial support for no-fee OA journals best be provided?
- How can promotion and tenure processes be changed to incentivize green or diamond OA?
- How to make open infrastructure sustainable, especially if it's "academic led" infrastructure owned or hosted by non-profits
- From Mapping the Scholarly Communications Landscape:
 - 1) increase understanding of the range of forms, functions, structures, and models represented by SCRs across our system today;
 - 2) formally assess some of the factors that influence the sustainability and “fit-for-purpose” of SCRs, and
 - 3) identify concrete tasks and activities that specific SCRs might engage in to improve their stability over time

- What makes it desirable and possible for a wide range of institutions to commit to the creation and support of collectively owned infrastructure? How can issues of equity and voice be handled?
- Etc.



3. Adopt good practice principles for open infrastructure

Good Practice Principles for Scholarly Communication Services

COAR and SPARC have developed seven good practice principles to ensure that scholarly communication services are transparent, open, and support the aims of scholarship. These principles can be used by users to make decisions about which services they will contract with, and by service providers to improve their practices and governance



GOOD GOVERNANCE

The service has strategic governance that allows community input on the direction of the service and operational governance with community representation and decision making power.



OPEN STANDARDS

The service uses open APIs to enable interoperability, and adheres to open standards. Ideally, the platform is based on open-source software, but in cases where it is not, user-owned content is managed according to well-established, international standards.



FAIR DATA COLLECTION

Only data necessary for the service's provision are collected from users and the type of the data collected and how they are used is clearly and publicly articulated.

These principles are informed by Principles for Open Scholarly Infrastructure-v1 by Bilder G, Lin J, Neylon C (2015) © 2019 COAR and SPARC, subject to a Creative Commons Attribution 4.0 International License



TRANSPARENT PRICING AND CONTRACTS

The service's contract conditions and pricing are transparent and equitable, with no non-disclosure agreements included.



EASY MIGRATION

User-owned or generated content can be easily migrated to another platform or service upon termination of contract, without any additional fee from the service provider.



SUCCESSION PLANNING

If the service is a nonprofit, the organization's bylaws state the conditions and terms governing how the organization may be transferred or wound down. If the service is provided by a for-profit entity, the contract/agreement should not be assignable to another entity without the client's express permission.



OPEN CONTENT

Content, metadata and usage data are immediately, openly and freely available in machine-readable format via open standards, and using licenses (like CC0 or similar) which facilitate reuse.

4. Be inclusive of industry in good practices

MASS OPEN CLOUD

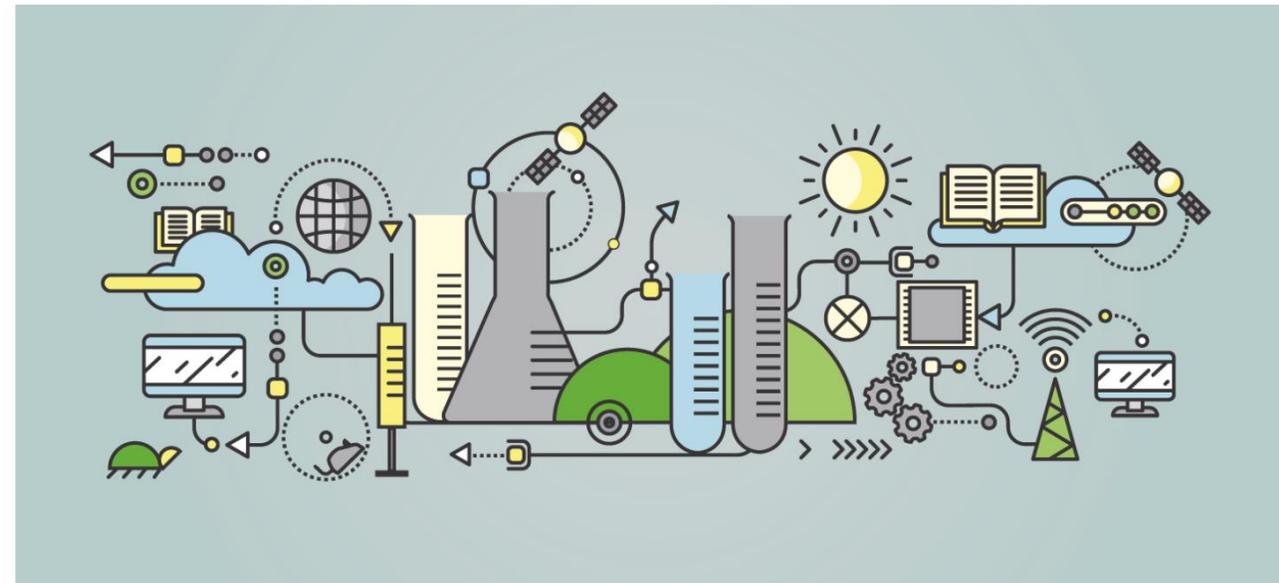
An Open Cloud Exchange Public Cloud



Hindawi Publishers Blog Meet the Team

A radically open approach to developing infrastructure for Open Science

Paul Peters October 23rd, 2017



<https://about.hindawi.com/blog/a-radically-open-approach-to-developing-infrastructure-for-open-science/>

