



# OSI 2019 ANNUAL REPORT

REPORT ON THE 2019 ACTIVITIES  
OF THE OPEN SCHOLARSHIP INITIATIVE  
FEBRUARY 2020



OSI 2019 Annual Report  
Written by Glenn Hampson  
February 2020  
CC-BY-NC OSI 2019



# OSI 2019 Annual Report

Report on the 2019 Activities of the Open Scholarship Initiative

February 2020



# OSI 2019 Annual Report

Program director’s statement.....	1
2019 OSI highlights.....	2
Historical review of OSI .....	5
Membership .....	6
Need .....	6
Goals.....	6
Outcomes.....	7
Progress-to-date .....	8
Priorities .....	9
The case for cooperation.....	10
Broader impacts.....	11
Budget .....	13
Annexes	
Annex 1: 1Q summit meeting.....	16
Annex 2: 2Q summit meeting.....	45
Annex 3: 3Q summit meeting.....	52
Annex 4: Plan A .....	56
Annex 5: OSI presentation .....	83
Annex 6: UNESCO roadmap.....	112

## PROGRAM DIRECTOR'S STATEMENT

The Open Scholarship Initiative began in late 2014. It officially got underway in early 2015 thanks to support from the library and communications teams at George Mason University (arranged by Eric Olson), and to a pledge of financial support from UNESCO (arranged by Bhanu Neupane).

The first year of OSI was devoted to laying the foundation for what we would try to accomplish, and to finding and recruiting top-notch participants from around the world. The second two years—2016 and 2017—centered around fact-finding, featuring two full-group conferences from which numerous papers were published. The next phase—2018 and 2019—focused on action planning.

OSI's 2019 work expanded on the foundation laid by OSI's 2018 summit group, which was led by Scott Plutchak. We now have a plan that embraces the full measure of OSI's thinking over the past five years, and that we hope to start enacting early this year. While we will still collect facts and refine our plans, we have a good idea exactly what OSI will try to accomplish over the next five years and how. We hope the global community will join us in this effort, and we will also continue to help the global community—particularly UNESCO—realize their plans as well.

Thank you to all the OSI participants who have contributed to this effort over the years, and to the individual donors and corporate sponsors who have helped make this work possible. Thank you as well to the Science Communication Institute (SCI) board for allowing me to continue to devote full-time work to OSI.

Sincerely,

A handwritten signature in black ink, appearing to read 'Glenn Hampson', with a long horizontal flourish extending to the right.

Glenn Hampson  
Program director, OSI  
Executive director, SCI

## 2019 OSI HIGHLIGHTS

OSI's 2019 work focused on building a bridge to 2020—continuing our pivot from being an organization focused on understanding facts and perspectives, to one poised to pursue a significant, global reform agenda. This is a challenge for any group—doubly so for a group like OSI at the pioneering edge of a nebulous field, while also trying to maintain a republic format where all participants are co-equal leaders. OSI's strategy in 2019 focused primarily on these three agenda items:

1. **Find sustainable financing.** OSI sent out several dozen grant applications and letters of inquiry this year. Most of these funding requests were in the US\$20k-\$50k range. In the meantime, our historic sources of support fell away in 2019. The Sloan Foundation changed its funding focus, the major commercial publishers weren't quite as generous as in the past, and UNESCO didn't contribute any funding at all. Scholarly communication in general continues to be an underfunded space, except for more ideologically-driven "publishers need to be put out of business" efforts that are being funded. OSI also submitted several major grant proposals in the US\$250k-\$2m range. Some of these proposals, large and small, are still outstanding.

The OSI summit group made several recommendations for improving our future funding success, including dividing our work into smaller, more fundable components (not just "studies," for example, but specific studies), and connecting our work more clearly to urgent issues in education, research, and public policy.

2. **Help coordinate the construction of a new global roadmap for open.** A number of stakeholder groups in scholarly communication now realize that broad, collaborative reform action is needed. What we are seeing today are parallel, high-level efforts around the world to create a new roadmap for the future of open. However, there is no convergence of activity for this work, and no central coordinating point. Properly funded and executed, OSI can fill this needed role—not necessarily as a convener or authority, but as an observatory and voice to keep these similar and important efforts connected, aware of each other's existence and activities, and coordinated so actions and policies can have more impact. We need this central hub to ensure that we can have reasonable, sustainable, global, inclusive action—a group to inform, coordinate and share policies that will help lay the groundwork for the future of open research/data and open science in particular.

The implications of successfully creating a global roadmap are broad—improved equity, education, economic development, scientific progress, and more. The

implications of failure might also be broad—particularly with regard to less access to research in the global south and the education and economic consequences this loss might entail (OSI’s Plan S paper, published in early 2019 and available on the OSI website, describes how such a scenario might unfold—essentially by adopting global reform measures that work well for Europe and Latin America, but not for the rest of the world).

The United Nations is one of the more active organizations in the open roadmap space. Its work is being coordinated by UNESCO—the UN General Conference officially tasked UNESCO with this responsibility and authority in 2019. OSI will be involved in 2020 as an advisor in this effort (see Annex), and will also continue to serve in the “NOASIR” role for UNESCO—as UNESCO’s Network for Open Access to Scientific Information and Research. What this means is that UNESCO is relying on OSI to support and cultivate the international open environment and connect stakeholders, support research and development in open technologies, policies and practices, defend access to scientific journals to developing countries, and serve as a laboratory for innovation and a catalyst for international cooperation. We’re not hitting all of these marks at the moment but we aren’t aiming for them yet either—we simply don’t have the necessary funding or staffing. At the moment, what is within our reach is to continue serving as UNESCO’s multi-stakeholder policy advisory group on open access; we are also prepared to help with the 2020 roadmap effort and have been active in drawing other UN agencies and non-UN groups into this effort.

Whether as part of the UN’s work, and/or alongside other roadmap efforts, OSI hopes to:

- a. Help develop a fuller understanding of open research/data questions, answers and concerns.
- b. Help countries understand how this issue (and current global proposals) impacts their equity, education and development goals, through outreach and education programs
- c. Help create a global environment of cooperation regarding developing appropriate global action
- d. Help ensure that “research” improvements aren’t just for science, but HSS as well
- e. Develop needed global products/actions needed (with possible help from industry partners), and
- f. Work on existing priorities (alongside other OSI partners).



Having a navigable roadmap for open research is critical to the future of research, education and global economic development. However, developing this roadmap is a largely ignored effort, the assumption being that the current kaleidoscope of grass-roots activism, government/funder actions and business interests will somehow coalesce to create the right approach for the world. It hasn't, and it won't. OSI was specifically created to bring all stakeholders together to find an approach that works for everyone everywhere, and now, not 20 years from now. OSI's unique capabilities include:

- a. **Understanding:** OSI has developed what is arguably the world's most complete understanding of this very complex issue space.
- b. **Commitment:** OSI has a unique commitment to developing a global, multi-stakeholder approach to the future of how research is published and shared. There are no other efforts like this in the world. Instead, there are a funder-driven efforts trying to implement global reforms, and a range of efforts focused on regional or discipline-specific reforms. OSI's goal is to create these programs only through broad, inclusive global consultation and cooperation, and to leave implementation a matter of national prerogative.
- c. **Tenure:** We have been working on this issue since early 2015 in partnership with UNESCO.
- d. **Membership:** OSI currently includes around 400 high-level representatives from 27 countries, 250 institutions, and 20 stakeholder groups in research and scholarly communication—the only organization taking such a broad and inclusive approach to this complex and important challenge.

3. **Prepare for and start work on OSI's January 2020 to-do list**, including:

- a. Start an annual survey of open (possibly in collaboration with another group, or on our own to provide a concise, consistent, annual tally on how fast open is growing)
- b. Work on a developing a publicly-viewable top-10 list of predatory publishers (with information provided by Cabell's). (Note: This idea hasn't been officially approved by Cabell's, but we have been discussing the possible parameters of it for a few months now.)
- c. Develop, launch and promote OSI's Plan A (see Annex)
- d. Support UNESCO's interagency work (see Annex)
- e. Support study work being done by other scholars in this space

- f. Write more issue briefs (top topics to be addressed: impact factors, peer review reform, embargos, open impact, publisher profit margins, global flip, Plan S)
- g. Begin laying the groundwork for one research paper (maybe the embargo study?)
- h. Look for tech partners who can develop at least one tech product (preferably an easy but high-impact one)
- i. Upgrade the OSI website and OSI marketing/outreach materials, and
- j. Possibly organize/host another conference (particularly if requested by UNESCO).

## HISTORICAL REVIEW OF OSI

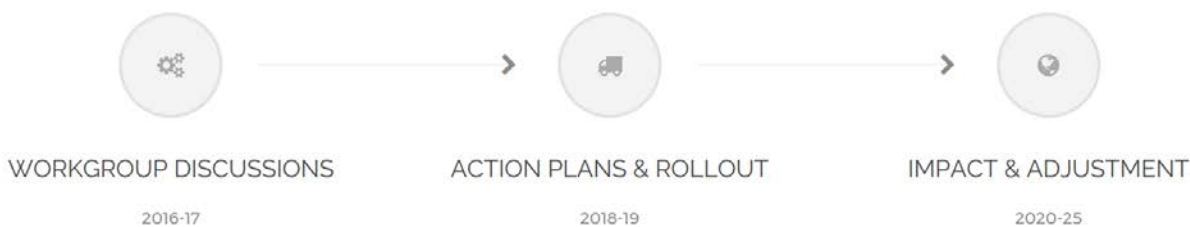
The Open Scholarship Initiative (OSI) is an ambitious, global, multi-stakeholder effort to improve the openness of research and scholarly outputs, lower the barriers for researchers and scholars everywhere to engage in the global research community, and increase opportunities for all countries and people everywhere to benefit from this engagement. Closely connected to this work, OSI is also focusing on correcting a broad range of scholarly communication deficiencies and inefficiencies—without these corrections, open will not be achievable or sustainable.

There is no other undertaking like this, focusing on improving the entire landscape of scholarly communication everywhere by truly working together on this vital task across institutions, disciplines, regions and stakeholder groups. Working together is the single most important and unique feature of OSI. After all, who speaks for scholarly communication reform today? Is it researchers (and if so, from what disciplines or institutions)? Governments or funders (which ones)? Universities or university libraries? Open access advocates? Publishers (new or old, big or small, subscription or open, north or south, scholarly societies or university presses)? Ask anyone from any of these groups what scholarly communication means and where it's headed and you'll hear plenty of ideas—some that overlap and are coordinated, others that diverge and are truly at odds, some that address niche concerns and others with broader audiences and ambitions in mind.

The scholarly communication reform space is awash with opinions, and also activity. But overwhelmingly, not enough of this activity is undertaken in a coordinated, global, multi-stakeholder manner; even less fully considers the global and multi-stakeholder impacts of reform proposals across regions, institutions and disciplines. There simply isn't a global mechanism to debate and evaluate these proposals, let alone a mechanism with the authority to do more—coordinate, develop, or even fund this kind of work.

It is precisely because the scholarly communication stakeholder community is so diverse, and because developing and implementing solutions requires broad and global input and commitment, that UNESCO, the Science Communication Institute (SCI) and George Mason University launched OSI in the Spring of 2015. The first step in OSI's journey was to understand the perspectives of each of the stakeholder groups and institutions represented in OSI and search for common ground. This stage of OSI took place during 2016 and 2017.

The next two years, 2018 and 2019, involved figuring out what course adjustments could be made to the current system to continue to improve scholarly communication and what assistance OSI might be able to offer, realistically (considering our size and budget)—new standards, new incentives, better definitions, coordinated policies, collaboration efforts, formal partnerships, new studies, pilot products, and so on. This stage has now concluded, and starting in 2020 the OSI group will begin rolling out our global reform plan (see Plan A in the Annex), fine-tuning this effort until 2025.



## MEMBERSHIP

Over 400 high-level leaders in scholarly communication from 27 countries around the world are part of OSI. These leaders represent about 250 institutions (in many cases they are the highest official in that institution) and a diverse array of 20 different stakeholder groups, from universities to government agencies to funders, publishers, scholarly societies, and more.

## NEED

The specific problems this group is addressing are (1) a lack of coordination of other reform efforts in the scholarly communication space, (2) the fact that many of the reform efforts in this space are not designed for broad adoption, therefore impeding more rapid progress on open, and (3) a lack of information and understanding about the true dimensions of this issue.

## GOALS

The three main goals of OSI are to:

- 1) build a sustainable, robust framework for global communication and cooperation on shaping the future of scholarly communication
- 2) support a climate for finding common understanding and workable solutions, and
- 3) help this stakeholder community move toward these solutions together.

## OUTCOMES

The targeted outcomes of this effort include achieving scholarly communication improvement goals faster and on a more predictable trajectory; creating multiple platforms for working on scholarly communication improvements together as a broad stakeholder community; increasing the efficiency and effectiveness of stakeholder efforts by following a common roadmap; and in the end, increasing the amount of research information available to the world and the number of people who can access this information (accruing myriad benefits to research and society).

Unfortunately, measuring these outcomes is problematic, if not impossible. It’s an article of faith in this community that open is a good thing. More research is needed to establish whether this is actually true, and if so, in what ways. That is, do open practices actually make research more usable? In what ways? What kinds of open are most effective? How is open being used? In what fields? What have been the tangible, measurable impacts on research? We hope to conduct more research into these sorts of questions going forward; for now, what we will try to assess is OSI’s success at reaching the mileposts it needs to reach in order to carry out its action plans.

The following table lists some of these measurables. Metrics will be compiled by OSI through quarterly or annual tallies or surveys starting asap.

Main goal	Measurable outcomes	How measured
Build a sustainable, robust framework for global communication and cooperation on shaping the future of scholarly communication (work is ongoing and tangible)	<ul style="list-style-type: none"> <li>• Engagement from OSI listserv, website, issues briefs, events (conferences, meetings), etc.</li> <li>• Outreach success (to policy makers, etc.)</li> <li>• Funding growth</li> <li>• Change in knowledge and attitudes about open</li> </ul>	<ul style="list-style-type: none"> <li>• Compile various stats of “influence” (posts, views, shares, etc.)</li> <li>• Growth in sponsor support</li> <li>• Tally of number of engagement events</li> <li>• Survey libraries, provosts, publishers, researchers and other stakeholder groups regarding open attitudes</li> </ul>
Support a climate for finding common understanding and workable solutions (current stage of work)	<ul style="list-style-type: none"> <li>• Lead in the developing and/or catalyzing the development of collaborative open solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement of global policy-making community</li> </ul>

- Tally of collaborative efforts in this space

Help the scholarly communication stakeholder community move together toward common-ground solutions	• Number and impact of solutions developed and implemented	• TBD, depending on when/if we get to this stage
---	--	--

## PROGRES TO-DATE

When the roadmap for OSI was first being developed in 2015, our original intent was to hold a series of 10 annual meetings beginning in 2016. Much was learned from the first two meetings as diverse teams collaborated on authoring joint perspectives on a wide range of important issues in scholarly communication (these reports are available on the OSI website at [osiglobal.org](http://osiglobal.org)).

The following key perspectives were also developed and shared by all: (1) The focus of open cannot be only about cost-savings. Open is going to cost money—the jury is still out on exactly how much, (2) There is mixed and confusing messaging in this space, (3) There are a lack of incentives for several key audiences, particularly researchers, (3) Publishing is critical. Without preservation and access, there is no modern scientific record, (4) Different stakeholder groups are more alike than unlike, (5) Convergent needs are everywhere, (6) We need to get institutions invested in this effort (not necessarily financially)—we all have a stake in the outcome, (7) This conversation needs trust to move forward, and (8) OSI is on the right track and can help.

After these first two meetings, plus thousands of emails covering dozens of deep listserv conversations about scholarly communications issues (all of which are publicly viewable, like the OSI reports), it became apparent that the next step in this process should be to pause and have our summit group meet to formally discuss and plan what comes next. This meeting happened in March of 2018. Many fundamental questions were discussed, and priorities were set. The work of OSI’s 2018 summit group continued throughout 2018, and was then refined and extended by the 2019 summit group and set into our Plan A for action (see Annex) which we will pursue in 2020 and beyond.

How much influence has OSI wielded over the last five years? The answer to this may depend on your perspective. In reality, the open movement is very much an echo chamber. Most people in this universe, including researchers, funders, and governments—arguably the stakeholders who are closest to the center of this conversation—have limited understanding of all the nuances of this debate. So if the question is “How much has OSI moved the needle on open amongst these central stakeholders?” the answer is probably not much—bearing in mind that

this needle is gyrating wildly because there is no central point of information, no large-scale sense of urgency or common ground, and no large-scale coordinated action. If the question is “How much has OSI changed hearts and minds of people who firmly believe that ‘open’ means one and one thing only (generally, the definition set forth by the Budapest Open Access Initiative in 2002)?” the answer is probably zero (but then “changing” the minds of our colleagues who hold this opinion was never our goal). If it’s “How aware is the open community of OSI?” the answer is probably moderately high—people who are involved in open know about the OSI listserv, even if they’re less aware of our goals and agenda. If the question is “How much has OSI improved understanding of open amongst a wide group of individuals who need to weigh in on the future of open?” the answer is probably limited but measurable—maybe a modest uptick in broad understanding of open, or at least a realization that the answers we seek aren’t necessarily black and white and/or that the only way to develop effective, sustainable solutions is by working together. As OSI participant Jason Steinhauer puts it, OSI is to cOAlition S what the American Revolution was to the French Revolution—we are searching for and developing reasoned, sustainable solutions instead of off-with-their-heads solutions. OSler Richard Gedye’s analogy is that OSI is the Kyoto Protocol of open. Both of these analogies capture the essence of what OSI is trying to accomplish, and explain why progress is going to be measured in years and not months.

Going forward, OSI’s progress will evolve with our business model. We have been evolving—first from an “observatory” of open (or a clearinghouse), next to a think tank, and maybe soon to a trusted advisor (we aren’t at this latter stage yet). From this advisor stage, we will be trying to evolve to a catalyst and/or solution architect.

## **PRIORITIES**

The OSI summit group has identified the following priorities for action:

- **ISSUE BRIEFS:** OSI participants are writing a series of issue briefs covering the many key topics raised so far in OSI. These briefs are intended to represent the perspectives and lessons of experience from all stakeholder groups in scholarly communication, not just single stakeholder viewpoints, and will also identify where progress can be made and what actors need to be involved. UNESCO has pledged to endorse and publicize these briefs, some as new global policy initiatives. Over 50 topics are currently on the issue brief list.
- **STUDIES:** OSI will begin underwriting studies that can target issues in scholarly communication where a lack of firm understanding is making it difficult to create effective policy reforms. The highest priority studies will involve (in this order) impact factors, CC-BY licensing, peer review, and embargoes.

- **INFRASTRUCTURE PRODUCTS:** OSI will begin developing products that fill specific infrastructure needs in scholarly communication with the goal of helping pave the way toward a more open future.
- **JOINT EFFORTS:** OSI will begin undertaking joint efforts with other groups to work at a high level toward achieving common open goals, using common language and tools.
- **EVENTS:** OSI will continue hosting meetings to ensure everyone in this space sees the big picture and not just part of it. OSI participants will also continue participating as speakers and panelists in other global meetings, communicating OSI's lessons of experience and forging partnerships with universities, publishers, research institutions, governments, funders, societies and policy groups interested in moving forward with workable, global solutions to open research. By way of reference, OSI's opening address for the 14<sup>th</sup> Annual Debate on Science Communication—an international, high-level prequel to the Falling Walls Conference—is included in the Annex.
- **OUTREACH AND EDUCATION:** One of OSI's more important goals over the next several years is to develop (by inventing and also pulling together existing materials) a world-class list of open-related resources for scholarly communication stakeholders. This is a work in progress. Resources will include news and commentary, open outreach materials, suggested reading lists, definitions, and key groups/efforts.

## THE CASE FOR COOPERATION

What proof is there that cooperation will succeed, and what of criticisms that any effort like this is just watering down existing open goals by cooperating across too diverse a group? For one thing, it's clear to many people who have followed the changes happening in scholarly communication over the years that a lot of tension and uncertainty exists in the system, and that this tension may be impeding progress toward open more than helping it. People want to know what to do and how, but they aren't sure who to follow and why, what the long-term implications of change will be for faculty and researchers, how much change needs to be made and how quickly, who will pay for this progress and how, and a whole slew of other critical questions that don't have simple black and white answers. Having a forum where these issues can be thoughtfully discussed across stakeholder groups is critical for making more rapid progress on this issue.

It's also clear that there is no current, workable roadmap for global action in scholarly communication, and that once one is developed, no one actor will by themselves be able to affect change across this very diverse and interconnected space. Only by working together will be able to achieve open goals.

Finally, and maybe most importantly, it has become increasingly clear to the OSI community that we need to work harder to ensure that what we're doing is for the benefit of researchers

first and foremost—that we involve more researchers in these conversations, listen to their concerns, and design solutions that work for their disciplines and institutions. This really isn't being done anywhere on a global and interdisciplinary scale.

OSI has been designed to work on this issue collaboratively and deliberately, in a way that involves input from all stakeholders in the scholarly communications community, and always with an acute awareness that the new world of scholarly communication being designed needs to be accepted by the research community and be of benefit to this community, needs to work in every country, institution and field of study, and needs to be reliable and effective over the long term.

OSI's approach is also important insofar as preventing the scholarly communication solution space from fracturing, or at least pausing this fracturing long enough to make sure we carefully consider the consequences of our reform actions. This fracturing has implications for the progress of science, for the economic development that is so closely tied to research, and to global equity and opportunity. It also has implications for the issue space connected to open. Issues such as peer review and impact factors, for instance, also need to be solved, and solving them requires coordinated, global action. Enacting a separate peace with “one-size-fits-all” solutions will short-circuit any real and sustainable solutions on these connected issues that need to be developed.

There aren't any “culprits” in this equation—just a number of one-off initiatives that try to solve only one part of the scholarly publishing puzzle from just one perspective and for one region. OSI is trying to walk a fine line between appreciating the creativity and enthusiasm of these efforts, while also counseling that they aren't going to achieve global buy-in (and they haven't) without a broader set of stakeholders at the table, and that we need to work together on solutions that work for everyone everywhere. We're also trying to discover missing information in this debate, find common ground between approaches, help develop new and innovative approaches, and more, all of which is necessary and important, and which can only be accomplished through cooperation.

## **BROADER IMPACTS**

With common, global action, we can realize the full potential of open and solve all of the connected issues in this space, from affordability to impact factors to embargoes, peer review, predatory publishing, and more. Here's what the next 15 years can look like by working together:



- PICK THE LOW HANGING FRUIT (5 years from now): Work together on common ground solutions to the easiest and most pressing issues. Doing so will build a record of success, build confidence in our potential, and attract more institutions to this approach.
- TACKLE THE TOUGH ISSUES (10 years from now): Replace the impact factor, improve promotion & tenure systems, and raise the bar (significantly) for data inclusion and interoperability and repository function.
- OPEN RENAISSANCE (+15 years): Universal open is achieved, including archives and data. Integrated repositories and standardized data create new fields of research based on connecting the dots. Research spending efficiency improves, and discovery accelerates.

And after 15 years, what does this full potential look like?

- Open is clearly defined and supported
- Open is the standard output format
- Open solutions are robust, inclusive, broad, scalable and sustainable
- Almost all knowledge is discoverable
- The global access gap is nonexistent
- Solutions for the humanities are built-in
- Connected issues are resolved
- Incentives are aligned so scholars embrace open because they want to
- Open is simple and clear so scholars know what it means and why they should do it
- Predatory publishing is defeated so it no longer threatens knowledge integrity
- Standards and global guidelines are clear for all journals, which helps the marketplace
- The marketplace remains competitive so open products remain cutting edge
- Repositories are integrated, not just connected
- Data standardization is widespread and robust.

And all of this leads to an “Open Renaissance” in science where:

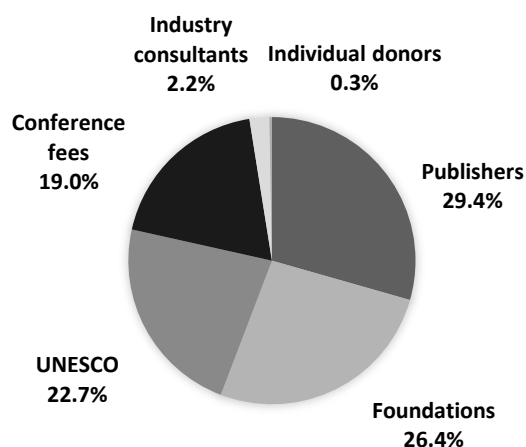
- Many kinds of improvement happen to research, including less bias and better transparency.
- The research ecosystem grows exponentially more powerful (with more data, more connections, and more apps), which further catalyzes innovation and improvements in research. New fields and directions emerge based on “connecting the dots” (thanks to data and repositories), funding efficiency improves, and discovery accelerates.
- The social impacts of research surpass today (including improved literacy, public engagement, and public policy impact).
- Knowledge becomes more of a global public good, and society reaps the benefits.

## BUDGET

OSI has received about \$379,000 of funding to date. In aggregate, this support has been reasonably evenly distributed between foundations, publishers, UNESCO and participants (in the form of conference registration fees). An important goal of OSI has been to avoid becoming “lopsided” in our funding, not to avoid becoming biased (since OSI’s financial supporters contribute funding only and do not influence OSI’s agenda or findings, which is determined by OSI’s participants and leadership), but to avoid the appearance of bias.

Source	2016	2017	2018	2019
Doris Duke Charitable Foundation	\$0	\$25,000	\$0	\$0
UNESCO	\$48,000	\$25,000	\$13,000	\$0
Alfred P. Sloan Foundation	\$20,000	\$20,000	\$20,000	\$0
Elsevier	\$7,500	\$20,000	\$10,000	\$5,000
PressForward Institute (via Sloan)	\$5,500	\$0	\$0	\$0
Taylor & Francis (Informa)	\$0	\$5,000	\$0	\$0
Nature Publishing Group (Macmillan)	\$5,000	\$10,000	\$10,000	\$0
George Mason University	\$4,500	\$0	\$0	\$0
Wiley	\$7,500	\$10,000	\$10,000	\$0
Laura & John Arnold Foundation	\$5,000	\$0	\$0	\$0
Sage Publications	\$5,000	\$5,000	\$0	\$0
Copyright Clearance Center	\$2,000	\$0	\$0	\$0
ResearchMedia	\$500	\$0	\$0	\$0
Emerald Publishing Ltd.	\$0	\$0	\$0	\$1,000
Research Consulting Ltd.	\$0	\$0	\$0	\$1,000
Delta Think	\$0	\$0	\$0	\$500
Cactus Communications	\$0	\$0	\$0	\$5,000
Conference fees (@ \$500 ea)	\$58,000	\$14,000	\$0	\$0
Individual donations	\$350	\$300	\$0	\$375
<b>Total income</b>	<b>\$168,850</b>	<b>\$134,300</b>	<b>\$63,000</b>	<b>\$12,875</b>

Sponsor type	Funding (\$)	% of total OSI funding
Foundations	\$100,000	26.4%
Publishers	\$111,500	29.4%
Conference fees	\$72,000	19.0%
UNESCO	\$86,000	22.7%
Industry consultants	\$8,500	2.2%
Individual donors	\$1,025	0.3%
Total	\$379,025	100%



At the time of this report’s publishing (January 2020), no support is currently pending for 2020 or beyond. However, our goal is raise at least US\$30,000 in 2020, hopefully much more—our minimum need for moving forward with our entire 2020 action plan is US\$150,000. Getting to this total may require (as recommended by the 2019 summit group) breaking the goals of OSI into more bite-size “fundable components” so we can increase our chances of finding funding matches. For example, studies are one such component, so we may approach the National Science Foundation to help support these, one study at a time. Network building is another component, and this can be supported by conference participant fees; outreach work can be supported by UNESCO; and new tech products and solutions can be supported by publishers and universities. Our goal is to continue to build a diverse base of support for OSI’s diverse work, and also convince major government funders to support our work more robustly than now. This is a global challenge affecting science and society and requiring global solutions, not just a local or commercial challenge, so the most appropriate funders are truly at the international and global level.

Our funding goals for the next four years are as follows:

<b>Income</b>	<b>Year 1 (2020)</b>	<b>Year 2 (2021)</b>	<b>Year 3 (2022)</b>	<b>Year 4 (2023)</b>
Commercial publishers	\$50,000	\$50,000	\$50,000	\$50,000
United Nations and other IGOs	\$50,000	\$100,000	\$250,000	\$250,000
NSF and other government funders	\$100,000	\$100,000	\$0	\$0
OSI conference fees (OSI participants)	\$100,000	\$100,000	\$100,000	\$100,000
Scholarly societies (e.g., AAAS)	\$50,000	\$50,000	\$50,000	\$50,000
Universities	\$50,000	\$50,000	\$50,000	\$50,000
Foundations	\$150,000	\$100,000	\$50,000	\$0
<b>Total</b>	<b>\$550,000</b>	<b>\$550,000</b>	<b>\$550,000</b>	<b>\$500,000</b>

# Annex

# Annex 1:

## 1Q OSI Summit Meeting

**DATE:** April 30, 2019

**ATTENDING:** Richard Gedye, Eric Olson, Andrew Kierig (and Wendy Mann), Jason Steinhauer, Joann Delenick, Joyce Ogburn, Mel DeSart, Rob Johnson, Lisa Janicke Hinchcliffe, Anthony Watkinson

**PRESENTATION:** See slide show on next page

### **SUMMARY:**

#### **OSI FUNDING**

- Find funding for individual OSI projects and initiatives (e.g., OSI studies that merit the most attention) as opposed to funding for OSI as a whole
- Consider “membership” fees for OSI
- Consider holding annual conferences that make a profit (charge non-OSIers to attend; for many organizations, conferences are their main source of income)

#### **OSI OUTREACH**

- Develop a sense of urgency around this issue (perhaps connect it more strongly to improving public education and policy on issues like climate change)
- Continue to position OSI as a facilitator, convener, advisor, etc., of open projects—a place where everyone in scholcomm can come for help

#### **OSI GOVERNANCE**

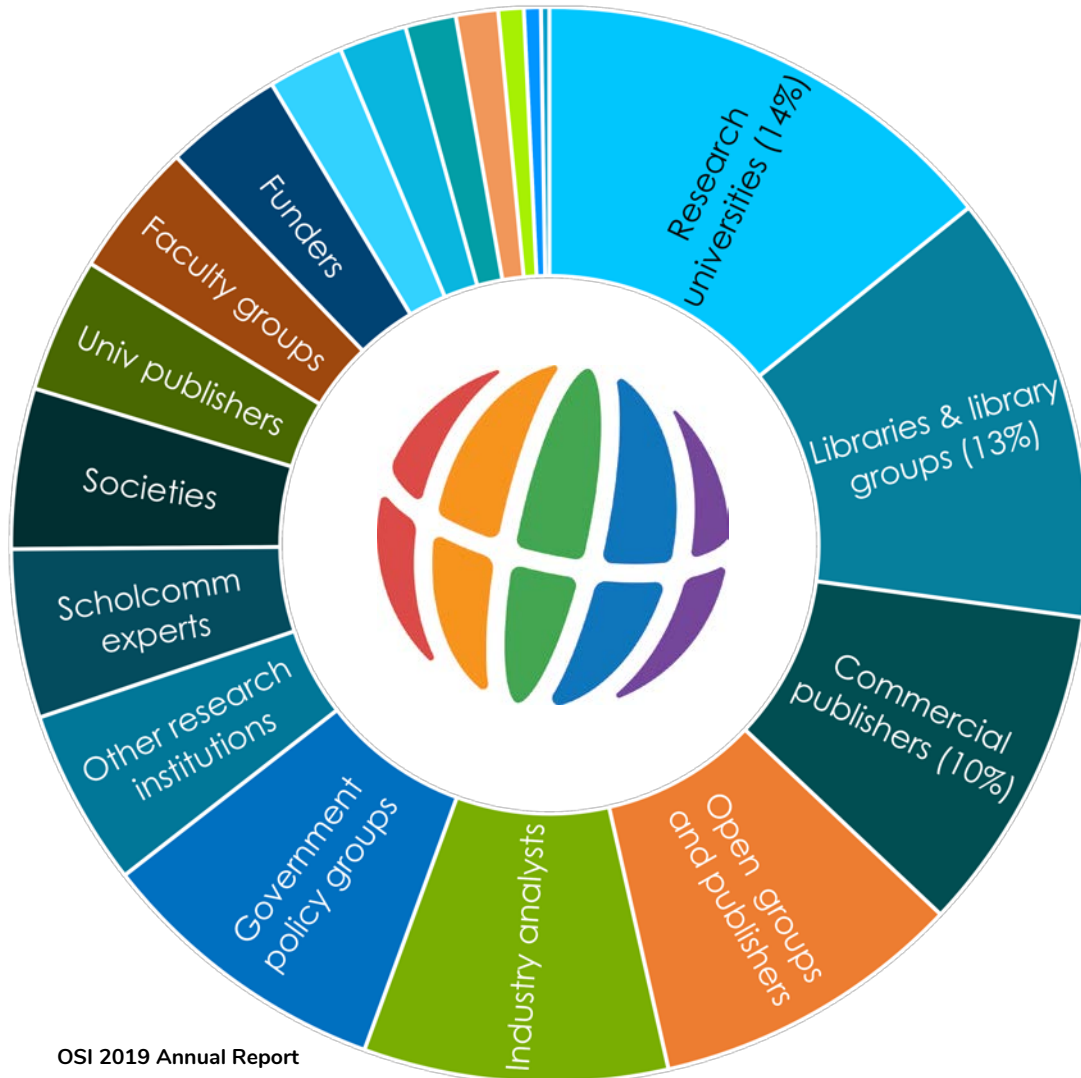
- Quarterly meetings are okay, but more frequent meetings may be warranted over the short term until a clear direction for 2019 is established. More frequent meetings for spinoff groups will also continue to be needed (e.g., issue brief group).
- Continue working on our transition from being a “movement” to a “policy organization”—a difficult pivot—while also maintaining a “republic” format (not a democracy, not a dictatorship) where all participants are co-equal leaders.



# The Open Scholarship Initiative

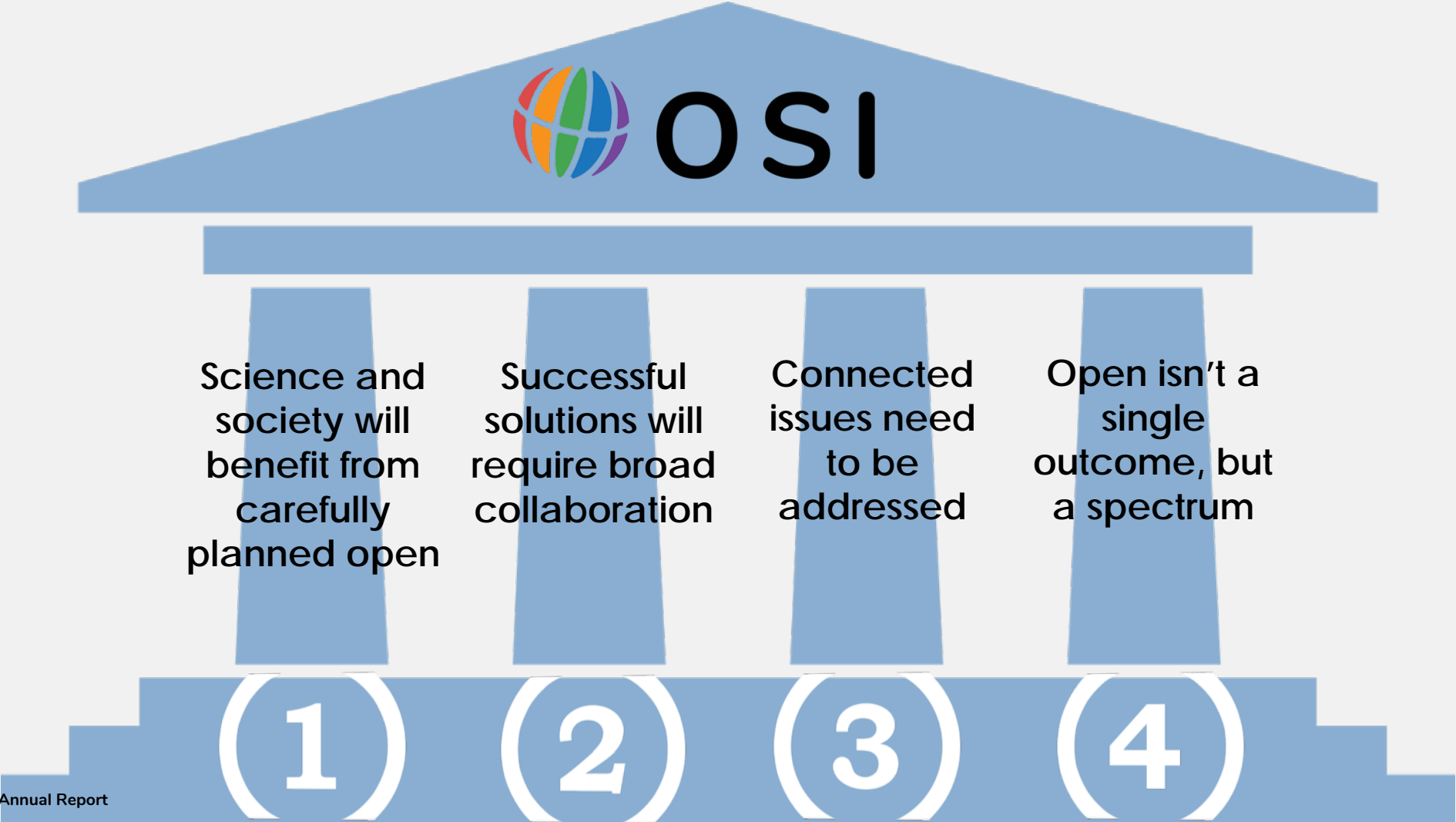
# OSI is working to improve scholarly communication

OSI (the Open Scholarship Initiative) is a diverse, inclusive, global network of high-level experts and stakeholder representatives, working together and in partnership with UNESCO to develop broadly accepted, comprehensive, sustainable solutions to the future of open scholarship that work for everyone everywhere.



- Includes about 400 participants, loosely representing about 250 institutions, 24 countries, and 18 stakeholder groups

# OSI's common ground (our 4 pillars)





# (1) Carefully planned open

---

Global impacts are a priority concern

Realistic goals, methods and timelines

Benefits research

Broad, multi-stakeholder input & support (pillar 2)

Addresses connected issues (pillar 3)

---



## (2) Collaboration

Work together with all stakeholders, including publishers

Listen to all perspectives, not just open advocates

Implement solutions alongside existing groups

Leverage capacity of existing groups

Work globally, not just locally (pillar 1)



# (3) Connected issues

---

Impact factors

Global equity

Deceptive publishing

Culture of communication

Many others

(transparency, peer review, repositories, sustainability, more)

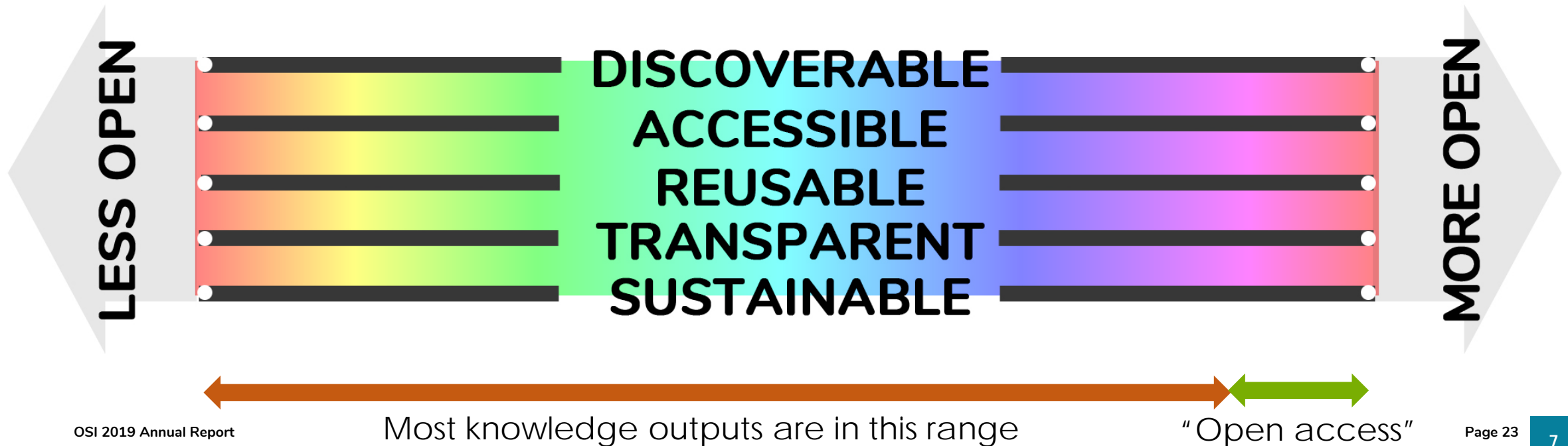
---



# (4)

## Open isn't a single outcome (or even defined)

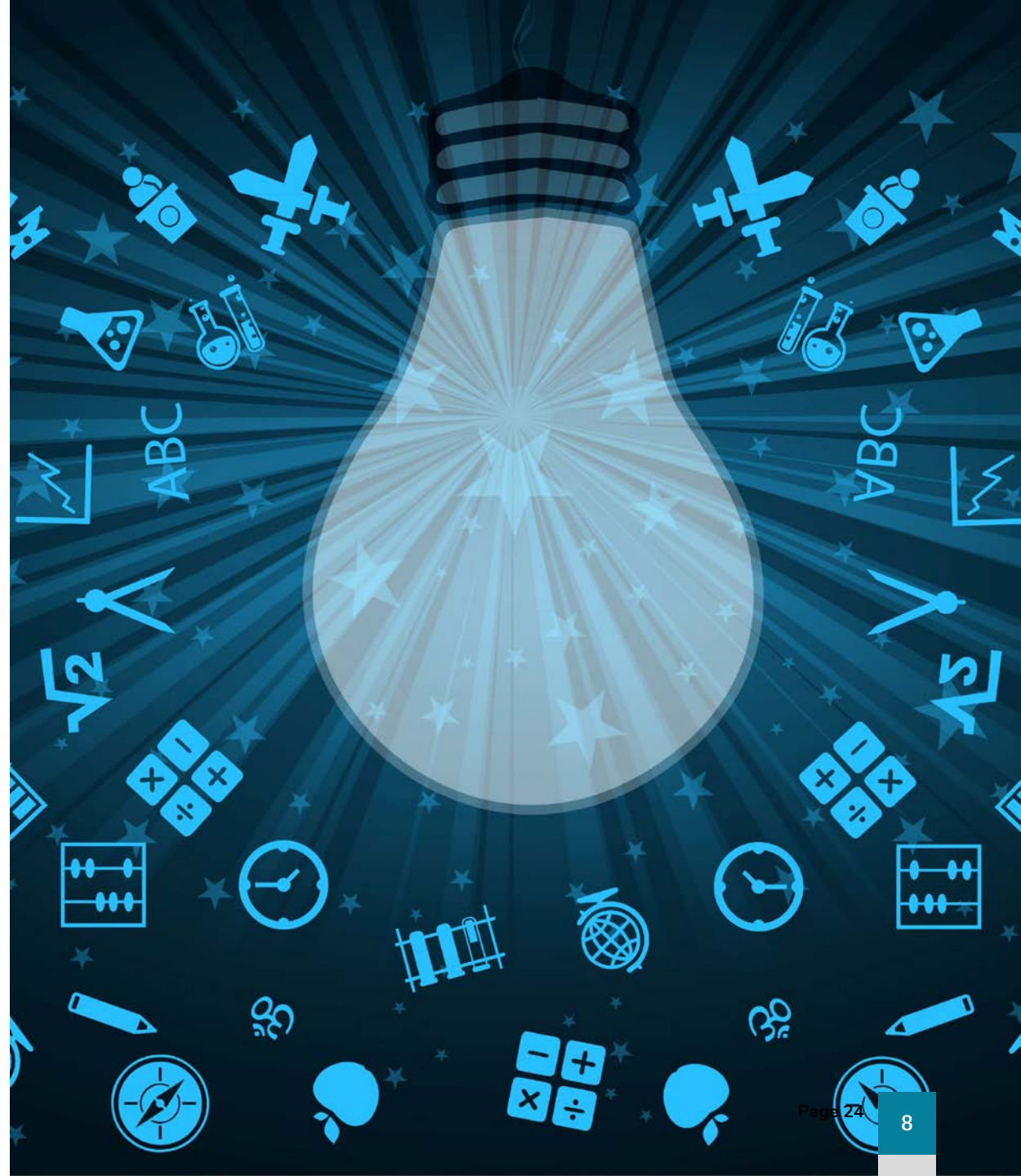
Open is used casually, often without firm definition, in a wide variety of ways, from open education, to open code, open data, open source, open science, open courses, open society, bronze open, and open access. It's a noun, a verb, a process, an expression, a concept, a brand...it's an open spectrum (DARTS).



# OSI's common insights

---

1. Open isn't defined...
- 2....or free
- 3....or easy
- 4....or disconnected
5. Publishing is critical
6. We all have similar concerns
7. We need more information...
- 8....and accountability
- 9....and trust
10. OSI can help



# Key Advice

Work together (this means everyone, including publishers)

Work on all pieces of the puzzle so we can clear a path for open to succeed

Discover missing pieces of information to ensure that our efforts are grounded in fact

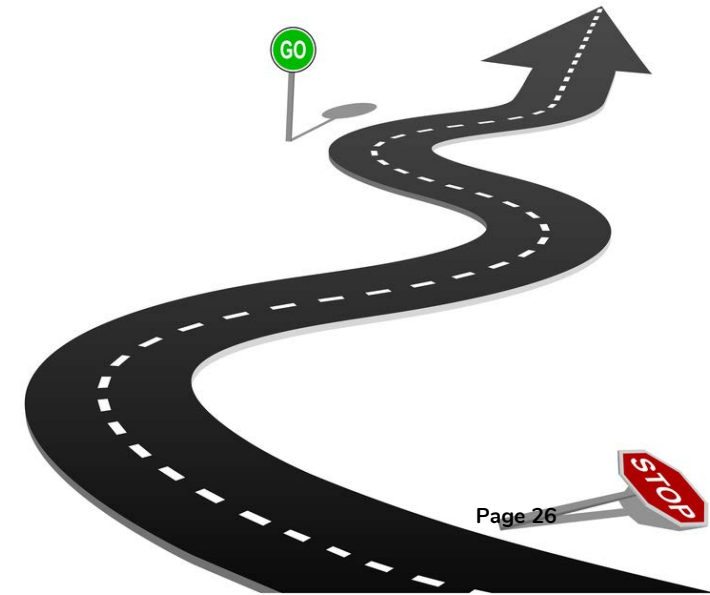
See the big picture — the common ground

# And watch the road instead of the map. Our community's map to the future is old...

The rich history of internet innovation has taught us a many important lessons. Here are just 5 that can be incorporated into our thinking:\*

1. **“Information doesn’t want to be free. Information wants to be valuable.”** (Stewart Brand) There are many different ways to maximize the value of information. Free works, but it isn’t the only way.
2. **Words matter.** The inventors of open source originally called their work “free” until they realized that “free” meant different things to different people.(Sound familiar?)
3. **Go big or go home.** Get lots of users *first*. Then worry about filtering.
4. **Solve a problem really, really well.** What’s the problem we’re try to solve? And then, what approach will it take to become indispensable?
5. **A well-regulated marketplace is crucial.** Markets need rules, standards, and level playing fields to attract participants.

\* These 5 (and there are many more) are summarized from Tim O’Reilly’s 2017 book, “WTF: What’s the Future and Why It’s Up to Us.” O’Reilly is an internet pioneer whose company has counseled other internet pioneers since before the dawn of the internet Age.



# The Future?

With and without broad, global collaboration





# Broad, global collaboration



All stakeholders (including publishers)



All regions



All disciplines

# Our open future, **with** broad, global collaboration

100% open  
90%  
80%  
70%  
60%  
50%  
40%  
30%  
20%

**PICK THE LOW HANGING FRUIT:** Work together on common ground solutions to the easiest and most pressing issues. Build confidence.

**TACKLE THE TOUGH ISSUES:** Replace the impact factor, improve promotion & tenure systems, and raise the bar (significantly) for data inclusion and interoperability and repository function.

**OPEN RENAISSANCE:** Universal open is achieved, including archives and data. Integrated repositories and standardized data create new fields of research based on connecting the dots. Research spending efficiency improves, and discovery accelerates.