5. Support *truly* transformative models, not simply APCs

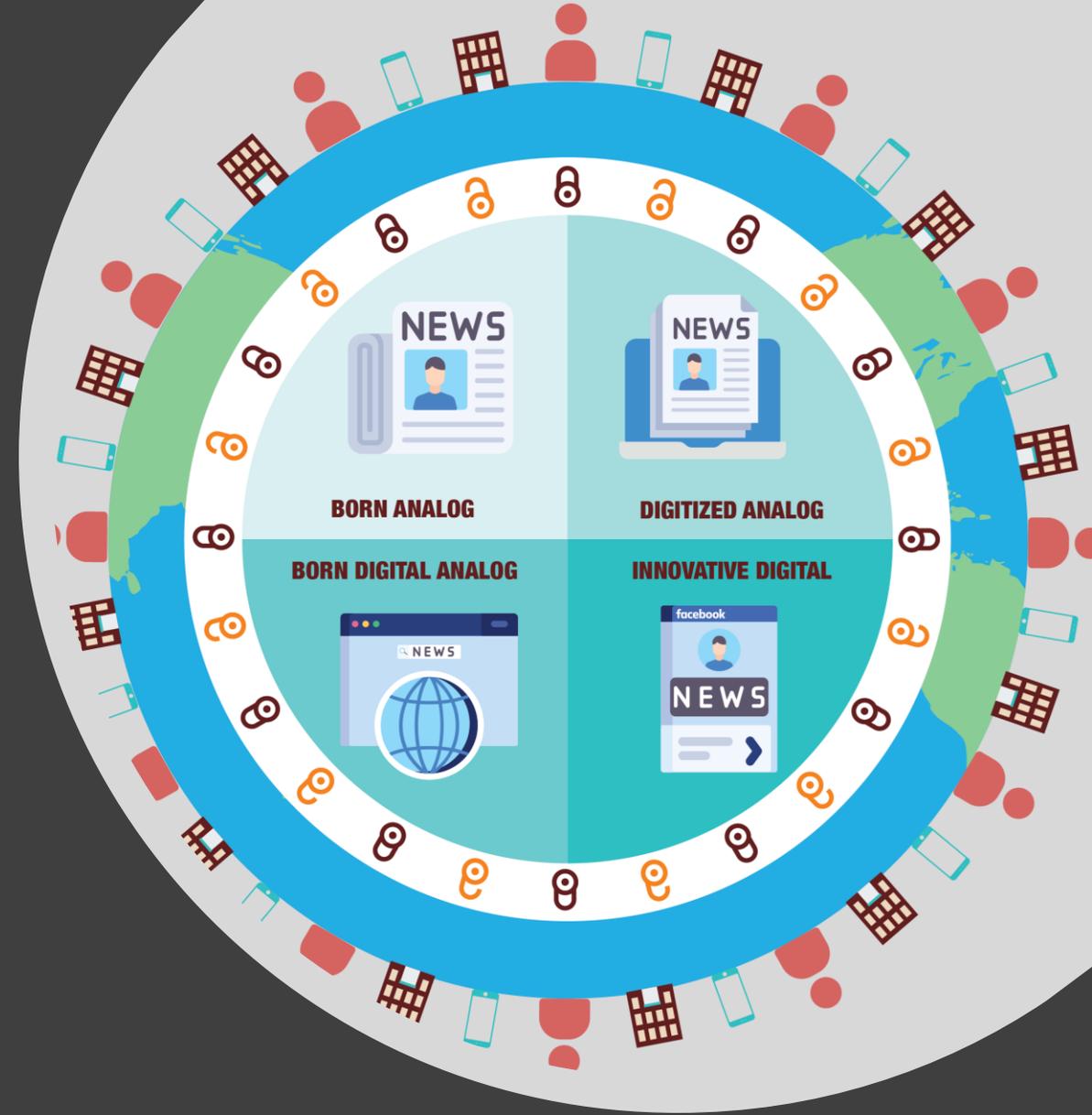
“In no case should economic interests be allowed to interfere with the full potential of a free communicating system designed and destined to help humanity – the whole of humanity – grow knowledge. Unleashing the full power of the distributed system of human intelligence remains the fundamental objective.”

- Jean-Claude Guédon, [Open Access: Toward the Internet of the Mind](#),
2017

Concluding thought...

There is no doubt that today's data realm is *global*.

Our job is to make sure that it is a *diverse, sustainable, thriving global knowledge commons*.



Thank you!

martha_whitehead@harvard.edu