**Baseline growth** (with or without OSI)

+5 YEARS

+10 YEARS

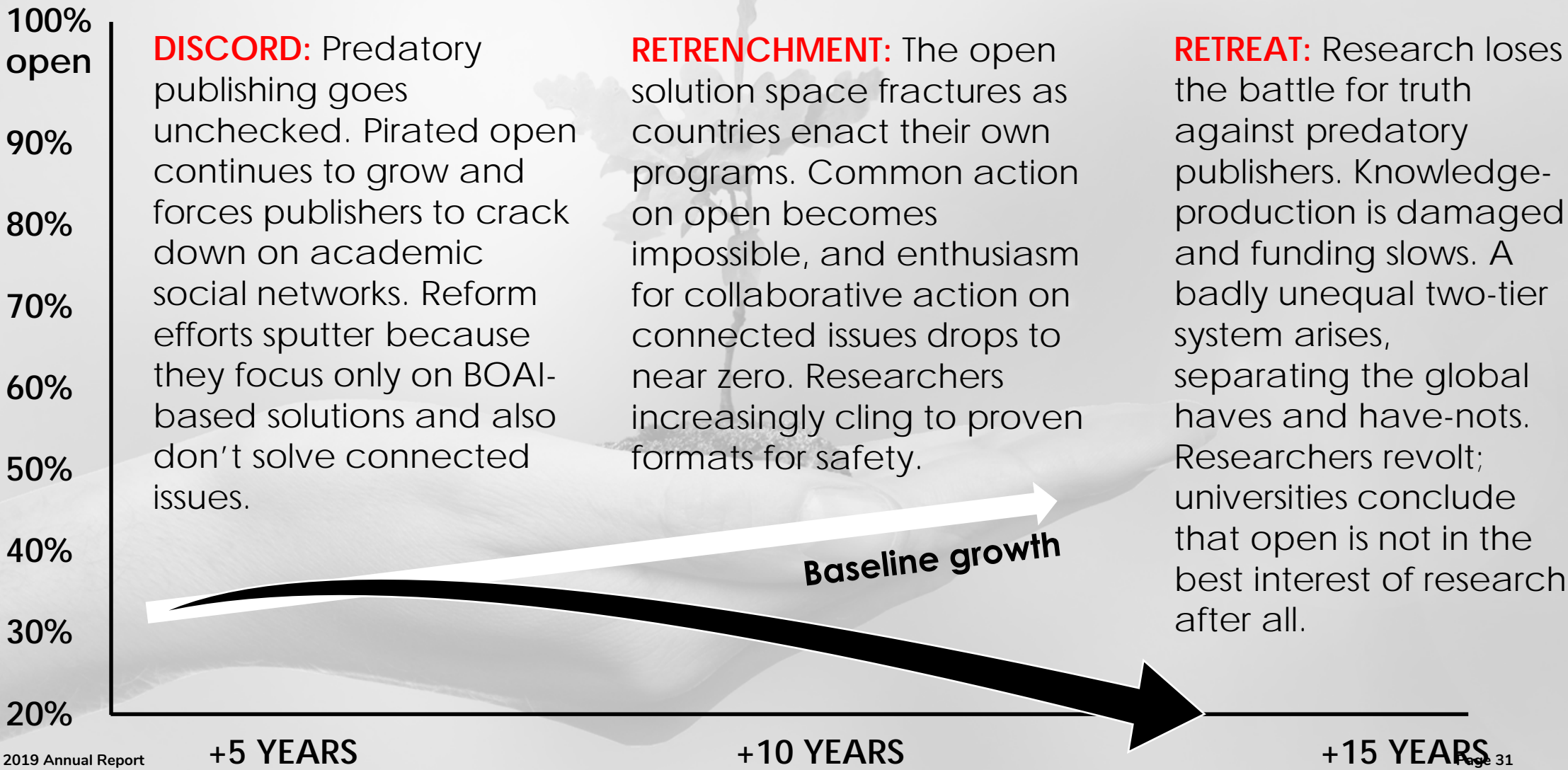
+15 YEARS

# The Open Renaissance

- **Open is clearly defined and supported**
- **Open is the standard output format**
- **Open solutions are robust**, inclusive, broad, scalable and sustainable
- **Almost all knowledge is discoverable**
- **The global access gap is nonexistent**
- **Solutions for the humanities** are built-in
- **Connected issues** are resolved
- **Incentives are aligned** so scholars embrace open because they want to
- **Open is simple and clear** so scholars know what it means and why they should do it
- **Predatory publishing is defeated** so it no longer threatens knowledge integrity
- **Standards and global guidelines** are clear for all journals, which helps the marketplace
- **The marketplace remains competitive** so open products remain cutting edge
- **Repositories are integrated**, not just connected
- **Data standardization** is widespread and robust

- **Many kinds of improvement happen to research**, including less bias and better transparency
- **The research ecosystem grows exponentially more powerful** (with more data, more connections, and more apps), which further catalyzes innovation and improvements in research. New fields and directions emerge based on “connecting the dots” (thanks to data and repositories), funding efficiency improves, and discovery accelerates.
- **The social impacts of research surpass today** (including improved literacy, public engagement, and public policy impact)
- **Knowledge becomes more of a global public good, and society reaps the benefits**

# Our open future, **without** broad, global collaboration



**DISCORD:** Predatory publishing goes unchecked. Pirated open continues to grow and forces publishers to crack down on academic social networks. Reform efforts sputter because they focus only on BOAI-based solutions and also don't solve connected issues.

**RETRENCHMENT:** The open solution space fractures as countries enact their own programs. Common action on open becomes impossible, and enthusiasm for collaborative action on connected issues drops to near zero. Researchers increasingly cling to proven formats for safety.

**RETREAT:** Research loses the battle for truth against predatory publishers. Knowledge-production is damaged and funding slows. A badly unequal two-tier system arises, separating the global haves and have-nots. Researchers revolt; universities conclude that open is not in the best interest of research after all.



## Better 1 or 2? We need to build the future of open scholarship *together* instead of apart (even if this means compromise)

Let's open up the possibilities and allow innovation to happen — not spin our wheels prejudging who can compete and on what terms. Let's listen to each other, learn from each other, work with each other, help the marketplace evolve (fairly on all sides), and together, let's find a way to maximize the *value* of open and help create a rich and rewarding future for knowledge and society.

And as we  
do all this,  
let's  
remember  
our  
common  
ground:

*Open* cannot be the reason we are all here. It's just a means to an end, not our final destination.



The research communication challenges of today will be solved and replaced with new challenges we can't even envision yet and that have nothing to do with open — evolving educational models, changing roles for universities, an increasing role for artificial intelligence and machine learning and so much more. Our focus needs to be on what we are trying to do for knowledge and society, and how we can get there from here, even if this means changing our positions on what kinds of strategies are “right” and “wrong.” Our common devotion to this challenge is our incredibly rich common ground. We should embrace this, and begin working together. The future is waiting.

A silhouette of a person standing on a hill, celebrating with their arms raised in a 'V' shape. The background is a sunset sky with scattered clouds, transitioning from a warm orange near the horizon to a darker blue at the top. The person is wearing a t-shirt and shorts. The overall mood is one of achievement and triumph.

# Accomplishments & goals

# What we've done so far

## Build bridges

OSI conferences have brought together diverse groups of people to really dig into complex issues and look for common ground.

## Share diverse perspectives

The OSI listserv has helped explore a wide variety of issues and make searching for real answers a little more palatable.

## Map out group structure

The OSI summit group has mapped out an action framework for 2018-19. While a governance structure hasn't been embraced, it will evolve.

## Write briefs and reports

We've started writing reports that define key issues and concepts for a broad audience and also provide a broad spectrum analysis of major issues in scholcomm.

## Pioneer inclusive approaches

OSI has championed inclusive concepts in the scholcomm debate, such as the open spectrum, multi-stakeholder conversations, and a common ground built on service to scholarship.

## Establish a rational middle

OSI has provided a rational middle where people in scholcomm can debate without fear of persecution, and a sense that opinions don't need to be so polarized.

## Raise expectations

OSI has raised expectations in some quarters that a global path forward is possible. Plan S has sucked the energy from the room, but we can still move forward if UNESCO engages.

## Explore new territory

What are the limits of global multi-stakeholder collaboration on this issue? Where have we fallen short and what more do we need to succeed? OSI is well-positioned to answer these questions.

## Establish real potential

OSI has established a track record and a presence in the scholcomm debate. With appropriate funding (which we are still searching for), it has real potential to make a lasting contribution.





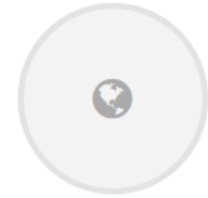
WORKGROUP DISCUSSIONS

2016-17



ACTION PLANS & ROLLOUT

2018-19



IMPACT & ADJUSTMENT

2020-25

# OSI's long-range plan

# Current action plan

## Issue briefs

OSI has accumulated a wealth of knowledge on a wide variety of important scholarly communication topics. Most briefs will be summaries of key topics (such as defining open) for sharing with the stakeholder community; some briefs may end up being policy recommendations endorsed by UNESCO.

## Studies

We know a lot about this field, but we also need to learn a lot more. Here are the studies we're working on or considering.

## Projects

We're planning on rolling out several projects that will help improve the scholarly communication landscape.

## Joint efforts

Scholarly communication is a big ecosystem. It takes many players to make change. Here's what we're working toward.

## Events

OSI is organizing or participating in several meetings over the next few years to help get the ball rolling in key areas.

## Resource lists

Need to know who's working on what and where? Here's a starter set of scholarly communication resources.



# OSI studies needed

Embargoes: How long is ideal?

Modeling the global flip impact

Can we measure open impact?

Publisher profit margins

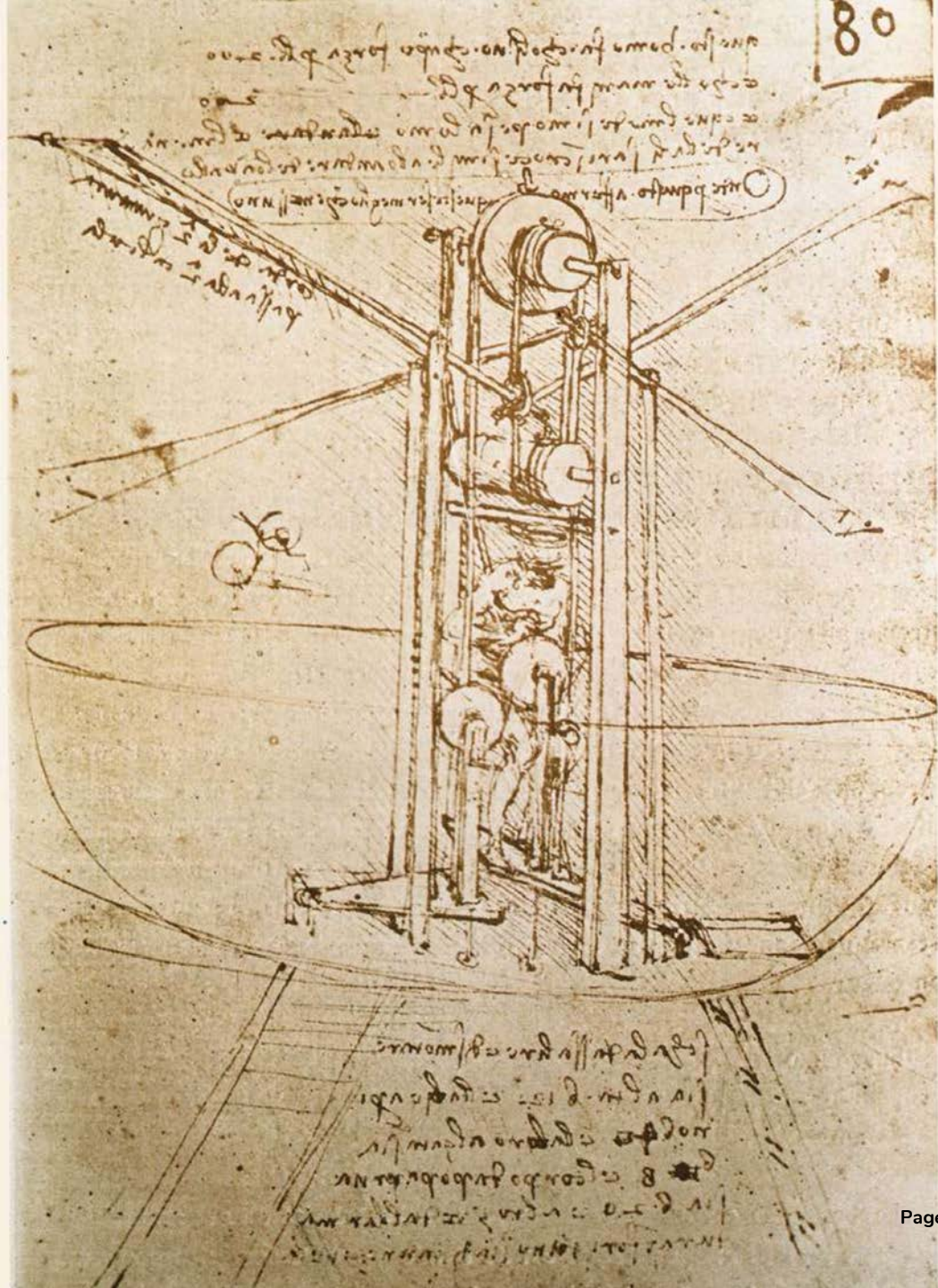
How fast is predatory growing,  
who's driving it and why?

Can/should we merge open  
concepts and efforts?

How much open is needed per  
field (e.g., is CC-BY always  
necessary everywhere)?

More

OSI 2019 Annual Report



# Where we've fallen short



## Engagement

We need to do a better job of figuring out how to get everyone involved. There's a lot of enthusiasm and interest that we haven't effectively utilized.

## Funding

Without adequate funding, we can't hire people, fund studies, host meetings and more. Unfortunately, the funding space on this issue is dry and polarized.



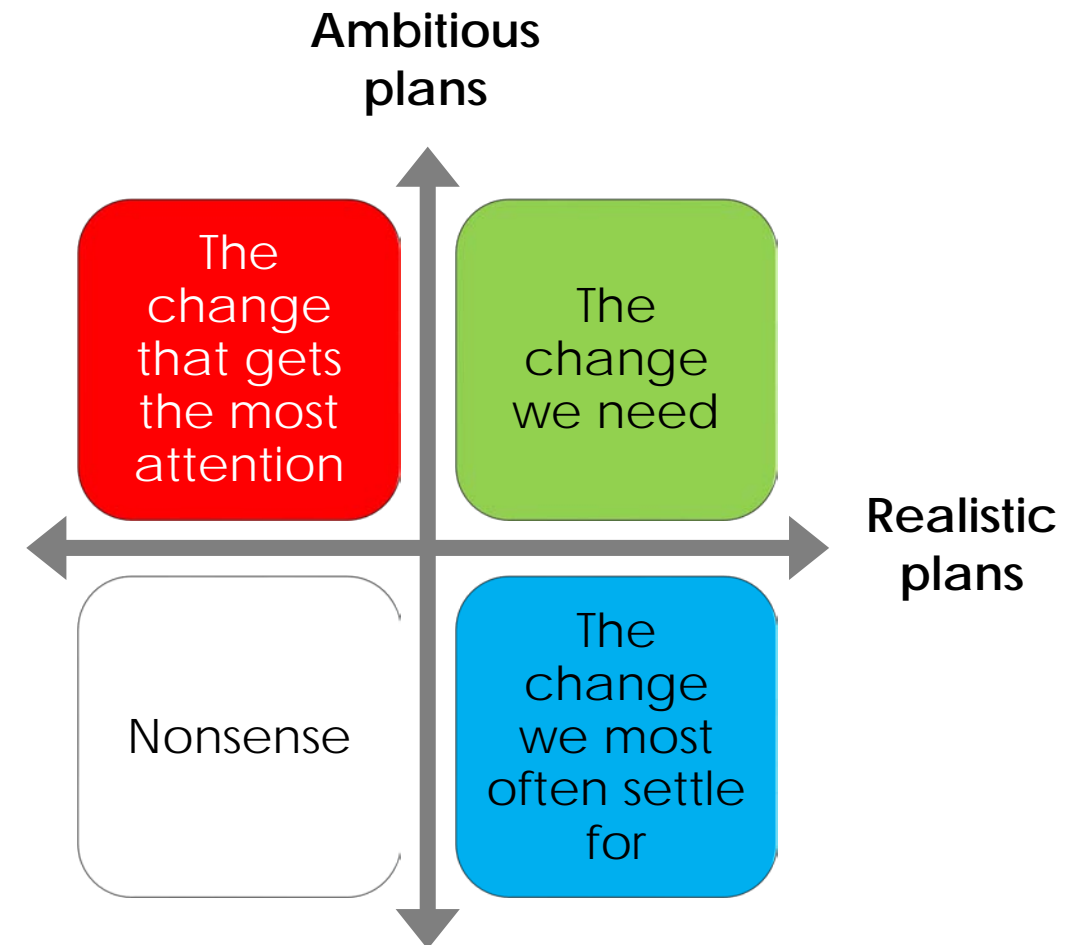
## Action (to-date)

We need to move from talk to action. Doing this without engagement and funding isn't going to work---or at least isn't going to look like OSI.

# Action prerequisites

In order to plan realistically and ambitiously, we need to first shore up our deficit areas from 2016-18, specifically **better engagement and more funding**. \*

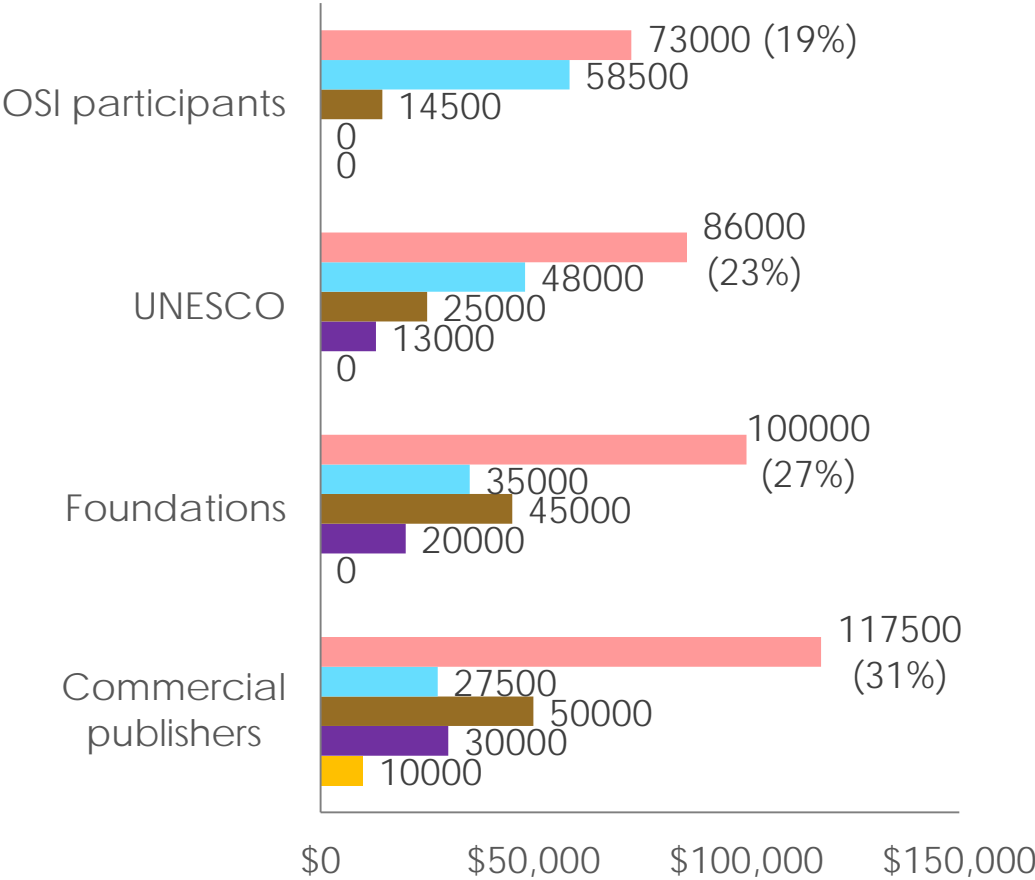
\* We can and should continue our planning efforts, of course, but we will be limited in our ability and ambitions if we can't first ensure that we'll have the money and in the participation to be meaningfully and effectively engaged over the long-term. Absent these building blocks, we'll either end up with timid action plans, or plans that we'll be unable to follow through on.



# OSI funding to-date

(current US\$)

■ Total (\$376k) ■ 2016 ■ 2017 ■ 2018 ■ 2019



# 2019 goals: Improved funding, engagement, collaboration, partnerships



## Sustainable funding

It all starts with this. We need an annual income of at least \$100k in order to pay a full-time director plus provide enough working capital for meetings, study funding and outreach. Part-time and volunteer labor is necessary and effective to a degree, but without a more oars in the water, our ambitions and abilities will likely be constrained. The search for sustainable funding has been ongoing in earnest (pretty much nonstop since 2015) and continues to be at the top of our priority list.

## Meaningful engagement

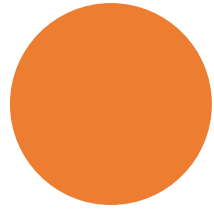
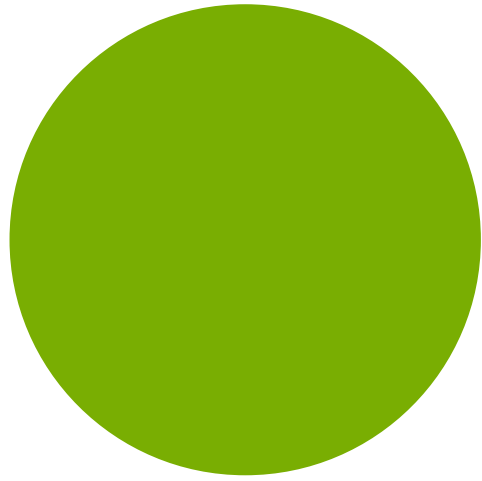
Many people in OSI are ready and willing to help. As we evolve from a discussion format to an action format, OSI needs to evolve its pipeline for understanding how to engage OSI participants in practical and meaningful ways. The power of OSI is its participant network.

## Widespread collaboration

We need to make real progress on key issues. What this looks like is up to us--- creating working groups to develop best practices, creating new tools or measures, forging alliances to respect common definitions, etc. Until we start doing a good amount of this, we are unproven and unknown.

## Effective partnerships

UNESCO needs to start actively promoting OSI's work. As this partnership becomes more visible---as it becomes clearer that OSI's work is feeding into new open policy at the IGO level---then it will become easier for publishers, universities, funders and others to sign on to what we're doing together.



# Comments, questions, ideas



## MEETING ATTENDEES

Richard Gedye, Eric Olson,  
Andrew Kierig (and Wendy  
Mann), Jason Steinhauer,  
Joann Delenick, Joyce  
Ogburn, Mel DeSart, Rob  
Johnson, Lisa Janicke  
Hinchcliffe, Anthony  
Watkinson

### OSI FUNDING

- Find funding for individual OSI projects and initiatives (e.g., OSI studies that merit the most attention) as opposed to funding for OSI as a whole
- Consider “membership” fees for OSI
- Consider holding annual conferences that make a profit (charge non-OSIers to attend; for many organizations, conferences are their main source of income)

### OSI OUTREACH

- Develop a sense of urgency around this issue (perhaps connect it more strongly to improving public education and policy on issues like climate change)
- Continue to position OSI as a facilitator, convener, advisor, etc., of open projects---a place where everyone in scholcomm can come for help

### OSI GOVERNANCE

- Quarterly meetings are okay, but more frequent meetings may be warranted over the short term until a clear direction for 2019 is established. More frequent meetings for spinoff groups will also continue to be needed (e.g., issue brief group).
- Continue working on our transition from being a “movement” to a “policy organization” ---a difficult pivot---while also maintaining a “republic” format (not a democracy, not a dictatorship) where all participants are co-equal leaders.

## Annex 2:

# 2Q OSI Summit Meeting

**DATE:** Friday, August 23, 2019

**ATTENDING:** Richard Gedye, Eric Olson, Glenn Hampson, Rob Johnson, Jason Steinhauer, Stephanie Faulkner

### **SUMMARY:**

1. Update on long-term fundraising work
  - a. Sent out approximately two dozen grant inquiries or initial applications between early May and early August. Most requested amounts have been in the \$20k-\$50k range.
  - b. Currently working on finishing a new and improved version of our NSF-SCISP grant (this one will be better targeted on supporting our proposed research studies and tech projects). The amount requested will be north of \$300k (probably higher, although the exact amount is tbd since this will be a standard grant and not an EAGER grant like last time). The submission due date is Sept 9; the target decision date is January 1.
  - c. We have one possibly interested funder at the moment—the MJ Murdock Charitable Trust. This grant proposal is for \$300k total—\$150k in year one of funding, \$100k in year two, and \$50k in year three, mostly geared toward supporting OSI’s research work, tech product work, and outreach/education work. Murdock’s funding decision is due in mid-October and funding, if approved, will begin in January 2020.
    - i. The studies we’ve proposed funding include (with priorities, feasibility, and study design to be assessed if/after funding is received):
      1. The definition, growth, and appeal of so-called “predatory” publishing—exactly how fast it’s growing; how much exists; its dimensions by region, discipline and so on; the appeal (again by region, discipline, etc.); and more. Very little definitive is known about this phenomenon.
      2. The validity of impact factors—understanding why we use these measures; who uses them and how; what exactly they are measuring (versus what they are intended to measure); statistical shortcomings; other means of measuring impacts (existing tools, new tools, etc.); and so on. We know a lot about impact factors in

terms of what they are and which journals have which impact, but not a lot from a hard research perspective about what these numbers actually mean (if anything).

3. How necessary are embargoes? In order to get hard data on this, a blind study needs to be conducted with the cooperation of publishers (Elsevier volunteered to participate in 2016; we need to ask if they're still willing/interested). The need for embargoes remains a major sticking point in open debates.
  4. The impacts of open in research, education and society. This is more of a meta study than anything, but it's needed to better "sell" the advantages of open (or to better understand why open is not selling and what we really need in open—more standardization of data, for instance).
  5. Publisher profit margins. A major point of contention in this space is how much profit Elsevier makes. Critics say 37 percent. The company says much less—that Elsevier's income and expenses are entangled with those of parent company RELX and that revenues come from many sources not related to academic publishing. A clearer picture is simple enough to arrive at by hiring actual auditors to examine the books (not just of Elsevier but other major publishers as well) and issue an authoritative analysis. Charges of profit-mongering have fueled attacks on commercial publishers or at least 15 years now and these attacks have been used as an excuse to keep publishers from participating equally in global conversations about the future of open. To the extent we can help shed more understanding on these numbers, it will help provide a firmer foundation of transparency and realistic expectations for open reforms.
  6. How related are different concepts and applications of open (across coding, books, journals, etc.), and where can we merge these concepts, applications and even open efforts?
  7. How much open is needed by field (for instance, is CC-BY licensing always necessary everywhere)? We've proceeded from the assumption that we know what researchers need, but in fact we have no idea.
- ii. The tech projects we've proposed developing are:
1. A database of discounts/subsidies available for authors from the global south in both APC and subscription journals
  2. An open access finder
  3. APC price comparator tool

4. Yelp site for publisher reviews
  5. Complete index of global scholarship
  6. New impact assessment tool for journals and/or articles (to replace the much maligned impact factor)
  7. All Scholarship Repository
  8. Predatory publisher blacklist
  9. iTunes-type tool (pilot) for single-article downloads
2. Update on short-term fundraising work
    - a. We've reached about \$7k toward our year-end goal of \$10k. Rob's firm (Research Consulting) and Don's firm (Cactus/Editage) may be able to help push us over the top—tbd. Getting to January is step one. Getting past January will depend on the outcome of our long-term fundraising efforts.
  3. Strategic outlook
    - a. Keep working toward year-end goals:
      - i. Continue writing issue briefs to the extent possible (time permitting)
      - ii. Keep fundraising and writing grant applications (large and small)
      - iii. Write a capstone piece for OSI's work to-date—maybe OSI's "Plan A" for open. If OSI funding ends in December, we need to be able to issue a final recommendation (like a Plan A doc) to the global community.
      - iv. Continue our pivot from talking to doing—continue exploring potential partnerships, points of collaboration, etc., and figuring out what we can do with the resources available. Some of the ideas currently on the table include:
        1. Conducting an annual "state of open" survey: Possible collaboration with COS and UNESCO (on items included, promotion/publishing, branding, etc.), Editage and SciELO (on translation, distribution), SigmaXi and AAAS and CIBER (on lists of researchers to poll)
        2. Coordinating the construction of a new global roadmap for open: Possible collaboration with UNESCO, AAU and NSF (leading a group of scholarly societies)—three separate and independent efforts that would benefit from being united (through OSI) so the goals can be aligned and common ground can be identified.
          - a. Need to circle back soon with all of these groups—summer is slow moving
          - b. Eric Olson (at ORCID), Brooks Hanson (AGU) and a few other OSlers are already part of the NSF-led effort
        3. Prepare for executing requirements of the Murdock grant:
          - a. Prioritize research studies (based on what's needed most and what's doable on our budget)

- b. Prepare a tech development plan (based on what's needed most and what's doable on our budget)
  - c. Prepare an outreach/education plan
  - d. Prepare a meeting schedule for 2020
- b. Keep working on building new bridges to the UN
  - i. UNESCO's science divisions have been disconnected from the work of Bhanu's division (Knowledge Societies) to-date—at least according to the directors of these divisions. OSI will try to be directly involved with the science divisions on their newly-authorized open science roadmap efforts (initial conversations have already been held and there's strong interest)—more details will emerge after their official kickoff/authorization meeting on Sept 1.
  - ii. I've also been in touch with UNDP, UNIDO, WIPO, ITU and a few national-level funders—no real movement yet but these communication channels can take time
- c. Keep working on engaging industry—for collaboration, funding, and support in developing tech initiatives
  - i. Vint has been exploring options for how/whether Google can engage
  - ii. I am having discussions with other tech companies—nothing terribly fruitful yet but no dead-ends either
- d. Keep engaging with the broader open community
  - i. E.g., working with Jon Tenant on his science MOOC
  - ii. I've been invited to speak on behalf of OSI at the Falling Walls Debate (with Heather Joseph and others) in November in Berlin. This debate precedes the Falling Walls Conference.
- e. Keep working (as per our 1Q19 meeting) on connecting our work to urgent needs. Developing a more robust future for open is directly relevant to climate change, cancer research and more—we're doing this for a reason.
- f. Keep looking for ways to meaningfully engage OSI participants. Lots of people here want to contribute—we need to find ways to do this.
- g. Keep doing the mundane work of finding “small and tactical” support—not home run swings, not \$100M donations, but the “real” work of building community support.
  - i. We haven't been able to rely on our historic sources of support this year. Sloan changed its funding focus, the major commercial publishers haven't been quite as generous this year as in the past (Brad at Elsevier is doing his best for us, but he's facing internal resistance), and UNESCO hasn't contributed anything yet, so we've been in a tough spot funding-wise.

- ii. We don't need a lot for a minimal level of continuity—\$30k/yr is my minimum salary, although this leaves us zero for travel, study funding, etc.
- 4. New business
  - a. What is the value proposition of OSI? That is, why would people give us money? Maybe it's to gain easy access to a wide group of experts? Or to contribute to a common cause? Or to help build a group designed to work together toward common goals? The stock answer we've been including in grant applications reads like this:
    - i. The goals of OSI are to:
      1. Achieve scholarly communication improvement goals faster and on a more predictable trajectory by bringing all stakeholders to the same side of the table to work together toward their common interests (while continuing to work out their differences on tangential issues),
      2. Create multiple platforms for working on scholarly communication improvements together as a broad stakeholder community,
      3. Increase the efficiency and effectiveness of stakeholder efforts by facilitating the development of a common roadmap of goals, policies, and standards in scholarly communication,
      4. Protect the integrity of research by cracking down on fake research news and fake publishing, and
      5. In the end, increase the amount of research information available to the world and the number of people who can access this information.
    - ii. The implications of success are broad—equity, education, economic development, scientific progress, and more. The implications of failure are also broad—less access to research in the global south and the education and economic consequences this loss would entail. A number of different stakeholder groups (including IGO's, led by UNESCO; scholarly societies, led by the NAS; the AAU, representing university provosts; and others) also realize that broad, collaborative action is needed now. What we are seeing as a result are parallel, high-level efforts happening around the world to create a new roadmap for the future of open. However, there is no convergence of activity and no central point. Properly funded and executed, OSI can fill this needed role—not necessarily as a convener or authority, but as an observatory and voice to keep these similar and important efforts connected, aware of each other's existence and activities, and coordinated so actions and policies can have more impact. We need this central hub to ensure that we can have reasonable,

sustainable, global, inclusive action—a group to inform, coordinate and share policies that will lay the groundwork for the future of open research/data and open science in particular.

- iii. OSI can also:
  1. Help develop a fuller understanding of open research/data questions, answers and concerns.
  2. Help countries understand how this issue (and current global proposals) impacts their equity, education and development goals, through outreach and education programs
  3. Help create a global environment of cooperation regarding developing appropriate global action
  4. Help ensure that “research” improvements aren’t just for science, but HSS as well
  5. Develop needed global products/actions needed (with possible help from industry partners)
  6. Work on existing priorities (alongside other OSI partners),
- iv. Having a navigable roadmap for open research is critical to the future of research, education and global economic development. However, developing this roadmap is a largely ignored effort, the assumption being that the current kaleidoscope of grass-roots activism, government/funder actions and business interests will somehow coalesce to create the right approach for the world. It hasn’t, and it won’t. OSI was specifically created to bring all stakeholders together to find an approach that works for everyone everywhere, and now, not 20 years from now. OSI’s unique capabilities include:
  1. Understanding: OSI has developed what is arguably the world’s most complete understanding of this very complex issue space
  2. Commitment: OSI has a unique commitment to developing a global, multi-stakeholder approach to the future of how research is published and shared.
    - a. There are no other efforts like this in the world. Instead, there are unilateral efforts here and there (most recently emanating from the EU) that are trying to implement global programs for research sharing that risk making access worse for researchers in the global south. OSI’s goal is to create these programs only through broad, inclusive global consultation and cooperation, and to leave implementation a matter of national prerogative.
  3. Tenure: We have been working on this issue since early 2015 in partnership with UNESCO

4. Membership: OSI currently includes around 400 high-level representatives from 27 countries, 250 institutions, and 20 stakeholder groups in research and scholarly communication—the only organization taking a broad and inclusive approach to this complex and important challenge.”
  - b. What is OSI’s business model? Again, this question has arisen frequently. Over time, we seem to be evolving—first from an “observatory” of open (or a clearinghouse), next to a think tank, and maybe soon to a trusted advisor (we aren’t at this latter stage yet). From this advisor stage, we will be trying to evolve to a catalyst and/or solution architect.
  - c. How much influence has OSI wielded over the last five years? The answer to this may depend on your perspective. In reality, the open movement is very much an echo chamber. Most people in this stakeholder universe, including researchers, funders, and governments—arguably the stakeholders who are closest to the center of this conversation—have limited understanding of all the nuances of this debate. So if the question is “how much has OSI moved the needle on open amongst these central stakeholders, the answer is probably not much—bearing in mind that this needle is gyrating wildly because there is no central point of information, no large-scale sense of urgency or common ground, and no large-scale coordinated action. If the question is “how much has OSI changed hearts and minds of people who firmly believe that open means BOAI,” the answer is probably zero (but then “changing” the minds of our colleagues who hold this opinion was never our goal). If it’s “how aware is the open community of OSI,” the answer is probably moderately high—people who are involved in open know about the OSI listserv, even if they’re less aware of our goals and agenda. If the question is “how much has OSI improved understanding of open amongst a wide group of individuals who need to weigh in on the future of open,” the answer is probably limited but measurable—maybe a modest uptick in broad understanding of open, or at least a realization that the answers we seek aren’t necessarily black and white and/or that the only way to develop effective, sustainable solutions is by working together. (As Jason Steinhauer puts it, OSI is to cOAlition S what the American Revolution was to the French Revolution—looking for reasoned solutions instead of off-with-their-heads solutions. Richard Gedye’s analogy is that OSI is the Kyoto Protocol of open.)
  - d. How can we better model/illustrate the spectrum of audiences and concerns about open? Eric Olson suggested doing something along these lines—it would make for a more compelling storyline that simply saying that there are “many perspectives” about open.
5. Adjourn



# Annex 3:

## 3Q OSI Summit Meeting

**DATE:** December 9, 2019

**ATTENDING:** Richard Gedeye, Mel DeSart, Joann Delenick, Margaret Winker, Ilona Miko, Donald Samulack, Glenn Hampson

### **SUMMARY:**

**INTRODUCTION:** As per the revised action plan circulated last week (see “OSI-new-2020-plan” at the end of the 3Q summary), OSI can pursue three courses of action at present:

1. Stay the course: Keep looking for major funding so that OSI can pursue the original action plan (see attached file, “OSI 2020-25 action plan.docx”)—involving studies, tech projects, and education/outreach programs costing at least \$150k/yr.
2. Course correction: Do what we can for now—collaboration, “free” efforts, more writing, more outreach, more promotion, support the UN’s work, publish OSI’s “Plan A”, follow the funding for specific projects, etc.—while continuing to search for major funding
3. Quit: Publish Plan A as this group’s final recommendation and then close shop

**DISCUSSION:** Which course of action does this group prefer? The consensus was strategy #2—to correct our course. Some of the specific ideas we discussed in conjunction with this strategy were to:

1. Do a better job of promoting OSI:
  - a. Make more appearances at industry events (like SSP), write a piece about “Plan A” for TSK or as a Nature editorial, do a better job of promoting OSI briefs and reports (and write more briefs and reports), etc.
  - b. Rewrite and rename Plan A?—make it more digestible and immediately recognizable—maybe something along the lines of a “Vision for Creating a Collaborate Community in Scholarly Communication” (not necessarily a roadmap since our plan is not very specific).
2. Continue to pursue funding

- a. Including a more effectively promoted crowdsource funding (from individuals instead of corporations)
- b. Including funding for issues instead of OSI

**ACTION ITEMS:**

1. Discuss and develop crowdsourcing idea (Glenn and Don)
2. Revise Plan A
  - a. After this, Glenn will reach out to TSK, Nature and others regarding submitting an article
3. Approach the company discussed regarding funding
4. Approach the conference organizers discussed about getting table space or some other sort of space (like a panel?)
5. Write more briefs and reports
6. Continue assisting UNESCO
7. Continue fundraising

## OSI's 2020 action plan

Our original plan (for studies, tech products and outreach) was premised on receiving about \$150k/yr of funding over the next three years from the Murdock foundation. Our grant application was declined, however. What now? Here are a few options for consideration (this list isn't exhaustive, nor are these options necessarily mutually exclusive):

1. Change our plans:
  - a. Push back the start date for our current 2020 action plan as we continue to look for adequate funding:
    - i. At the moment, the only funders with a major ask pending from OSI are UNESCO, Sloan, NSF (not SciSiP but another NSF program geared more toward "big idea" grants), MacArthur (\$100M challenge) and a commercial entity.
      1. Accepting a major gift from a commercial entity is something this group would need to debate first. IMHO, it's important to complete our action plan, regardless of funding source. Also, starting to make a dent in this plan would no doubt serve as a catalyst for additional sponsorship/investment.
      2. We will contact Germany's Bosch foundation in early January (about scholcomm reform in general---similar to our Sloan application)
      3. We will reapply to Murdock next year if SCI can be bolstered; also envision more of a local (Pacific Northwest) "hook"---this foundation prefers to fund programs with a local impact
    - ii. A minimum of \$150k annually is needed to be able to start moving our action plan forward, as currently articulated.
  - b. Change our plans as necessary to fit funding
    - i. Financially, what is our minimum need?
      1. About \$2500/mo (to cover program manager's full-time "salary")
      2. Additional money raised can be parceled for priorities as identified---outreach, etc.
        - a. Each additional \$20k raised would support one study or tech product pilot
    - ii. Drop or scale back plans to conduct studies and build tech projects
      1. If dropped, then consider publishing descriptions of these studies and projects in a paper (or in multiple papers), and advocate that the scholcomm community consider undertaking these with their own funding (OSI would still be willing to serve as consultants, provide feedback, etc.).
    - iii. Follow the money---work on projects we can find money for
      1. Gigaton funding for climate change focused work
      2. Sloan funding for infrastructure-focused work
      3. Bosch for more general scholcomm work
    - iv. Focus only on things we can accomplish for "free" (after covering program director's salary only) such as:
      1. Start an annual survey of open (possibly in collaboration with COS)

2. Launch a top-10 list of predatory publishers (possibly in collaboration with Cabell's). (Note: This project has not yet been approved by Cabell's---just discussed.)
  3. Develop, launch and promote OSI's Plan A
  4. Support UNESCO's interagency work
  5. Support Texas Tech's predatory study work
  6. Write more issue briefs and possibly at least one research paper
  7. Look for tech partners who can develop at least one tech product (preferably an easy but high-impact one)
  8. Upgrade OSI website and OSI marketing/outreach
  9. Possibly organize/host another conference
- v. Change our funding model
1. Host needed conferences, but improve the revenue-generating capacity of these (with exhibit areas, more sponsors, etc.)
    - a. SCI
    - b. OSI
    - c. Issue-specific (sponsored by SCI or OSI)
  2. Move to memberships instead of sponsorships
- c. Wind down OSI
- i. Publish Plan A as a final set of recommendations and then either go into hibernation until funding arrives, or disband altogether.

# Annex 4: Plan A (v.3.0)

December 27, 2019

## An inclusive, rapidly achievable, sustainable approach to global scholarly communication reform

### INTRODUCTION

The Open Scholarship Initiative (OSI) is the world's only large-scale, high-level, multi-stakeholder effort focused on developing an inclusive, rapidly achievable, sustainable approach to global scholarly communication reform. OSI is comprised of top leaders in scholarly communication from over 250 institutions around the world, representing 27 countries and 18 stakeholder groups. OSI's initial plan presented here—Plan A—is a starting point for discussion on developing a global roadmap for reform. Partners in Plan A are needed for funding, development, and implementation; feedback from the global stakeholder community is also welcome. This plan will be revised over time in collaboration and consultation with the open research roadmap effort currently underway at the United Nations (of which OSI is also a part).

### PROPOSAL

Plan A proposes that beginning in 2020 and continuing for a period of five years, the global scholarly communication community will cooperate and collaborate on three main categories of action, in this order of priority: studies, infrastructure development, and education/outreach:

1. **Studies:** We need to develop a better understanding of the scholarly communication landscape. Our community's lack of understanding about key issues has, for the last 20-plus years, made it difficult to create effective reforms. To this end, we propose working collaboratively to support and conduct studies that will help us understand the scope of predatory publishing, create a viable alternative to the impact factor, test whether embargos can be reduced or eliminated, measure the impacts of open research, model how to change the culture of communication in academia, understand definitively whether a global flip to APCs will work, and more. OSI has identified 12 priority studies that need to be conducted, has already mapped out protocols for some of these studies, and has lined up world-class researchers to help manage some of this work. See the annex section for details—additional recommendations are welcome.

2. **Infrastructure development:** The global scholarly communication community needs new products, services, tools, websites, and other innovative resources to help encourage, achieve, sustain and monitor reforms in this space. Some of these items include a common infrastructure solution (possibly an all-scholarship repository built using CERN's Invenio; the precise details of this solution need to be more thoroughly investigated), an APC discount/subsidy database, an open index of scholarly publications (along with an open impact factor), an APC price comparison tool, a Yelp site for scholarly publishing, repository upgrades, publisher standards, an annual "state of open" survey and more. We propose working together to develop these and other needed items so reforms can be more quickly and easily adopted, and so the scholarly communication landscape can be more quickly and easily improved and maintained. Seven priority projects have been identified, as detailed in the annex section. Additional recommendations are welcome.
3. **Education/outreach:** The scholarly communication community needs to be better informed with regard to opportunities, impacts, processes, options, and so on, and also needs to have better systems in place to listen to stakeholder feedback and create/adjust solutions accordingly. Of particular focus on the listening side, we need a much clearer and more detailed understanding of exactly what we hope to accomplish with reforms so we can make sure to answer the right questions, collect the right data, and build the right systems. New international meetings are part of the needed approach here; so too is greater alignment between various existing roadmap efforts (which OSI has been working on; this is called out below as a separate action item since it is a distinct subset of education and outreach). The education and outreach needs in this space are vast and the actors are numerous. Specific recommendations for capacity building, collaborative action, new initiatives and so on are welcome.

In addition to these three main action items, Plan A also proposes that together, we:

4. Pilot open solutions in one area of urgent need like climate change research
5. Develop sustainable solutions for meeting urgent needs, such as (but not limited to) zero-embargo compassionate use programs for patient families, and a more robust R4L program for lower-resourced regions and institutions
6. Hold meetings where all stakeholders can discuss the outlines of a new global roadmap for open scholarship
7. Continue to advise and collaborate in UNESCO's global roadmap effort (including hosting and participating in meetings).
8. Combat predatory publishing through education, improved standards, and other means (some but not all of which are covered in the first three action items).
9. Work to better understand the needs, goals and concerns of researchers in different disciplines, fields, labs, regions and institutions, and at different career stages

(researcher perspectives vary widely, meaning that one-size-fits-all solutions are unlikely beyond establishing some fundamental common-ground agreement).

10. Plan for and begin building a future that meets these varied needs and goals and integrates open in such a way that it is embraced by researchers, advances research, and increases the value of research to society.

This work will be guided by 12 principles that represent a global, multi-stakeholder, common ground perspective on the future of scholarly communication. Plan A's work and work products will be:

1. **Researcher-focused.** Research communication tools, services and options need to be developed with heavy input from the research community, with solutions/approaches driven by researcher needs and concerns
2. **Collaborative.** Successful and sustainable solutions will require broad collaboration, not just to ensure that all perspectives are considered, but also to ensure there is broad ownership of ideas.
3. **Connected.** There are great many interconnected issues in scholarly communication. We can't just improve "open," for instance, without also addressing impact factors, peer review, and predatory publishing. Reforming scholarly communication will require a systemic approach.
4. **Diverse and flexible.** There are no one-size-fits-all solutions to scholarly communication reform. Instead, there are many different pathways to reform, including many pathways that have not yet been conceived/deployed. Diversity, creativity and flexibility in this solution space should be encouraged so we can focus on our community's common goal of improving scholarly communication instead of insisting on common strategies or philosophies for improvement.
5. **Informed.** We need a better understanding of key issues in scholarly communication before moving forward. For instance, what is the impact of open research? The more accurate and honest our assessments, the more accurate and honest our reform efforts can be, the easier these efforts will be to promote, and the more successful they will be.
6. **Ethical and accountable.** We need enforceable, community-developed/driven standards to ensure the integrity of journal publishing, repositories, and other related activities/products, and to ensure that unethical approaches are not embraced.
7. **Directed.** We must discuss and plan for what the future of scholarly communication means, beyond just having access. For instance, we need to identify precisely what we plan to do with open information, where we will need data interoperability, what tools and procedures we will need to achieve this interoperability, and so on.
8. **Equitable.** Researchers everywhere need to be able to access and contribute information to the global research corpus with minimal barriers. To the extent practicable, research information—particular information central to life and health—

should not be unreasonably constrained by issues such as high access costs, poor journal indexing, and a lack of capacity-building programs.

9. **Sustainable.** Scholarly communication reform approaches need to be sustainable, which flows from all the other elements in this list. That is, the reform solutions we design need to be achievable, affordable, popular, effective, and so on.
10. **Transparent.** This community needs to maintain as much transparency as possible in this effort (with regard to pricing, usage, ownership, and so on) in order to address the trust issues that have plagued this space for so long.
11. **Understandable and simple:** This community needs to agree on a few simple, high-level, common-ground goals for scholarly communication reform—not anything terribly specific with regard to gold this or CC that, but a general set of goals that are understandable, achievable, and adaptable. By setting out general goals that can be easily achieved, participation can be made simple and easy, with low barriers to entry.
12. **Beneficial:** In the end, these reforms need to benefit research first and foremost. While the argument to improve benefits to society is palpable, these benefits need to be matured carefully, deliberately, and realistically in order to ensure that societal benefits are indeed being conveyed as intended, and that research is not being harmed in the process.

**It is proposed that the international research stakeholder community jointly manage Plan A through OSI.** A detailed governance structure for this plan will be developed over time in consultation with participants and funders. Our hope is that this plan will be fully launched by mid-2020, continuing for as long as funding and support persists.

By working together on realistic, robust, collaborative solutions that improve the capacity of research for all researchers everywhere, Plan A's vision is that we will arrive within the next 20 years at an "Open Renaissance" where many kinds of improvement happen to research and the research ecosystem grows exponentially more powerful (with more data, more connections, and more apps), which will further catalyze innovation and improvements in research. New fields and directions will emerge based on "connecting the dots" (thanks to data and repositories), funding efficiency will improve, and discovery will accelerate; the social impact of research will surpass today (including improved literacy, public engagement, and public policy impact); and knowledge will become more of a global public good, with society reaping the benefits.

## **BACKGROUND**

The Open Scholarship Initiative is a global, multi-stakeholder effort that has been working in the scholarly communication space since 2015. OSI's overarching goals are to improve the openness of research and scholarly outputs, lower the barriers for researchers and scholars



everywhere to engage in the global research community, and increase opportunities for all countries and people everywhere to benefit from this engagement. OSI is managed by the Science Communication Institute, a US-based 501c3 nonprofit public charity.

OSI fills the “NOASIR” role for UNESCO, serving as this agency’s Network for Open Access to Scientific Information and Research. What this means is that UNESCO is relying on OSI to support and cultivate the international open environment and connect stakeholders, support research and development in open technologies, policies and practices, defend access to scientific journals to developing countries, and serve as a laboratory for innovation and a catalyst for international cooperation. OSI is also consulting with UNESCO’s Natural Sciences Directorate, assisting the directorate in its effort to develop a UN-wide approach to the future of open science at the ministerial level.

OSI currently includes around 400 high-level representatives from 27 countries, 250 institutions, and 20 stakeholder groups in research and scholarly communication.

## PLAN A ANNEX

### STUDIES

OSI will begin conducting studies that target key issues in scholarly communication where a lack of firm understanding is making it difficult to create effective policy reforms. These studies will be “leveraged” through OSI, not outsourced. That is, OSI has enough internal and volunteer capacity to do all the study design, oversight, writing and analyses in-house. Grant funds will be used mostly for data-gathering and statistical analyses. The OSI team will identify and hire researchers as needed (some may end up being OSI participants already) who can conduct original research work as needed, and hire statisticians as needed to crunch numbers and maybe take a first pass at analysis, but the final writing and analysis will be done in-house by OSI participants. In this way, we can get the most studies possible with the smallest outlay of time and money. The studies we will conduct are as follows:

- **DECEPTIVE/PREDATORY PUBLISHING:** Exactly how fast is deceptive/predatory publishing growing, how much of it exists, and what are its dimension (by region, discipline and so on)? Very little definitive is known about this phenomenon, and yet it is perhaps the single most disruptive influence in publishing today (Anderson 2019; Strinzel 2019). As more emphasis is placed by libraries and funders on open access publishing, more open access publishing options are becoming available to authors. Some of these options are legitimate, some are not. This study will describe what we already know about predatory publishing, and will also enlist the aid of leading researchers who are part of OSI to suss out long-term data about the growth of predatory titles over time. A rough outline of this study is as follows:

**Title: Using new and improved data to assess the academic journal landscape**

Section	Description	Pages	New or novel?	Notes	Lead author?
Intro	Overview	0.5	No	Why can't we just do a count in Google? Well, for one, they won't let us. Second, there's no accounting for quality. The future needs to be built on	Glenn Hampson

				systems that are reliable and accountable.	
What is a journal?	Essay	1	No		Rick Anderson
The growth of journals and journal articles	Statistics	2	Yes	This is a known concept but will use new/better data from 1findr	Eric Archambault
Breaking down the nature of this growth	Statistics	3	Yes	Same as above. Focus on regions, disciplines, rates, and types (open, subscription, hybrid, other; predatory, indexed, non-indexed), plus— from other studies— how this compares to growth rates for “other” types of science communication like white papers, blog posts, preprints; who is publishing and why; etc. (from other studies)	Eric for new material, Glenn for rest
Discerning legitimacy	Overview	0.5	No	A quick case for how we define real science publishing and how evolving publishing norms are making it easier to push these boundaries	Rick
The statistics of legitimacy	Stats	4	Yes	A detailed look at what Cabell’s is doing, plus a detailed breakdown of the predatory landscape	Simon Linacre

				(rates, regions, disciplines, etc.), as well as a breakdown of what kinds of “violations” exist. How much of this “predatory” work is mixed in with real work, and how does this change the growth estimates that Eric came up with? This will need to be broken down by region and discipline—the aggregate numbers won’t be revealing.	
Testing assumptions	Stats	4	Yes	Random sample Google search results in various topics from different parts of the world to if what comes up in Google searches matches what “should” come up in terms of significance and legitimacy. [This is important insofar as GS is the primary search mechanism for a majority of the world’s researchers.] For instance, does searching for “cancer vaccine research” return real work more often than not, or lots	Not sure

				of predatory work? Understanding this will help us understand how worried we should be about fake science corrupting our knowledge base.	
Re-thinking the landscape	Informatics	2	Yes	How else can we visualize what's happening in scholarly publishing? For instance, would it make more sense to group journals into "read" and "not read" (and/or relevant and not relevant, compliant and/or noncompliant, etc.)? By audience saturation? Etc. In other words, is it necessary to think in terms of the growth of articles and journals if what's actually being used/read is remaining essentially unchanged (save for new journals covering new fields), or if journals are born and quickly die?	Glenn et al
Issues and recommendations	Policy	3	Yes	What are the issues that are important in this landscape (like inclusion and preservation), and	Glenn et al

			<p>what issues are preventing us from tracking academic scholarship more closely (ISSN errors, naming differences, indexing problems, completeness issues like poor inclusion of SciELO journals, etc.), how prevalent are these, and what can/should we do to remedy these? Is a global open index a solution (plus a global open impact factor)? These ideas will be explored more fully in a forthcoming OSI project.</p>	
--	--	--	--	--

- IMPACT FACTORS:** Impact factors are one of the most destructive, most corrosive measures used in science today (OSI 2016a, Bosman 2013). They are also one of the most important and widely used. How can both of these statements be true? Because impact factors are the statistic we love and hate—we know they are more or less meaningless (Lozano 2012), but we also know that high impact factor work translates into promotions and grants. And so we turn a blind eye to their shortcomings and keep using them. Much has been written about the use and misuse of impact factors (i.e., explaining what they were intended to measure versus how they are promoted), alternatives to the impact factor, and calls for broadening the metrics we use in assessments (particularly RPT). But nothing has ever been written about the statistical validity of this measure. In fact, the impact factor isn't mathematically valid at all for the purposes of measuring "impact" (for several reasons—the most significant of which are that this is an aggregate journal level metric and not an article level metric; also, citation counts are just aggregate, not positive or negative, so a bad article could be highly cited as an example of what not to do. After disassembling the mathematical foundation of impact factors, this study will propose how to remake the impact factor to improve its use. It will also rethink policies regarding how we use future impact factors in order to

avoid perpetuating the “arms race” situation we have now where publishing in high impact factor journals is seen (incorrectly) as a proxy for quality, relevance and impact (disassembling this narrative will require evidence). Finally, this study will review the existing literature for an explanation of why we use these measures in the first place (plus an overview of who uses them and how), and review other proposed means of measuring impacts (existing tools, new tools, etc.). One final approach that may also be explored as part of this paper, depending on how far along the development of a proposed product has progressed (see “open impact factor + open index”) is a new “open impact factor” measure (built on the new math but using a global index) that everyone can have/use and that doesn’t discriminate against small/new publishers. Currently, only journals indexed by Clarivate (representing a narrow and elite set of journals) can have an actual impact factor calculated; everyone else needs to use a fake impact factor (like the Global Impact Factor) or invent one out of thin air. Creating an open impact factor will first require creating a global index, which is described in more detail in the open impact factor + open index product proposal.

- **EMBARGOES:** How necessary are embargoes? Publishers insist that a 6-12 month delay is necessary between publication and free public access in order to protect subscription revenues. Critics contend that this time could be shortened—that there are other ways to protect revenue streams that don’t involve long paywalls. To-date, the only estimates of ideal embargo length have come from citation half-life studies. In order to generate more “real” data on this matter that directly answers the question of how long is too long (instead of inferring this from half-lives), we will conduct a blind with the cooperation of publishers (Elsevier volunteered to participate in this study in 2016; we will revisit this offer and see if we can also include other publishers). This study will reduce or eliminate embargoes for a select number of publications and will monitor this impact of this action on revenues. If the impact is negligible, the evidence may suggest that embargoes can be shortened (or that revenue loss can be offset through other value-added access means—e.g., increasing access to the article but not the dataset, which will lead to more purchases of the dataset). The need for embargoes remains a major sticking point in open debates. Figuring out how to make progress on this issue is important to the future of open.
- **IMPACTS:** Not to be confused with “impact factor,” understanding the actual impacts of open in research, education and society is vitally important. This is more of a meta study than anything, but it’s needed to better “sell” the advantages of open (or to better understand why open is not selling and what we really need in open—more standardization of data, for instance). The OA citation advantage is the most visible attempt so far to quantify open impact, but studies trying to measure even this one statistic have reached different conclusions to-date. Eric Archambault’s most recent study (Science-Metrix 2018) is the most authoritative, but even this study didn’t look at the full spectrum of open products, just “gratis” (which crosses several categories of

open). What we need to know is much more granular: what kinds of green open are the most effective (for instance, the green in institutional repositories, or on preprint servers, or where?), how well is gold received by researcher (and what type), bronze, public access, and so on? In other words, exactly what kind of open is needed to improve visibility and reuse? What kind of open works best and why (what factors are most important—readability, findability, reusability, all of these, or none of the above)? What measures other than citation might we use to triangulate on actual impact (since citations can be influenced by press coverage, topic salience, etc.). What correlates can we note between open and research uptake, R&D investment, and more? The entire corpus of open work to-date has taken it as an article of faith that all open is created equal and that open itself—vaguely defined as it is—is meritorious. We need to get a clearer idea of what we're working to achieve and why, beginning with understanding how the current constellation of open outcomes are being received in the marketplace. (Possible OSI research leads: Rob Johnson, Caroline Wagner, Eric Olson; Rob's possible time frame for working on this is June-Aug 2020)

- **PUBLISHER PROFIT MARGINS:** A major point of contention in this space is how much profit Elsevier makes. Critics say 37 percent. The company (in correspondence with the OSI list) says much less—that Elsevier's income and expenses are entangled with those of its parent company RELX and that revenues come from many sources not related to academic publishing. A clearer picture is simple enough to arrive at by hiring auditors to examine the books (not just of Elsevier but other major publishers as well) and issue an authoritative analysis, and also by reviewing the scholarship on how to properly interpret profit margins within and across industries. We will also review the landscape of funding and costs for universities to see how publishing fits into all of this. Charges of profit-mongering and double-dipping have fueled attacks on commercial publishers or at least 15 years now and these attacks have been used as an excuse to keep publishers from participating equally in global conversations about the future of open. To the extent we can help shed more understanding on these numbers, it will help provide a firmer foundation of transparency and realistic expectations for open reforms. In order to develop a fuller understanding of the underlying tensions in this debate—it's largely just a push and pull between libraries and publishers, with each accusing the other of financial misdeeds—we may also find merit in expanding this study to include a look library finances as well. The publishers with whom we have spoken are willing to participate in this study insofar as providing requested data.
- **CONNECTEDNESS/STANDARDS/ROADMAP:** How related are different concepts and applications of open (across coding, books, journals, etc.), and where can we merge these concepts, applications and even open efforts? As we (not just OSI, but the United Nations, scholarly societies and others) begin developing new roadmaps for the future of open, it behooves all of us to collaborate not just within scholarly publishing, but between journal publishing, book publishing, data science, and so on. OSI is actively



pursuing partnerships in the roadmap effort on several fronts but needs to have a roadmap of its own showing who is working on what, what concepts overlap, what concepts differ, and how this landscape of interests and perspectives fits together. From this work, it should be possible to create a new global conversation around global open standards and a global open roadmap built on common ground and connectedness and that applies broadly to all fields and all open efforts. From this position, we can establish policies that are flexible and adaptable and that all pull in the same direction toward more open. A study like this hasn't been conducted before—this would be a first attempt to define the full landscape of open.

- **NEEDS:** Tying in closely to our impact study, the scholarly communication community also needs a study that looks at how much open is needed by field (for instance, is CC-BY licensing always necessary everywhere)? As noted in the impact study description, open efforts have long proceeded from the assumption that we know what works and what the market needs, but in fact we have no idea. This study would first survey existing literature to get a fuller picture of what we already know with regard to researcher wants (primarily various author surveys conducted over the years by publishers and universities). Information gaps would then be filled via new, global surveys, facilitated with the assistance of Editage/CACTUS and others in OSI who have volunteered to help. Getting a broad sense of this demand across regions and institutions, as well as across disciplines and faculty types (as is usually done) is critical insofar as trying to ascertain global needs and perspectives and not just Northern/Western needs. Getting a better sense of what kind of open we should be working toward is also critical. The impact study will look at this from a market perspective, assessing what's being used. The needs study will look at this from an aspirational perspective—what needs are present that are not being met? Do current solutions align with marketplace options? Is there alignment between what researchers are asking for and what the marketplace looks like?
- **PUBLISHING IN RPT:** Publish or perish has been the norm in academia for decades now. This dynamic is not abating; indeed, it's accelerating (Plume 2014). Around the world, we see a wide variety of influences that are causing the number of research articles to stay high, including requiring publishing for a PhD (India), awarding cash bonuses for publishing in high-impact journals (in China; Montgomery 2018), having journal articles ghost-written for you to improve resumes (Russia), and everywhere, having more opportunities available to publish (faster, at lower cost, as part of large multi-author teams, as part of grant requirements—regardless of whether study findings are complete or meritorious, as salami-sliced articles, as a consequence of increased specialization, and more. Concurrent with this avalanche of paper, there is also increasing sloppiness in the system wherein tenure committees aren't necessarily valuing the quality of publications—that is, publishing in predatory journals may not always be noticed or questioned (Shamseer 2016). OSI has debated this issue at length

and there aren't any good answers. Do we expand the scope of what "counts" in publishing to include blog posts, videos, press interviews and more? Do we lower the bar and allow preprints to count for more? Do we create professional standards such that publishing in a non-indexed journal (see tech project on indexing) is disallowed. Or even more aggressively, do we create standards that say publishing in such journals is unethical? OSI isn't the only group that has debated this issue. What is needed is a landscape analysis of RPT practices worldwide with regard to publishing. From this analysis, we will develop a set of best practices recommendations for UNESCO and national departments of education. Once we lower the pressure to publish in academia, it will become easier to rationally discuss and implement solutions aimed at improving the quality and quantity of research publishing. Until then, and without addressing this systemic issue, reform measures will simply be reactive.

- **PEER REVIEW:** Peer review is what separates vetted science from non-vetted science. It's a critical part of the current scholarly publishing ecosystem. Peer review is also unpaid labor and an incredible burden to many in academia. To this end, different methods of peer review are evolving and being tested—for instance, post-publication peer review, which allows articles to be quickly shared and then refined via broad feedback in real time online. Peer review is also being faked—deceptive journals promise peer review but deliver only a cursory editorial review instead, if that. OSI has debated this issue at length and is well-positioned to author a landscape analysis of the current state of peer review, along with best practices recommendations for UNESCO and national departments of education. Without figuring out the right way forward for peer review, our open efforts will flounder—we can't create more open without ensuring the scientific integrity of these articles. We also need to develop and share best practices with the global community in an authoritative way, which this landscape analysis will facilitate. This effort will be focused on settling the highest priority concerns in peer review (Tennant 2019): what is peer review anyway, what value does it add, how do we define expertise, how do we protect diversity and more. These questions will be answered through broad stakeholder polling and consensus. This study will be part fact-finding, part survey, part consensus cultivating, and will involve meetings, email discussions, proposal drafts floated to institution heads, and collaboration with standards agencies like NISO and editorial agencies like WAME (which all participate in OSI).
- **GLOBAL FLIP:** California's library system, cOAlition S, MPDL's OA2020 Initiative, and other influencers in global scholarly communication system all believe quite firmly that a global "flip" to open is economically feasible, wherein closed subscription publications convert to APC-funded open publications. This belief is grounded at least in part in a 2015 study from the Max Planck Digital (Schimmer 2015) suggesting that the world has enough capacity to make this flip possible and that costs will come down as a result of APC competition. These data have never been examined closely in another research

piece (they have been challenged in numerous blog posts since then) but they need to be so the global community can assess this strategy more objectively. Mounting evidence suggests that authors do not comparison shop for APCs (Tenopir 2017), so there is no downward pressure on prices. What we have instead are escalating prices, and a shifting of the cost burden from institutions to authors, all of which is only widening the gap between haves and have-nots. Are APCs the way to go? Maybe, maybe not. The fact is we don't know. More research is needed. This study will go back to square one and re-examine the data and assumptions of the original global flip study, updating data points and re-examining assumptions such as price competition based on new studies. It will then look at the variety of pricing models that have emerged in the global publishing system over the last 10 years (such as PAR) and estimate what may actually be possible—that is, estimate what the market may actually be looking for and what reforms may be achievable. Based on this analysis, this study will search for the “sweet spot”—maybe, for instance a global flip to PAR in 10 years bracketed on the high and low end by layers of subscriptions and preprints, or whatever the case may be. This analysis is important insofar as trying to visualize the end-zone for reforms. We know what problems exist and what changes need to be made. What we don't know is where the market is headed. Having a better idea of this will allow the global community to start pulling in the same direction and improve collaboration on measures that aim for the same goal.

- **GLOBAL RESEARCH PUBLISHING STANDARDS:** Figuring out how much deceptive/predatory publishing exists, what it looks like, who is using it and why (see previous study proposal on deceptive/predatory) is just part of the effort to improve global research publishing. Another critical part is to figure out what research publishing standards we need. Several organizations in scholarly communication have discussed best practices over the years (most notably editorial and umbrella groups like NISO, WAME, COPE, and OASPA), but these discussions have stopped short of creating and issuing internationally-backed recommendations for publishing standards and the methods for enforcing these standards. This study will first gather together best practices recommendations that have been discussed to-date, update these with input from the organizations represented in OSI (which includes editorial and umbrella groups plus over 200 other organizations), and then evaluate realistic measures for creating and enforcing standards for the global research publishing community which will be observed not just by publishers but by others as well—most notably funders and universities. The goal of these standards will not be to erect barriers to publishing, but to map out the boundaries of what we mean by “open,” “publishing,” “peer review,” and other terms that lack a clear definition. These standards will also define the minimum expectations we should have for publisher competency so that the global research publishing enterprise as utilized by universities in particular is consistent and well-defined. Since this study will rely on findings from several other OSI studies, it will need

to wait until these other studies are complete before beginning. Creating thoughtful, fact-based, widely-adopted standards for global research publishing is critical to ensuring that research publishing grows in a way that represents the needs of researchers and not just market forces (e.g., less deceptive publishing, less pressure to publish in journals, etc.).

- **REPLICATING THE SCIELO MODEL:** SciELO is one of the most unique organizations in the world of scholarly communication. It is a soup-to-nuts provider of everything from publisher training to editorial services to data management and repository management, serving as a pioneering open access network and hub for dozens of journals across Latin and South America. It is a model for how the publishing industry should evolve in the global south to ensure improved focus and better access. We will undertake a study to determine the feasibility of expanding SciELO from Latin and South America to CAMENA (Central Asia, the Middle East and North Africa), Sub-Saharan Africa, and SE Asia. Is there a need in these regions? Interest? Potential financial support? Should these new SciELO's operate independently or in cooperation with one another? Based on the outcome of our study, we will then approach UNESCO and other possible funders and partners with financing and development proposals (note: an initial version of this plan was raised last year at SciELO-20 with the heads of SciELO and its parent body FAPSEP, as well as UNESCO).
- **IMPROVING SCHOLARLY PUBLISHING RESEARCH:** The majority of research into scholarly publishing-related issues and reforms isn't adequate. This is an impossible statement to corroborate—it's an observation based on the volumes of research the OSI group has reviewed over the past four years. Too much of this research exhibits a fundamental misunderstanding of the nuances in this field. In an effort to promote better research, we will research and publish a paper that describes the conditions researchers need to keep in mind when doing open research. For instance, when researching predatory journals, Beall's List should not be used as a starting point since this list is not transparent and is no longer supported (i.e., the criteria for inclusion on this list were always taken on faith—Beall never made these criteria public—which is not how science should be done). Also, we cannot assume "open" means the same thing as open access. Too much research tracks "open" without understanding that it exists in many variations, and gold/green CC-BY open is just one such variation. Also, we cannot treat databases like Scopus as being representative of all journals. This database is, in fact, narrow and highly selective. There are many more observations about scholarly publishing research we've noted over the years; publishing this as guidance will help improve the quality of future research work in this area.
- **OTHER:** The OSI group is constantly talking. It's quite likely that other study ideas will be raised. If some of these ideas are meritorious, they will be added to this grant proposal with permission and pursued if possible.

## INFRASTRUCTURE

OSI will also begin developing tech products and solutions that fill key needs in the scholarly communication ecosystem where a lack of government and/or private sector action has hindered the progress of open reforms. As with OSI studies, these products and solutions will be “leveraged” through OSI, not outsourced. That is, OSI will design and oversee development in-house, and NSF funds will be used for certain programming and other work that cannot be handled in-house. The OSI team will identify and hire personnel as needed (some may end up being OSI participants already) who can conduct this work as needed, but the final design decisions and assessments will be done in-house by OSI participants. All of these products and solutions will fully deploy before 2025. Grant funds (if available) will be used to maintain these products and solutions over grant periods, but all solutions will become self-supporting through various combinations of advertising, sponsor fees, and member fees for content providers (none of these products/solutions will have user fees for basic access, although premium access models may emerge as a means of support). The products/solutions OSI will consider building are:

- **APC DISCOUNT/SUBSIDY DATABASE:** There are no databases of article processing charges (APCs) or subscription discounts or subsidies. Researchers looking for charges, discounts or subsidies need to search for these one at a time. Research4Life leaders (who are part of OSI) have noted that building such resources would be immensely helpful to authors, particularly those from the global south where discounts and subsidies are most needed, and also where price comparisons are more needed. OSI researchers will collect and input initial APC and discount/subsidy data over a period of six months, after which point publishers and discount/subsidy providers will be given instructions on how to keep their data current. This data from this system will feed into other systems we develop (see, for instance, the Yelp product).
- **OPEN IMPACT FACTOR + OPEN INDEXES:** Our uneven progress toward open is having unintended consequences. Among these consequences are the unavailability of legitimate impact factors for all journals (because not all journals are indexed), uncertainty about the number and growth of so-called deceptive/predatory journals (see deceptive/predatory study proposal), and the growing incidence of citations from non-indexed journals. Regarding this first problem, because the need exists for thousands of journals to get some sort of legitimate impact factor (whether this uses the same math as the current impact factor is a separate question—see the impact factor study, which will precede the development of this tool), because most journals will never earn a legitimate impact factor through Clarivate (since these journals don’t pass rigorous tests for index inclusion), and because the alternatives (such as “global impact factor” or “universal impact factor”) aren’t legitimate, there is a need in the marketplace for new solutions that are legitimate. OSI has discussed developing three possible solutions to

these challenges: (1) Creating an open impact factor measure (described below), (2) creating an all-inclusive open index, and (3) creating an index of indexes. All three products/services have unique audiences and all three will be developed/piloted together. The first solution—the open impact factor—simply decouples Garfield’s impact factor calculation from the private management and ownership of it by Clarivate—decoupling the algorithm from the data source so we can have as many lowercase "impact factors" with as many algorithms as we want. (Clarivate has trademarked “impact factor” and “journal impact factor” in the US but does not own the mathematical concept. This move is not wresting control of the impact factor away from Clarivate since the product they provide has substantial independent merit. Rather, it is simply providing legitimate alternatives to the “universal impact factor” and “global impact factor” for journals that do not qualify for a Clarivate-issued impact factor.) To do this will first require a developing a global index of journals, which is proposed solution number two. Current indexes are limited in scope and focus primarily on English-centered indexes. In order to improve the identification of deceptive journals it is necessary that we have a universal indexing system that overcomes the natural or operational exclusion of current indexes. Today such indexing is provided only by Google Scholar. Idea number three is to create an automated journal whitelist look-up, whereby a program will make an API call to a look up and return a list of whitelists on which a given journal appears (with cooperation from Cabell’s, this call could also include blacklists). This system will return a finding like: “Journal X is indexed by WoS, JCR, Scopus, DOAJ, and MEDLINE.” The lookup will also include subject lists (like EconLit, PsycINFO, MLA, and so forth) as well as regional titles. This system will be used to help dissuade citing non-indexed and possibly suspect work. Journals will be encouraged to adopt an editorial policy whereby if a referenced journal does not appear on a whitelist, then authors must justify the citation. This approach does not require much in the way of new infrastructure or the creation of new lists. It will, however, require various whitelist publishers to agree to allow such an API look-up (akin to Indeed or Monster scraping various job boards to provide one meta job board). The look-up would not contain any additional information from the white lists—only an indication of whether a journal appears on it.

- **APC PRICE COMPARISON TOOL:** As noted earlier, several recent studies have confirmed (Tenopir 2017) that scholars do not shop around for the best prices on APCs. And yet price shopping is behavior is assumed to exist and is fundamentally important to the success of the University of California’s position with regard to cancelling access to Elsevier journals and hoping that alternative publishing options will not only take hold but save the system money (as enunciated by the UC’s lead negotiator Jeff Mackie-Mason; see Mackie-Mason 2016), and also to the MPDL’s OA2020 effort (which underpins the EU’s Plan S initiative). APC price shopping may not exist yet simply because there is no tool to help facilitate this (to be clear, price is a factor, but surveys

have shown that authors care more about quality and impact than price; the argument here is that if it was easier to compare prices, then maybe price would factor more in decisions). Although many in OSI are opposed to the carelessness of Plan S, we are not opposed to the idea of helping contain costs in publishing; developing an APC price comparator tool would therefore be of great service to the global scholarly communication community. No such tool currently exists. The development and deployment of this tool would need to proceed with care. While providing price information is valuable, we don't want to help promote fake journals either. Therefore, with help from Cabell's, DOAJ, SSP, and other relevant organizations in OSI, we will begin by creating a self-populating database of APCs from currently indexed journals only (seeded with initial data as available, at which point publishers will be emailed and instructed how to self-update information). Non-indexed journals with egregiously bad behavior (plagiarism, fake peer review, etc.) will not be listed in this database; non-indexed journals with smaller question marks (new, no street address, broad subject coverage, regional interest, etc.) may be listed with asterisks (indicating that authors should seek input from their library officials before publishing in it).

- **YELP SITE FOR SCHOLARLY PUBLISHING:** OSI will build a few tools that have wide “category-killer” appeal and real paradigm-shifting potential for scholarly communication. A Yelp site for publishers is one such tool (an All-Scholarship Repository is another). Both of these tools will have significant overlap with other tools we build and that exist on the market today—that is, they will incorporate some of the same data, but they will have broader audiences and fill more needs at once. The core purpose of the Yelp site for scholarly publishing is to provide an easy-to-use, familiar-looking interface where customers (authors, editors, reviewers, funders and more) can rate scholarly publishers (not just commercial journals but university presses, scholarly society journals and more) and where publishers can provide important contact and product information—a link to their website, a summary of their products and services, links and credentialing badges that verify data such as indexing and impact factors, and much more. Customers will be able to search this database for publishers in their field, price range, region and more—like the actual Yelp site, searches can be filtered in a wide variety of ways. Customers will also be able to provide reviews regarding their experiences with publishers, which will help round out the data provided by Cabell's blacklist and other information sources. For instance, customers might report that their peer review experience with a particular blacklisted publisher was perfectly acceptable, or conversely, that it was entirely inadequate with a highly-ranked publisher. The reviews that get posted on this website will take a few years to become accurate. At first they will be dominated by people who are either trying to mask bad products or punish good ones, but over time we suspect that this will become the go-to resource for all authors looking to publish their research and funders looking to identify reliable open access publishing options. As such, it will be heavily trafficked (at least relative to other

products in the scholarly communication space) and a good revenue-generator. Ad revenue will help support the upkeep and sustainability of this product, with excess revenues accruing to OSI toward the development of OSI's other products (and studies); sponsorship support will also be important. This will be a complicated product to develop, launch and fine-tune, and very labor intensive as well. If we are able to begin product development in early 2020, it will take six months to work out the architecture, six more to populate with starter data, and six months after that to beta test and refine—a total of 18 months before the first iteration of this site is up and running. Due to its complexity, the vast majority of this product will be hired out—very little of the programming work will be conducted in-house.

- **ALL SCHOLARSHIP REPOSITORY:** The All-Scholarship Repository (ASR) is the ultimate game changer in scholarly communication. Rather than continuing to rely on (and expand) our global network of institutional and national repositories, and then exert herculean and ultimately inadequate efforts to connect the meta data in these repositories (which ends up only providing a glimpse into the contents of each repository, not full access to the contents themselves—at least at the moment), ASR jumps over this step and instead creates a single warehouse for all scholarly research content. The advantages of this global preprint server concept are multifaceted: full-text searches across all articles, the potential for widescale database standardization and integration, the potential for vastly expanded cross-discipline integration, the potential to implement widescale online peer review solutions, real-time and transparent impact measurement (via downloads, views, comments and reader scores), instant open for all content, and more. ASR, in essence, solves a hundred pressing issues in scholarly communication in one fell swoop. It's a leap, though, and will require widespread buy-in in order to succeed, including from publishers whose content is needed for this system. Where would publishers end up with this system? The same as now, publishers would identify the best and most promising research and publish these articles in their journals. They would also put their own interface on the ASR (a public resource) and curate contents as they see fit, adding value by analyzing trends, highlighting significant new discoveries in fields of interest, and more. The only difference would be that the preprint world would be “unshackled” from the print world, and would be free to grow at its own pace and direction. This may eventually mean fewer print journals and more reliance on the ASR, but a possible decline in publisher subscription revenues would be offset by an increase in value added revenues. In terms of architecture, ASR would be single database with many spokes—many independent owner/operator channels through which data can be added and outputs can be customized. The Digital Public Library of America is the best example of how this system would operate. The central ASR database would be replicated and archived continuously; it would also be cloned by owner/operators. A fuller description of the ASR concept and operation is available in the appendix of OSI's February 2015 report (OSIWG 2015). The time frame for



developing and launching ASR is longer than for our Yelp site since we will need about a year to discuss and arrange collaborations with major pre-print and government servers about data scraping and integration (we aren't expecting that ASR will replace any existing services until it is very populated, although the prospect of replacement will be promoted; US government agencies in particular, if directed by OSTP, might be keen to explore repository replacement instead of long-term and costly upkeep and modernization). If funding for ASR is secured by early 2020, our goal is to have an initial version of this repository running by end-2022. Like the Yelp site, this site will have revenue generating potential, but on a much more massive scale—not only advertising and sponsor revenue channels, but also percentage revenue arrangements with publishers who provide data for the site and resell data from the site. Excess revenues will be directed to OSI to ensure the continued full funding of OSI operations, in accord with the NSF's guidelines on this matter.

- **PREDATORY PUBLISHER BLACKLIST:** In collaboration with other organizations in this space OSI will create a free, publicly available list of the largest, most prolific predatory publishers. Curating and maintaining the full list is a labor-intensive endeavor and will remain a retail product of Cabell's, but the OSI list will serve as an initial "quick check" for potential authors, highlighting the most egregious and prolific predatory journals who account for the most of this kind of output and/or the most blatantly fake outputs (like OMICS). This site will also provide background information on predatory publishing, links to resources like Think-Check-Submit and Cabell's (for the full list of predatory publishers), and case studies on why this kind of publishing should be avoided (due to risks it poses to careers and science). There is no other resource like this on the market.
- **ITUNES SINGLE ARTICLE DOWNLOAD:** The idea of having an iTunes-type of tool for single-article downloads has been kicked around for years in publishing but never pursued. Various experts have dismissed it out-of-hand for various reasons, with criticisms like we shouldn't have to pay anything for these articles, and customers won't pay when they can find them for free with a little digging (interlibrary loans, etc.). These criticisms have never been tested though. Our hypothesis is that, in fact, creating a model where consumers can legally access the latest work (or close to it—maybe downloads from this system would be embargoed only briefly but not for as long as free articles) would be extremely well received by both publishers and the marketplace, creating new revenue pathways for publishers and cheaper access for customers. As with some of the other tech solutions we're proposing, this one may end up being a "module" of the ASR, so it will be developed with this in mind. That is, eventually the ASR may feature access to various categories of articles and products—free, cheap, PPV and subscription, for instance—and inasmuch, the architecture of this iTunes site should integrate seamlessly with the ASR. Ultimately, we view the iTunes site as a transitional tool—as a way to allow publishers to daylight a hundred years of backlisted articles now but in such a way as to still generate revenues from these assets. Careful

modeling will need to take place first to determine price points, catalog, frontlist integration and more. Over time, as the ASR becomes richer and more populated, it may become more advantageous to de-monetize more and more of this backlist. Like the ASR and Yelp sites, the iTunes site will have significant revenues accruing from ads and sponsors. It will also accrue revenues from percentage sales. As with ASR, excess revenues from this site will be directed to OSI. Development and deployment will be on the same schedule as the ASR site, with full operation by end-2022.

## EXISTING WORK/PRIORITIES

In addition to studies and tech products, OSI's existing work/priorities will also be supported by this grant. This includes:

- **CONSOLIDATION AND IMPLEMENTATION OF OSI RECOMMENDATIONS:** OSI has accumulated a wealth of knowledge over its four years of operation. We are in the early stages of publishing materials that consolidate this knowledge into issue briefs and policy perspectives. A few of these have been published to-date; many more are planned (around 50 have been identified), to be written by OSI participants. In terms of priorities, the next most needed publication is OSI's "Plan A" for open—a summary paper that captures the general sense of the OSI group with regard to what steps the global community should take next in order to ensure the rapid, collaborative and sustainable development of global open science. We expect this Plan A document to be issued by year-end 2019. Plan A will, in essence, be OSI's roadmap for the future of open science. A number of different stakeholder groups (including IGO's, led by UNESCO; scholarly societies, led by the NAS; the AAU, representing university provosts; and others) also realize that broad, collaborative action is needed now. What we are seeing as a result are parallel, high-level efforts happening around the world to create a new roadmap for the future of open. However, there is no convergence of activity and no central point. OSI will fill this role and communicate this convergence perspective in Plan A—as an observatory to keep these similar and important efforts connected, aware of each other's existence and activities, and coordinated so actions and policies can have more impact. We need this central hub to ensure that we can have reasonable, sustainable, global, inclusive action—a group to inform, coordinate and share policies that will lay the groundwork for the future of open research/data and open science in particular.
- **ANNUAL GLOBAL SURVEY OF STATE OF OPEN:** How is open changing? The fact is we just don't know. Studies measuring open aren't conducted at regular intervals and don't use the same methodology. In order to measure global progress toward open, we need a baseline and consistent, comprehensive, global measurements. Several OSI participants have volunteered to help develop this product and implement it. The Center

for Open Science is once such partner; Editage/CATCUS is another (who will help translate this and disseminate it to global audiences). This annual survey will be an important tool in helping us better understand current needs and perspectives, understand where we need to focus our open efforts, and track our progress toward achieving our objectives.

- **EDUCATION/OUTREACH:**

- One of OSI's goals is to help countries understand open and understand how this issue (and current global proposals) impacts their equity, education and development goals. Our issue briefs (which UNESCO has promised to help co-brand and promote) are one tool in our education arsenal. Our studies and tech products are other tools. In addition to these, we will improve/enrich the OSI website with the goal of making it more of a hub/resource for open and a more useful teaching tool.
- There are many ways to learn about open, far fewer ways to collaborate on global actions to improve open that aren't biased toward set end-points (e.g., "let's do a global flip," or "let's remove publishers from the process"). There are a great many groups looking for constructive ways to engage in realistic measures. An important approach OSI will cultivate beginning in 2020 is to bring organizations together to help pick the low hanging fruit—to create a global environment of cooperation for solving the most urgent problems together and in doing so build a track record of success. We don't need a Plan S that changes everything for everyone tomorrow without regard for the consequences. We do need a Plan A that describes what needs to be addressed and describes realistic and sustainable ways to begin tackling these issues together in ways that are easy and make sense for everyone, and importantly, that have incentives aligned such that partners will be joining in this effort out of self-interest and not due to threat or obligation.
- **EVENTS:** OSI has hosted two full-group meetings to-date (in 2016 and 2017), one executive team meeting (in 2018), and helped sponsor several other meetings in this space (such as SciELO-20 in 2018). We will need to hold and sponsor a number of other meetings in the coming years. There is no better way to get solid input from a diverse range of participants than to hold meetings. Email works okay to continue the conversation, but there is simply no substitute for breaking down walls and making progress than in-person meetings. OSI participants will also participate as speakers and panelists in other global meetings, communicating OSI's lessons of experience and also forging partnerships with universities, publishers, research institutions, governments, funders, societies and policy groups interested in moving forward with workable, global solutions to open research. By November of 2019, OSI will have marked four such efforts: (1) A presentation about OSI on the opening panel of the

SciELO 20<sup>th</sup> Anniversary conference; (2) A presentation about OSI in the keynote portion of this year's Charleston conference, and (3) Inclusion of OSI and key OSI outputs (such as the DARTS open spectrum) in the 50<sup>th</sup> Anniversary addition of the STM Report, a key resource for the scholarly publishing community; and (4) Inclusion of OSI in a debate at the 2019 Falling Walls conference about the future direction of open science.

## CITED REFERENCES

AAP. 2018 (Nov 8). AAP, Researchers, Deeply Concerned About Plan S. Association of American Publishers

AHA. 2019 (Feb 4). AHA Expresses Concerns about Potential Impact of Plan S on the Humanities. American Historical Association

AIP. 2019 (April 30). An Interview with OSTP Director Kelvin Droegemeier. American Institute of Physics, newsletter 42.

Anderson, R. 2019. OSI Issue Brief 3: Deceptive Publishing. Open Scholarship Initiative. doi:10.13021/osi2019.2419

Archambault, É, D Amyot, P Deschamps, AF Nicol, F Provencher, L Rebut, and G Roberge. 2014. Proportion of open access papers published in peer-reviewed journals at the European and world levels–1996–2013. European Commission

Bosman, J. 2013. Nine reasons why Impact Factors fail and using them may be harmful to science. March 11, 2013 blog post. <http://bit.ly/2mcZiYR>

Budapest Open Access Initiative (BOAI). 2002. <https://www.budapestopenaccessinitiative.org/>

cOAlition S. 2018. Plan S website. <https://www.coalition-s.org/>

Davis, PM, and WH Walters. 2011. The impact of free access to the scientific literature: a review of recent research. *Journal of the Medical Library Association: JMLA* 99(3), 208-217.

Force11 (<https://www.force11.org/>)

Hampson, G. 2018a. Finding common ground. SciELO conference presentation

Hampson, G. 2019a (2nd ed.). OSI Policy Perspective 1: Plan S & the quest for global open access. Open Scholarship Initiative. doi: 10.13021/osi2019.2450

Herb, U, and J Schöpfel. 2018. Open Divide Emerges as Open Access Unfolds. In J. Schöpfel & U. Herb (Eds.), *Open Divide? Critical Studies on Open Access* (pp. 7-13). Sacramento, USA: Litwin Books.

Himmelstein, DS, et al. 2018. Sci-Hub provides access to nearly all scholarly literature. *eLife* 2018;7:e32822. doi: 10.7554/eLife.32822

Lozano, G., et al. 2012. The weakening relationship between the Impact Factor and papers' citations in the digital age. arXiv. May 19, 2012.  
<http://arXiv.org/ftp/arXiv/papers/1205/1205.4328.pdf>

Mackie-Mason, J. 2016 (April 26). Economic thoughts about “gold” open access. madLibbing (blog). <http://madlibbing.berkeley.edu/economic-thoughts-about-gold-open-access/>

McKenzie, L. 2019 (August 16). Linking Liability. Inside Higher Ed.  
<https://www.insidehighered.com/news/2019/08/16/legal-questions-raised-over-links-sci-hub>

Moniz, EJ. 2019 (June 14). Innovating a Green Real Deal. *Science*. Vol. 364, Issue 6445, pp. 1013. doi: 10.1126/science.aay3140

Montgomery, L and R Xiang. 2018. Understanding open knowledge in China: A Chinese approach to openness? *Cultural Science Journal* 10(1), 17–26. doi: 10.5334/csci.106

Open Science Initiative Working Group (OSIWG). 2015. Mapping the Future of Scholarly Publishing. Science Communication Institute

OSI. 2016a. Report from the impact factors workgroup. Open Scholarship Initiative. doi: 10.13021/G88304

OSI. 2016b. Report from the embargo workgroup. Open Scholarship Initiative. doi: 10.13021/G8S014

Plume, A, and D van Weijen. 2014 (September). Publish or perish? The rise of the fractional author. *Research Trends* 38.

Plutchak, TS. 2018. OSI Issue Brief 1: What do we mean by open? Open Scholarship Initiative. doi:10.13021/osi.v3i0.2367

Salmon, J. 2016. The Grand Compromise of US Public Access Programs: Going Green. US Department of Energy (OSTI). <https://www.osti.gov/grand-compromise-us-public-access-programs-going-green>

Schimmer, R, KK Geschuhn, and A Vogler. 2015. Disrupting the subscription journals' business model for the necessary large-scale transformation to open access. doi:10.17617/1.3.

SciELO. <https://www.scielo.org/>

Science-Metrix. 2018. Analytical support for bibliometrics indicators: Open access availability of scientific publications. Science-Metrix.

SciHub (currently at <https://sci-hub.se/>)

Shamseer, L, D Moher, O Maduekwe, L Turner, V Barbour, R Burch, J Clark, J Galipeau, J Roberts, and BJ Shea. 2016. Potential predatory and legitimate biomedical journals: can you tell the difference? A cross-sectional comparison. BMC Medicine, 2017 15:28. doi: 10.1186/s12916-017-0785-9

STM. 2018. The STM Report: An overview of scientific and scholarly publishing (50th edition). 2018 (Edited by Johnson, R, A Wilkinson, and M Mabe). International Association of Scientific, Technical and Medical Publishers.

Strinzel, M, A Severin, K Milzow, and M Egger. 2019. Blacklists and Whitelists To Tackle Predatory Publishing: a Cross-Sectional Comparison and Thematic Analysis. mBio. Doi:10:e00411-19.

Taylor & Francis. 2014. Taylor & Francis Open Access Survey. [tandf.co.uk/journals/explore/open-access-survey-june2014.pdf](http://tandf.co.uk/journals/explore/open-access-survey-june2014.pdf)

Tennant, J, and T Ross-Hellauer. 2019. The limitations to our understanding of peer review. SocArXiv. doi: 10.31235/osf.io/jq623

Tenopir, C, E Dalton, L Christian, M Jones, M McCabe, M Smith, and A Fish. 2017. Imagining a Gold Open Access Future: Attitudes, Behaviors, and Funding Scenarios among Authors of Academic Scholarship. College & Research Libraries, 78(6), 824. doi:10.5860/crl.78.6.824

Unpaywall (<https://unpaywall.org/>)

## **Annex 5: OSI keynote address**

Opening presentation for 14<sup>th</sup> Annual Berlin Debate on Science  
Communication





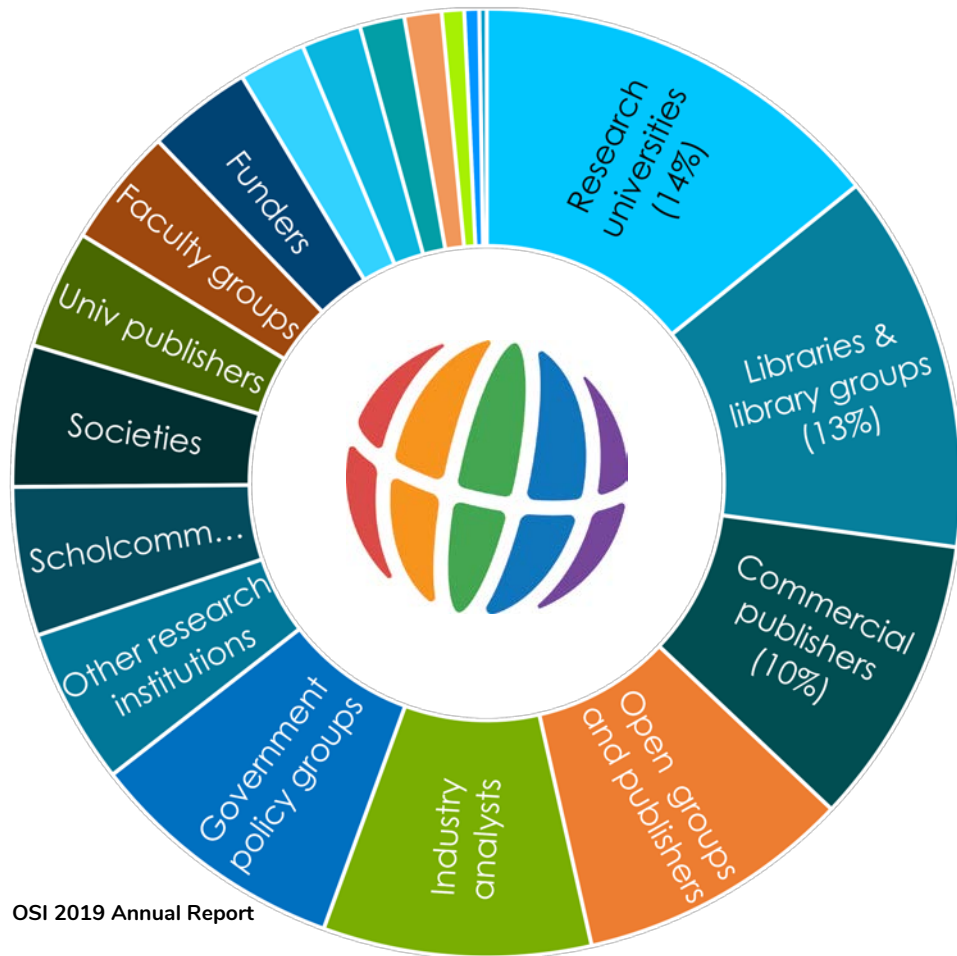
# Common ground in the global quest for open science

By Glenn Hampson  
Executive Director, Science Communication Institute (SCI)  
Program Director, Open Scholarship Initiative (OSI)  
Presented November 7, 2019 for the Robert Bosch Stiftung  
14<sup>th</sup> Berlin Debate on Science and Science Policy

The opinions and forecasts in this presentation represent the views of the author and are not an official representation of the views of OSI or OSI members or their institutions.

CC-BY 2019 OSI

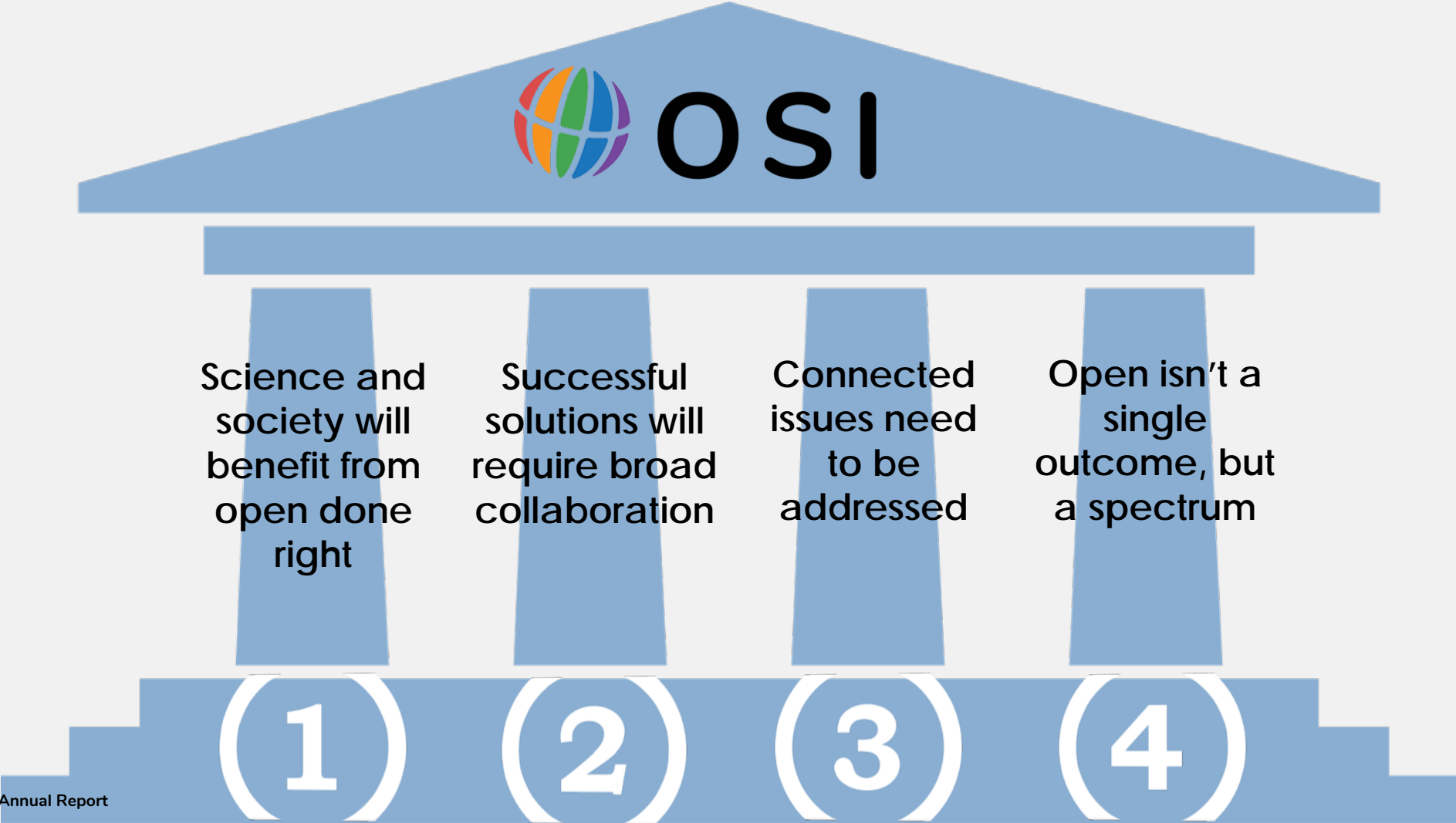
# OSI is working to improve the future of open research by developing **common ground approaches and solutions**



OSI (the Open Scholarship Initiative) is a diverse, inclusive, global network of high-level experts and stakeholder representatives, working together and in partnership with UNESCO to develop broadly accepted, comprehensive, sustainable solutions to the future of open scholarship that work for everyone everywhere.

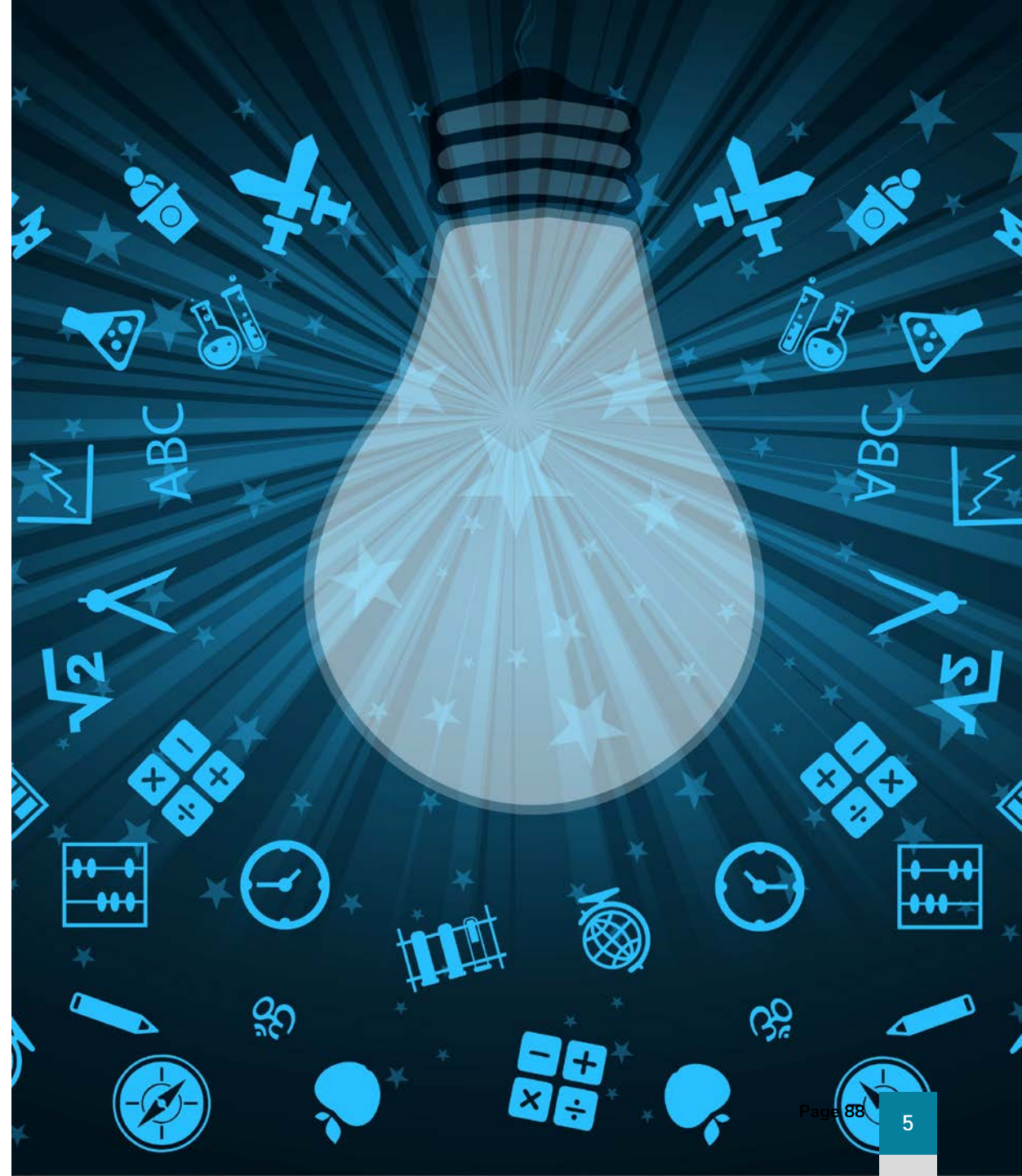
- Over 400 participants, representing 250 institutions, 27 countries, and 18 stakeholder groups (see chart, left)

# OSI is built on these 4 common ground beliefs



# Plus a few common ground insights

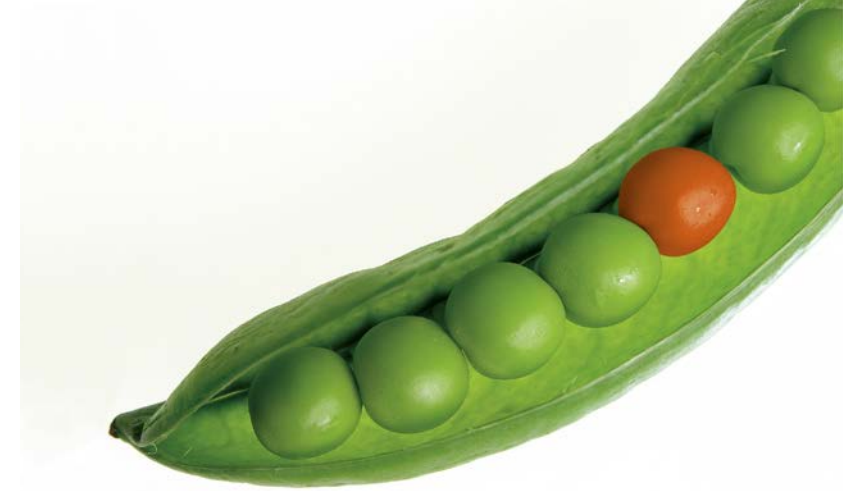
1. Open isn't going to free...
2. ...or easy
3. Publishing is critical (without it there is no scholarly record)
4. We all have similar concerns
5. We need more information...
- 6...and accountability
- 7...and trust



# So, what might today's debate group have in common?

**What motivates us** to take action on open? There are wide differences. Some people have multiple motives:

1. **Our idealism**: We want to free science, and in doing so better serve the “public good” (see annex discussion).
2. **Our vision of the future**: We want to unleash the power of open to improve science and accelerate discovery.
3. **Opportunity**: There's gold in them there hills---not just money, but opportunity.
4. **Our ready-and-willingness to fix stuff**: We want to get started improving science now, including making science funding more effective and efficient, improving transparency and accountability in science, combating predatory publishing, and more.
5. **Our concerns**: We want to make sure libraries can afford the journals they need, that reforms don't harm science, that the global south and HSS are treated equitably in this conversation, and that separate open paths don't lead to a less open world.



This is a lot of common ground. But instead of celebrating and building on it, we usually focus on the things we disagree about... which is just about everything

- Who
- What
- When
- Where, and
- Why



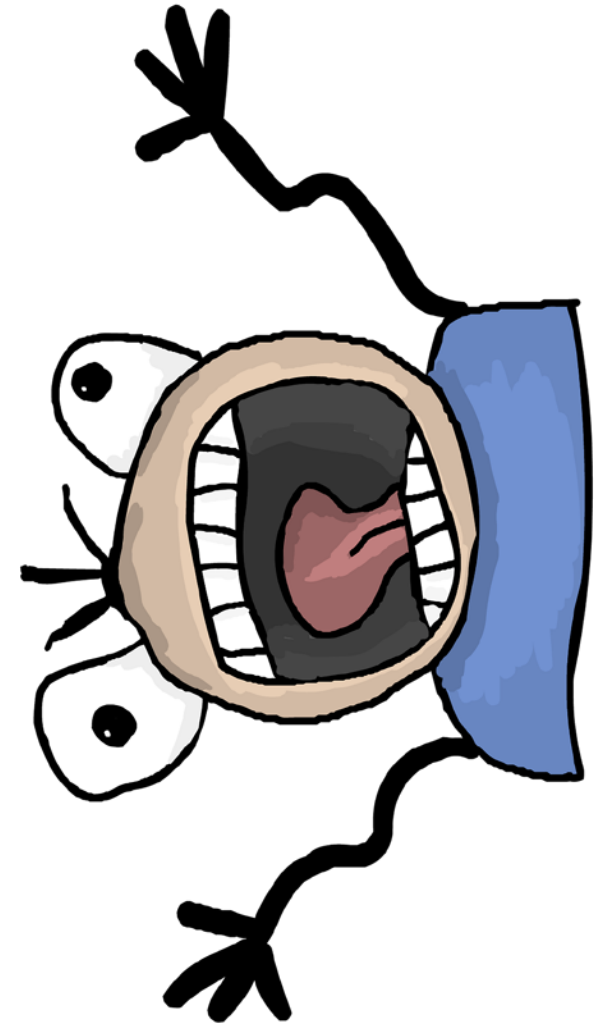
# Who

## Who do we blame?

- **Commercial publishers** (for their greed)?
- **Open advocates** (for their unachievable goals)?
- **Open skeptics** (for questioning open)?
- **Universities** (for their academic reward system)?
- **There's no shortage** of "culprits" or bashfulness about pointing fingers

## Who do we ask for help?

- **Our own trusted circle** of voices?
- **The broader stakeholder community**, even if some groups are outside our comfort zone?
- **Researchers?** Note that no one has yet consulted this group in any meaningful way, which is problematic anyway because there are so many different points of view depending on field, institution, career stage, etc. Also, researchers are unenthused about making wholesale changes to a system they understand and that predictably serves their career needs.





# What

- Do we just **tweak** the current system at the margins or **tear it down**? Where you stand depends on where you sit.
- Do we **focus** just on open efforts or try to solve **related issues** as well (like peer review and impact factors)?



# When

Do we swing for the fences now or work to achieve incremental change over time?

The former approach, if it works, would mean no more waiting around for the future of open to arrive.

The latter approach might stand a better chance of creating long-term sustainable change that everyone has helped bring about.



# Where

## Where do reforms need to happen?

- Should we try to advance global solutions or would it be best to continue to develop and support more specific solutions (by region, institution, field, high-priority areas of study, etc.)?
- Is it possible to come up with solutions that work for everyone everywhere or would doing so water down open goals too much?
- What are the risks and rewards of taking narrow or broad approaches?



# Why (did the chicken cross the road)?

We might not agree on our end goals. Or we might. The fact is, we've rarely discussed these goals as a community.

- What are we trying to achieve anyway? Cheaper global access? Improved science?
- Are we sure our solutions are what researchers want and need?
- We can't just try to achieve "open." At present, this is just an ill-defined means to an ill-defined end.



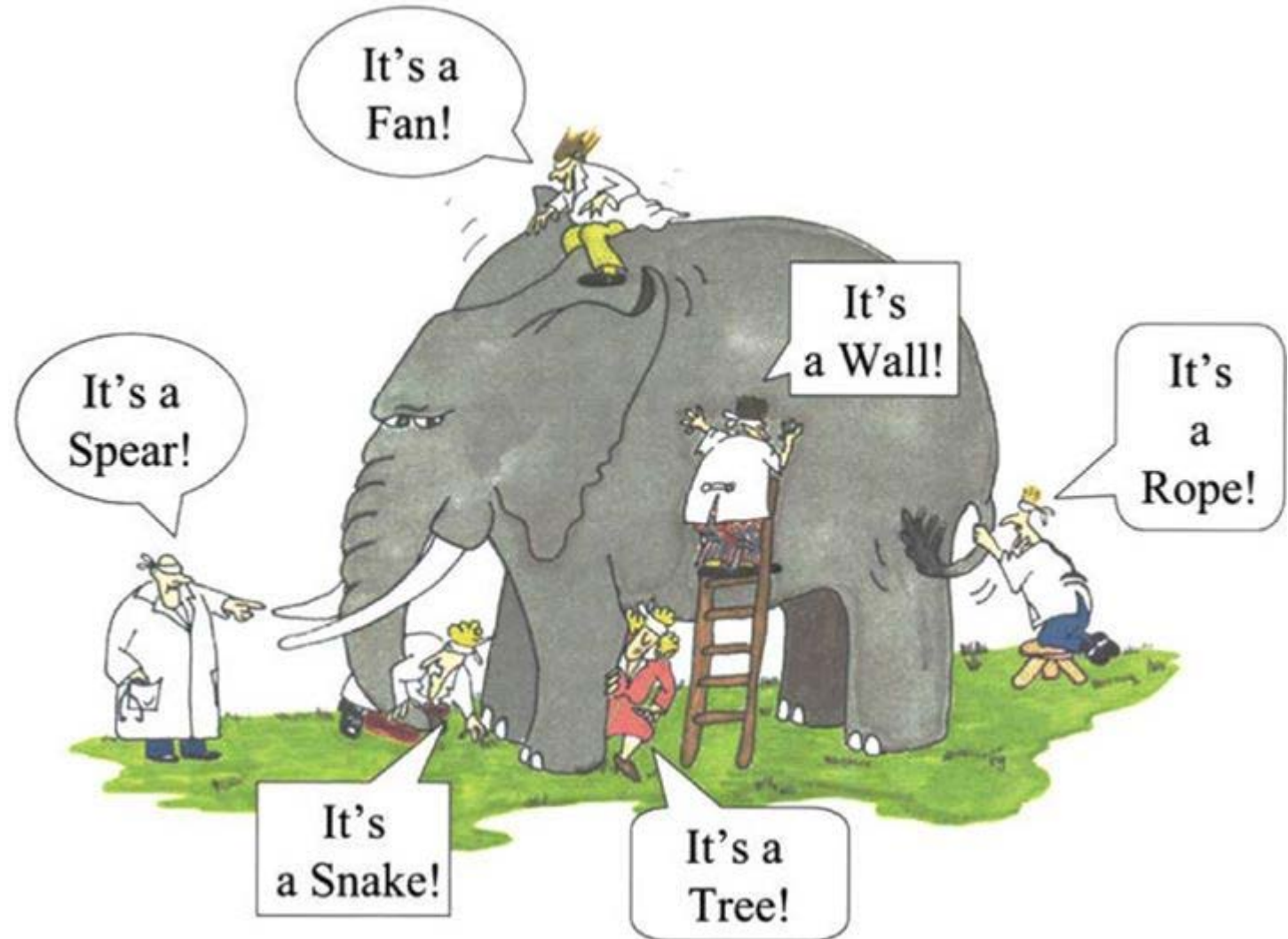
Our community needs to figure out what we are trying to do for knowledge and society, and how we can get there from here. Our common devotion to this challenge may end up being our most fertile common ground.

# But wait... do we need to agree on all these things?

## Is it okay if we don't?

This lack of consensus is both a **symptom** of the current dynamics in this debate and also one **cause** of our slow progress on more effective open solutions to-date.

What if we embraced our common ground commitment to open instead?



These aren't small and insignificant questions. But one that looms even larger in our disagreements (believe it or not) is...

What do we even mean by open (not "open access", but "open")?

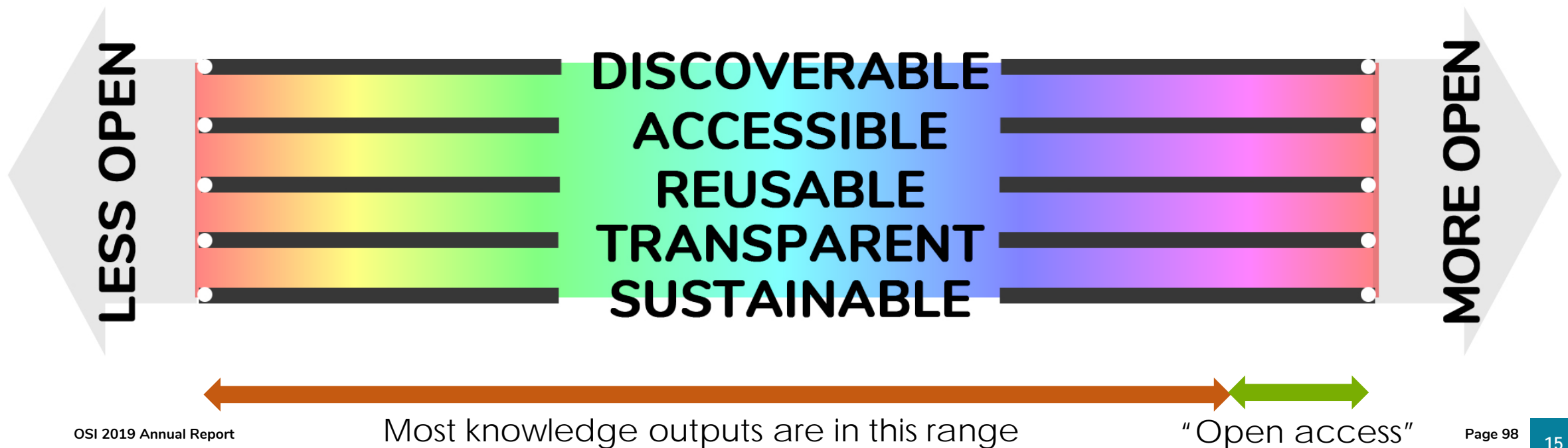
For some, "open" means BOAI-compliant information. For others--especially outside the scholarly publishing expert space--"open" can be more casually interpreted, which has led to a lot of talking across each other.

And "open" isn't the only term that gets used casually. The scholarly publishing space is filled with acronyms and concepts few people outside this space understand.



# For OSI, open **isn't a single outcome.** It's a spectrum of outcomes (judgements optional).

Open is used casually, often without firm definition, in a wide variety of ways, from open education, to open code, open data, open source, open science, open courses, open society, bronze open, and open access. It's a noun, a verb, a process, an expression, a concept, a brand...it's an open spectrum (DARTS).



# So, where are we now with “open”?



**In a happy place?** Open is growing. By some accounts (see next slide) over half of all new articles being published are open. If you're also interested in the growth of various kinds of open then you might be happy.



**In a sad place?** The amount of research being published doubles about every 20 years (due to R&D spending, new disciplines being created, continued pressure to publish or perish, and more. Can we keep up? If this worries you, you might be sad. Also, if you're only interested in the growth rate of CC-BY gold open, it isn't good.

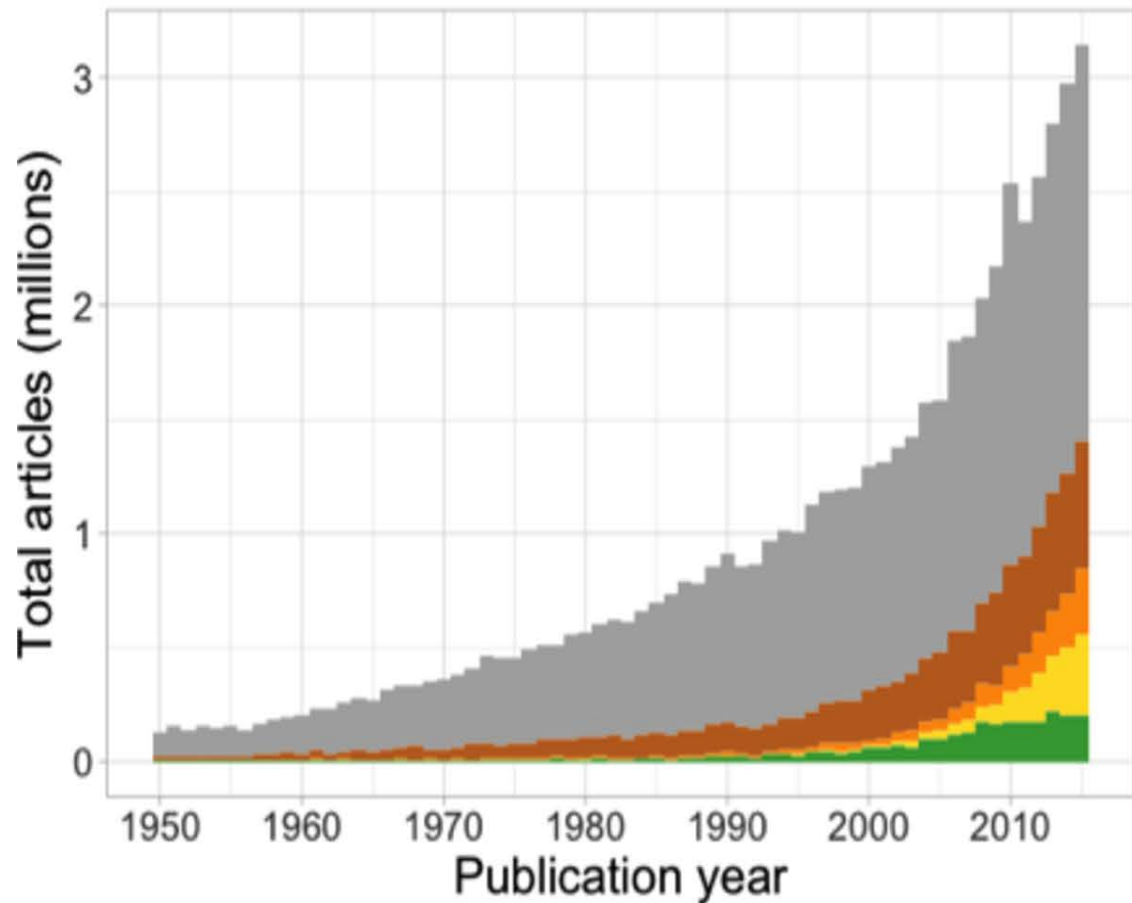
**It depends?** Measuring open science in aggregate terms is misleading. Open is robust in some fields (like physics and astronomy), less so in fields like chemistry (although far more open than once thought). And certain issues are more intransigent in some fields (like medical research) than others: competition, private funding, the availability of high-impact open journals (in survey after survey, impact continues to be far more important than open), etc. Also, awareness of the nuances of open varies by discipline and institution.



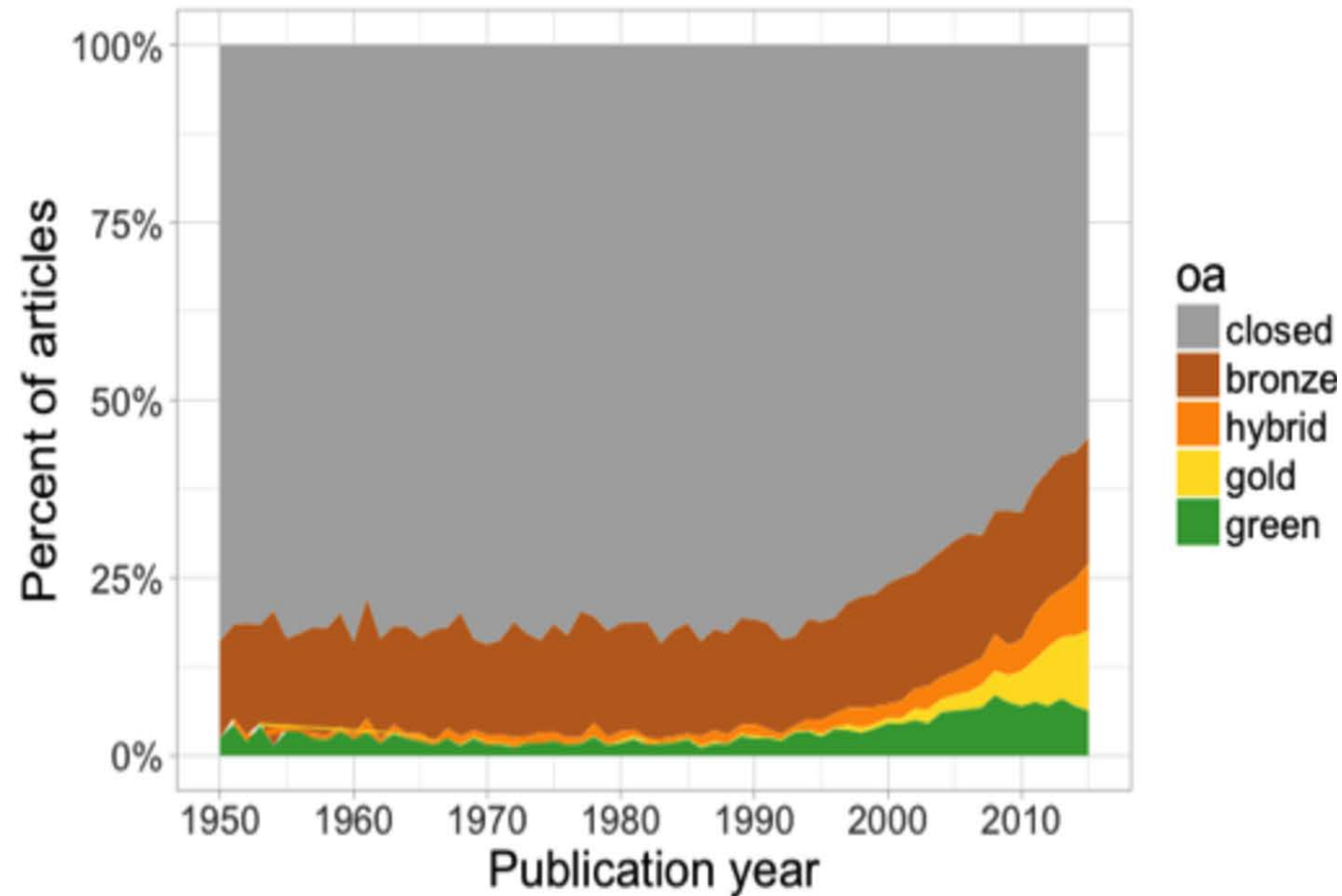


Source: Piwowar & Priem 2017

A.



B.



How fast is open growing? 28% of everything, 55% of new stuff annually and growing\*

\* Of all types of open (Archambault 2018)

# 4 Roadblocks to faster change on open

1. **Frustration**: See also acrimony (i.e., Twitter), mistrust and hyperbole, all of which prevents us from working together effectively.
2. **Ignorance**: We're missing key pieces of the puzzle (e.g., what kind of open is most effective, how necessary are embargoes, how big is predatory publishing, etc.). Studies are needed---better internal communication as well.
3. **Funding**: We need funding to develop new systems and structures, but this is a poorly-funded space.
4. **Inertia**. The most commonly-blamed culprit is the culture of communication in academia, which is highly resistant to change. But there's also the inertia of our own long-held positions and courses of action (of publishers, open advocates, universities, funders, governments, etc.; see annex discussion about roadmaps).



# On the bright side, though, we have....

- **Lots of brilliant people working hard** on this issue (and related issues), from Science Europe to SPARC to AJOL, SciELO, Amelica, DORA and more. The odds of doing something are good. Whether this “something” is also good remains to be seen.
- **Increasing awareness** of the need for change, thanks in no small part to the tireless work over the years of SPARC, OSF, and other open pioneers.
- **Growing commitment** by major global agencies to push for change (including UNESCO and other UN agencies, the government of India, and more)
- **A growing expectation among ECR's** that open is the future---let's figure out what it looks like and get started
- **A growing impatience** (yes---this can be both a pro and a con) with the slow progress in this space that has taken place over the last 20 years. This community isn't willing to wait another 20 years for additional incremental progress.



# OSI's key **common ground advice**

Work together (this means everyone, including publishers)

Work on all pieces of the puzzle so we can clear a path for open to succeed

Discover missing pieces of information to ensure that our efforts are grounded in fact

Adapt. No one group has a perfect understanding, plus the world keeps changing.

See the big picture — the common ground

# How you can help



# osiglobal.org

## Participate

We need more leaders from academia, research, publishing, philanthropy, government, business, and other sectors who want to help shape the future of scholarly communication. If you're interested, let us know ([info@osiglobal.org](mailto:info@osiglobal.org)).

## Support

Host a meeting, help connect us to decision makers in your government, provide funding, and more. OSI has a small and efficient budget---every little bit goes a long way. See the OSI website for details ([osiglobal.org/support](http://osiglobal.org/support)).

## Implement

Help pilot new programs, collaborate with other universities and institutions on new approaches, help educate your institution about what's happening in this space and more.

# Annex

Stuff that didn't fit into my 10 minutes

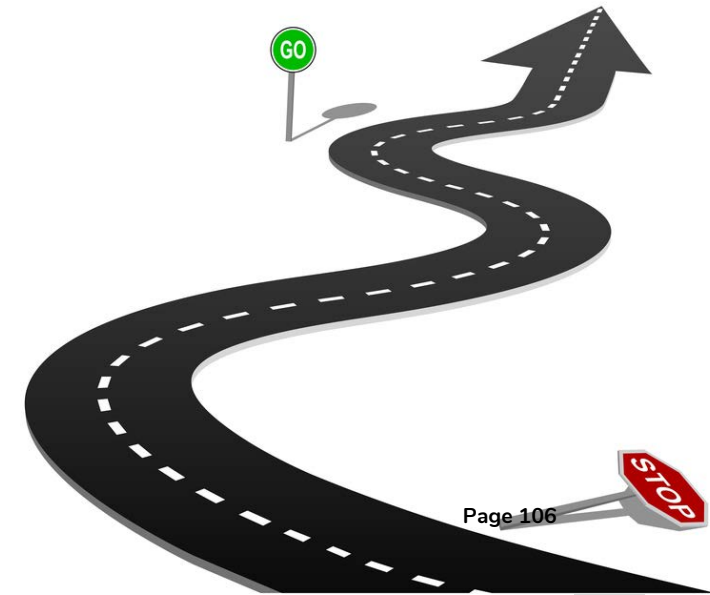


# Watch the road instead of the map. Our community's map to the future is old...

The rich history of internet innovation has taught us a many important lessons. Here are just 5 that can be incorporated into our thinking:\*

1. **“Information doesn’t want to be free. Information wants to be valuable.”** (Stewart Brand) There are many different ways to maximize the value of information. Free works, but it isn’t the only way.
2. **Words matter.** The inventors of open source originally called their work “free” until they realized that “free” meant different things to different people.(Sound familiar?)
3. **Go big or go home.** Get lots of users *first*. Then worry about filtering.
4. **Solve a problem really, really well.** What’s the problem we’re try to solve? And then, what approach will it take to become indispensable?
5. **A well-regulated marketplace is crucial.** Markets need rules, standards, and level playing fields to attract participants.

\* These 5 (and there are many more) are summarized from Tim O’Reilly’s 2017 book, “WTF: What’s the Future and Why It’s Up to Us.” O’Reilly is an internet pioneer whose company has counseled other internet pioneers since before the dawn of the internet Age.



# The next 15 years, with OSI (or something similar)

100% open  
90%  
80%  
70%  
60%  
50%  
40%  
30%  
20%

## PICK THE LOW HANGING FRUIT:

Work together on common ground solutions to the easiest and most pressing issues. Build confidence.

## TACKLE THE TOUGH ISSUES:

Replace the impact factor, improve promotion & tenure systems, and raise the bar (significantly) for data inclusion and interoperability and repository function.

## OPEN RENAISSANCE:

Universal open is achieved, including archives and data. Integrated repositories and standardized data create new fields of science based on connecting the dots. Research spending efficiency improves, and discovery accelerates.

Baseline growth (with or without OSI)

+5 YEARS

+10 YEARS

+15 YEARS



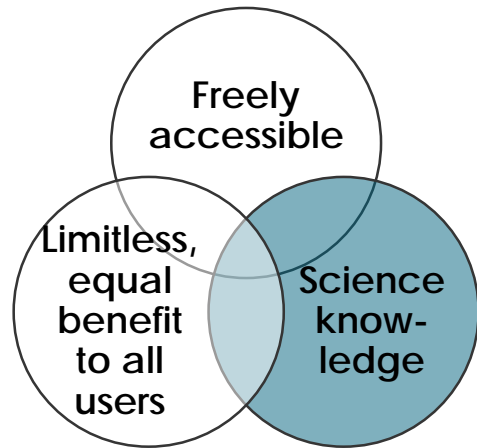
# The Open Renaissance

- **Open science is clearly defined and supported**
- **Open is the standard science output format**
- **Open solutions are robust**, inclusive, broad, scalable and sustainable
- **Almost all science information is discoverable**
- **The global access gap is nonexistent**
- **Solutions for the humanities** are built-in
- **Connected issues** are resolved
- **Incentives are aligned** so scholars embrace open because they want to
- **Open is simple and clear** so scholars know what it means and why they should do it
- **Predatory publishing is defeated** so it no longer threatens science
- **Standards and global guidelines** are clear for all journals, which helps the marketplace
- **The marketplace remains competitive** so open products remain cutting edge
- **Repositories are integrated**, not just connected
- **Data standardization** is widespread and robust

- **Many kinds of improvement happen to science**, including less bias and better transparency
- **The research ecosystem grows exponentially more powerful** (with more data, more connections, and more apps), which further catalyzes innovation and improvements in science. New fields and directions emerge based on “connecting the dots” (thanks to data and repositories), funding efficiency improves, and discovery accelerates.
- **The social impacts of science surpass today** (including science literacy, public engagement with science, and science input into public policy)
- **Most science knowledge becomes a global public good, and society reaps the benefits**

# Science knowledge is a “public good.” **However...**

Do we mean public goods in the ECONOMIC sense...or the COLLOQUIAL sense...or maybe both?

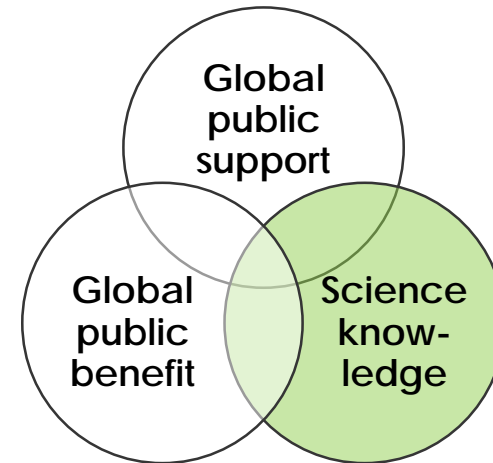


Science knowledge is a global public good since it has no boundaries. But the way we communicate this (in books and journals, for instance) has many boundaries (like copyright, price and language). Being a public good requires being, physically and not just intellectually, freely and equally accessible and beneficial to everyone. **Open access helps us bridge this gap between our aspirations and economic reality**, and is a way of pushing more science knowledge into the “global public good” space, providing there aren’t any unintended consequences such as reducing the reliability of published information (which reduces benefit).

Not a public good



OSI 2019 Annual Report



In the sense that it’s “good for the public,” or “belongs to the public,” science knowledge should have public support (not necessarily financial), public benefit, and also meet exacting standards of the science community. That is, processes, methods and facts need to be accepted by other scientists; definitions and standards need to be agreed upon; IP rights need to be respected; sharing, transparency and replicability expectations need to be met; and moral-ethical guidelines adhered to. Open has a critical role here in trying to improve science so that more knowledge can enter the public goods arena.



Not a public good

# The DARTS open spectrum



- **DISCOVERABLE:** Can this information be found online? Is it indexed by search engines and databases, and hosted on servers open to the public? Does it contain adequate identifiers (such as DOIs)?
- **ACCESSIBLE:** Once discovered, can this information be read by anyone free of charge? Is it available in a timely, complete, and easy-to-access manner (for instance, is it downloadable or machine-readable, with a dataset included)?
- **REUSABLE:** Can this information be modified? Disseminated? What conditions (both legal and technical) prevent it from being repurposed or shared at will?
- **TRANSPARENT:** What do we know about the provenance of this information? Is it peer reviewed? Do we know the funding source (are conflicts of interest identified)? What do we know about the study design and analysis?
- **SUSTAINABLE:** Is the open solution for this information artifact sustainable? This may be hard to know---the sustainability of larger, more established solutions may evoke more confidence than new, small, or one-off solutions.

Open isn't a single outcome, unless you mean BOAI-compliant open (but even then opinions vary slightly). What about other kinds of open that are dominating current growth — bronze, public access, etc.? Should we call this open as well (not open access, but open)? Can we put it somewhere on a spectrum of open outcomes, because it may be open in several significant respects (e.g., free and easily accessible) but deficient in other respects (e.g., traditional copyright is attached)?

Here's our working definition of the open spectrum: "The open spectrum is the full range of different types of possible open outcomes for information, from completely closed artifacts to open access information and everything in-between. The DARTS Framework, developed by OSI participants, holds that the openness of information exists along five dimensions: discoverability, accessibility, reusability, transparency, and sustainability. The result is a broad spectrum of open states. The more easily discoverable, freely accessible, unrestrictedly reusable an information artifact (such as a book, a journal article, a dataset, or piece of code) the more open it is. The spectrum encourages more openness in scholarly and scientific communication, while also recognizing that open exists in various stages and that in some cases, optimally open may not mean maximally open."

# THANK YOU



## **Annex 6: UN open access roadmap effort**



## General Conference

40th Session, Paris, 2019

# 40 C

United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
la Ciencia y la Cultura

Организация  
Объединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

联合国教育、  
科学及文化组织

Item 5.20 of the provisional agenda

40 C/63

8 October 2019

Original: English

### PRELIMINARY STUDY OF THE TECHNICAL, FINANCIAL AND LEGAL ASPECTS OF THE DESIRABILITY OF A UNESCO RECOMMENDATION ON OPEN SCIENCE

#### OUTLINE

**Source:** 206 EX/Decision 9

**Background:** This initiative is inscribed in the continuity and follow-up of the UNESCO Recommendation on Science and Scientific Researchers, approved by the General Conference at its 39th session in 2017, and the UNESCO Strategy on Open Access to scientific information and research, approved by the General Conference at its 36th session in 2011.

The objective of this document is to present the preliminary findings of the study of the desirability for UNESCO's action, programmatic and regulatory, in the field of Open Science. A possible UNESCO Recommendation on Open Science is presented as an option, to affirm UNESCO's normative and standard-setting role in this regard.

**Purpose:** Following 206 EX/Decision 9, and according to the Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV, paragraph 4, of the Constitution, the present document contains a copy of the preliminary study, as presented at the 206th session of the Executive Board, and the Executive Board's observations and decisions thereon.

**Decision required:** paragraph 8.



## INTRODUCTION

1. The Executive Board, at its 206th session, considered document 206 EX/9 containing the preliminary study of the technical, financial and legal aspects of the desirability of a UNESCO recommendation on open science.

2. The Executive Board subsequently decided (206 EX/Decision 9) to include an item on the technical, financial and legal aspects of the desirability of a standard-setting instrument on Open Science in the provisional agenda of the 40th session of the General Conference, and invited the Director-General to submit to the General Conference at its 40th session the preliminary study on the technical, financial and legal aspects of the desirability of a standard-setting instrument on Open Science contained in document 206 EX/9, together with the relevant observations and decisions of the Executive Board thereon, in particular the need to overcome the digital, technological and knowledge divide existing between developed and developing countries, especially regarding least developed countries and small island developing States.

3. Having examined the abovementioned document, the Executive Board expressed general support for an enhanced engagement of UNESCO on the programmatic and normative actions related to Open Science. The Member States highlighted the important links between Open Science and the achievement of the 2030 Agenda for Sustainable Development and the potential of Open Science in bridging the scientific knowledge divide.

4. While there was interest in a possible UNESCO Recommendation on Open Science, several issues were raised during the debate. These include:

- the need for a clear definition of Open Science and its scope;
- the need for a multistakeholder global and regional consultative processes, including with Member States, the scientific community as a whole, the key scientific international and national institutions and entities, other relevant United Nations agencies; citizens and traditional knowledge holders;
- the need to address issues of intellectual property rights and copyright;
- issues regarding the implementation of the legal framework;
- issues relating to data protection and data privacy;
- the need to share and build on lessons learned from existing Open Science initiatives;
- the need to ensure that open science truly benefits developing countries, LDCs and SIDS in particular;
- the importance of working across all the UNESCO sectors, and links to the relevant existing UNESCO programmes and initiatives, such as the draft Recommendation on Open Education Resources, the work on artificial intelligence and the follow-up of the updated Recommendation on Science and Scientific Research;
- the need for adequate funding from extrabudgetary sources.

5. The Board also invited the Director-General to continue holding intergovernmental consultations *in presentia*, with a view to the possible elaboration of a Recommendation on Open Science, and requested the Director-General to present a consolidated roadmap to its session. In this context, an information meeting on the draft Roadmap with Member States was held on 20 June 2019 at UNESCO Headquarters in Paris and the draft consolidated roadmap, including the comments from the abovementioned information meeting, will be discussed at the 207th session of the Executive Board.

6. In addition, a meeting with the African Union and the scientific community is planned before the end of 2019.

7. The original document submitted to the Executive Board at its 206th session (206 EX/9), along with the Executive Board related decision (206 EX/Decision 9), is presented in the Annex to this document.

8. In light of the above, the General Conference may wish to adopt a resolution along the following lines:

The General Conference,

*Recalling* the Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV of the Constitution,

*Having examined* document 40 C/63,

1. *Recognizes* the need for a new standard-setting instrument on open science, in the form of a recommendation;
2. *Invites* the Director-General to continue holding intergovernmental consultations in praesentia for the elaboration of the recommendation;
3. *Also invites* the Director-General to submit to it for consideration at its 41st session a draft text of a UNESCO recommendation on open science, provided the resources are available.



## ANNEX

### **206 EX/Decision 9 – Preliminary study of the technical, financial and legal aspects of the desirability of a UNESCO recommendation on open science (206 EX/9; 206 EX/ 47.I)**

The Executive Board,

1. Having examined document 206 EX/9,
2. Decides to include an item on the technical, financial and legal aspects of the desirability of a standard-setting instrument on open science in the provisional agenda of the 40th session of the General Conference;
3. Invites the Director-General to submit to the General Conference at its 40th session the preliminary study on the technical, financial and legal aspects of the desirability of a standard-setting instrument on open science contained in document 206 EX/9, together with the relevant observations and decisions of the Executive Board thereon, in particular, the need to overcome the digital, technological and knowledge divides existing between developed and developing countries, especially least developed countries and small island developing States;
4. Also invites the Director-General to continue holding intergovernmental consultations *in praesentia* with a view to the possible elaboration of a recommendation on open science;
5. Requests the Director-General to present a consolidated roadmap to it at its 207th session.



United Nations  
Educational, Scientific and  
Cultural Organization

# Executive Board

Two hundred and sixth session

PARIS, 8 March 2019  
Original: English

Item 9 of the provisional agenda

## **PRELIMINARY STUDY OF THE TECHNICAL, FINANCIAL AND LEGAL ASPECTS ON THE DESIRABILITY OF A UNESCO RECOMMENDATION ON OPEN SCIENCE**

### **SUMMARY**

This initiative is inscribed in the continuity and follow-up of the UNESCO *Recommendation on Science and Scientific researchers*, approved by the General Conference at its 39th session in 2017 and the UNESCO *Strategy on Open Access to scientific information and research* approved by the General Conference in its 36th session in 2011.

The overall objective of this document is to present the preliminary findings of the study of the desirability for UNESCO's action, programmatic and regulatory, in the field of Open Science. A possible UNESCO Recommendation on Open Science is presented as an option to affirm UNESCO's normative and standard-setting role in this regard.

Action expected of the Executive Board: proposed decision in paragraph 39.

## INTRODUCTION

1. The objective of this document is to present the desirability and options for UNESCO action – normative or other action – in the field of Open Science.
2. *UNESCO Recommendation on Science and Scientific Researchers (2017)* states that ‘open communication of the results, hypotheses and opinions – as suggested by the phrase “academic freedom” – lies at the very heart of the scientific process.’ In close relation to this underlying tenet of the Recommendation on Science, Open Science is the name of a movement to make scientific research and data accessible to all (see UNESCO Global Open Access Portal (GOAP)).
3. More specifically, Open Science calls for practices and institutions that:
  - (a) ensure that published scientific research is easily and timely accessible to the global community of scientists and the public while maintaining high quality;
  - (b) ensure all research results, methods and data are published or accessible in ways that facilitate other scientists to review, replicate, and avoid unproductive duplication of research, while respecting privacy, copyright and other regulations;
  - (c) make it easier and affordable to publish and communicate scientific knowledge especially through education systems;
  - (d) facilitate accessibility and other practices relating to the Open Science ideals for tools, processes and contents of scientific research;
  - (e) make science transparent, for example through open science notebook;
  - (f) establish and ensure long-term sustainability of data repositories and platforms and set standards for co-creation and collaboration;
  - (g) spread scientific culture, encourage participation and access in science communication mechanisms such as science centres and museums;
  - (h) foster citizen science organizations; widespread formal and informal science education;
  - (i) promote open source software and crowd-funded research projects.
4. Open Science practices and initiatives also relate to the movement on Open Educational Resources, which promotes openly licenced teaching and learning resources and with the broader Open Education movement.
5. Open Science, once established, is expected to strengthen scientific culture and promote equal opportunities for all including through enhanced involvement of citizens in research activities and an increased access to scientific data and information and open education resources. Open Science has also the potential to foster aspects of democratic governance by spreading knowledge and capacity for understanding that allows informed democratic engagement by a wider public. It further improves access to science for the sake of science journalism and countering fake news.
6. Increased access to and participation/engagement in science, technology and innovation also allow people to adapt new practices and technologies that are appropriate to their conditions. Open Science could be a game changer for achieving the Sustainable Development Goals, particularly in Africa, least developed countries, landlocked developing countries, and small island developing States (SIDS), if it significantly increases scientific discovery and facilitates adoption of the well-adapted technologies.

### ***The Open Science Transition***

7. Recent years have seen significant increase of Open Science practices and institutions at national, regional and international levels and an increasing political commitment for investment to ensure the transition to more inclusive, participatory, accessible and transparent science, technology and innovation systems. Notable political commitments include the Amsterdam Call for Action on Open Science, the Budapest Open Access Initiative, the Panton Principles, or the Jussieu Declaration for Open Science and bibliodiversity.

8. To present some examples:

- (a) In the European Union, the Open Science goal is materialising in the context of the European Open Science Policy Platform and through the development of a European Science Cloud, new requirements for EU-funded research, and open access to scientific data generated by a number of Horizon 2020 projects, in particular in the context of guidance from an international initiative called GO-FAIR. Open access to scientific literature is promoted through initiatives such as Plan S, which join the open access movements from other parts of the world, namely La Referencia, in Latin America, Asia OA – Open Access, COAR – Confederation of Open Access Repositories, and others. Because some of the world's highest-scoring innovating economies are demonstrating that this transition offers returns on this investment, Open Science may be at the brink to change practices globally, if the widest possible community of scientists adopt the practices. It also has the potential to enhance science and citizen led approaches to responsible research and innovation to bring transparency across the science, technology and innovation system.
- (b) In Africa, the African Open Science Platform has recently been launched demonstrating the importance of Open Science for Africa and for countries that need to strengthen their scientific systems and benefit from the results of science produced worldwide. The Platform is expected to raise awareness about the importance of Open Science and open data for Africa.
- (c) In the United States, the Federal Crowdsourcing and Citizen Science Act was signed into law in January 2018 and Open Science Prizes are being established to promote open science research in different fields, including health and environment.

9. There are also numerous other initiatives at led by governments, science foundations or universities.

### ***Implications and Significance of Open Science***

10. Open Science practices have been found to yield benefits to economic and social development. Because they also point toward improved access to scientific knowledge and enable widened participation in science as well as encouraging publication, the Open Science model applied internationally is fully coherent with advancing human rights, and internationally agreed development goals. Many of the actions taken by Member States will be compliant to the specific norms set out in the UNESCO Recommendation on Science and Scientific Researchers. The Open Science concept is therefore one meriting more examination by UNESCO Member States.

11. Open Science fosters science as an enterprise that is inclusive and of highest quality. The methods are conducive to scientific collaboration and discovery across scientific fields, taking fullest advantage of the proliferation of data, instantaneity of communications, and digitalization of knowledge storage systems (globalization and digitalization). Open Science is expected to significantly improve the capacity and efficiency of national science and technology systems, and may quickly lead to adjustments to the global science enterprise as a whole, particularly affecting science publishing. The transition to Open Science practices may also require re-training, new

protocols and possibly regulation and institutions. The methods, good practices and institutions at international level are in the process of being defined.

## OPEN SCIENCE AND UNESCO

12. As the United Nations specialized agency dedicated to science cooperation, UNESCO holds a particular responsibility to advocate the internationally agreed human right to science<sup>1</sup>. This right places emphasis on participation in science as well as accessibility of the knowledge which science produces. How Open Science will be implemented raises important questions in these very areas. UNESCO has taken consistent positions favourable to open scientific exchange across borders and across ideological divides and its programming and legal instruments have remained consistent in this area over its 70 years of existence.

13. Open Science in the future will build upon the Organization's leadership role on World Summit on Information Societies processes, where it has been responsible for the action line (C3 and C7) on e-Science and access to information since 2003. This work will also build upon the 10-year Strategy on Open Access to Scientific Information and Research, approved by the UNESCO's General Conference at its 36th session, and the internationally-agreed normative framework for science in the UNESCO Recommendation on Science and Scientific Researchers.

14. Since taking a lead in the WSIS process and e-science, UNESCO has been advocating Open Science by providing support to Open Access policy development, improving awareness and utility of Open Science, and providing various solutions to institutionalize Open Science. UNESCO's Communication and Information Sector has identified a policy vacuum on scientific communication, and provides upstream technical advice to its Member States and their scientific institutions on their development of Open Science policies. This involves, *inter alia*, building the capacity of national decision-makers and personnel of research institutions to draft and implement policies. UNESCO also mobilizes its convening power to regularly organize regional consultations on open access to scientific information and research.

15. UNESCO's Open Access to Scientific Research initiative, through its Global Open Access Portal (GOAP) is at present promoting Open Science concepts. Because the Open Access (OA) to scientific information is a global endeavour, UNESCO has strengthened it through partnerships and collaborations with publishers, universities, research institutions, libraries and specialized national and international non-governmental organizations (NGOs). UNESCO has established a Network for Open Access to Scientific Information and Research (NOASIR) currently rolled out as the Open Scholarship Initiative. It initiative supports institutionalizing OA archives and journals in various disciplines; encourages researchers and scientists to publish in OA journals and to deposit their works in OA repositories; encourages publishers to offer more journals and articles in OA; supports research and development in OA technologies, policies and practices; provides access to scientific journals to developing countries; and serves as a laboratory for innovation and catalyst for international cooperation.

16. UNESCO has played a key role of standard setter in OA by developing curricula and courses for Library and Information Science Schools in Member States. UNESCO has recently endorsed Ameli CA, as yet another mechanism on Open Science dedicated to Sustainable Development and South-South cooperation.

17. In addition, Open Science policy instruments are incorporated into the UNESCO GO-SPIN Platform. UNESCO has advocated for keeping Open Science high on the agenda of the international

---

<sup>1</sup> See e.g. Article 27 of the Universal Declaration of Human Rights (1948): "Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits".

Forums co-organized by UNESCO, such as the World Summit on the Information Society, the World Science Forum and the United Nations Multistakeholder Science Technology and Innovation Forum.

18. Two recent initiatives deserve noting: the UNESCO 2018 celebrations of the World Science Day for Peace and Development, with a roundtable consecrated to “Open science: barriers, benefits, enabling conditions and the role of policies”; and the official visit to UNESCO of the European Commissioner for Science, Research and Innovation, Carlos Moedas, in December 2018, with the main objective of promoting Open Science and strengthening links between the European Commission and UNESCO in this line of action.

19. In her response to the 205th session of the Executive Board, the UNESCO Director-General welcomed the call for UNESCO to play a strong role in this area and confirmed that an Open Science initiative was in line with the standard-setting role of the organization, as a way of making scientific research and data accessible to those who still lack them, while recognizing the fundamental role of inclusive science for democracy, sustainable development, and the fight against poverty and inequality.

20. Any strengthened action by UNESCO in the area of Open Science would be inscribed in its efforts to implement the *UNESCO Recommendation on Science and Scientific Researchers (2017)* and would also enhance the efforts of the Organization to promote and reinforce Article 27 of the Universal Declaration of Human Rights. It would also strengthen UNESCO’s contribution to the achievement of Sustainable Development Goals, in particular target 9.5 on scientific research and target 12.a on science capacities.

## **THE POTENTIAL FOR UNESCO’S PROGRAMMATIC AND REGULATORY ACTION**

### ***The Existing Legal Framework***

21. Open Science touches on different activities of scientists guided by a variety of international legal frameworks such as their collaborations and travel, publishing, their application of various regulations and codes (data management, privacy, data sharing, chemicals transport and biopiracy, ethics, environment) their application of rules in the contexts of their employment contracts and funding regimes, etc. Clearly, the legal framework is complex, and evolving. There is at present no single and unique global agreement covering all aspects of Open Science. Nevertheless, there is one recent legal instrument that sets out some general principles and norms of Open Science. This instrument is the *UNESCO Recommendation on Science and Scientific Researchers (2017)* (hereinafter, the Recommendation on Science).

22. During the four years of consultations leading to the adoption of the latter, numerous Member States and collaborators evoked the transition to Open Science as one of their great challenges. Because they did, the 2017 internationally-agreed norms set out in the Recommendation on Science were specifically designed to address not just Member States, scientists and their employers, but also institutions and individuals responsible for research and development and other aspects of science, including such as science education, science communication, regulation and policy, oversight, funding, recruitment, peer review and scientific publishing.

23. For example, the Recommendation on Science requires that Member States establish and facilitate mechanisms for collaborative open science and facilitate sharing of scientific knowledge and benefits, in the name of specific human rights (paras. 21, 22). It requires Member States “to do everything possible to help scientific researchers” in relation to international aspects of the conduct of science.

24. Recognizing that there will be changes for scientific publishing and international collaboration and sharing of data as well as in science education, the Recommendation on Science also recalls that Member States should establish firmly as the norm for all scientific publishing, including

publishing in open access journals, that peer review based on established quality standards for science is essential (para. 26). It further calls on Member States to look upon science “as a public good, and to promote it as such ...” and specifically indicates that Member States should promote broadly STEM education (para 14 (a)), and “take measures to ensure equitable and open access to scientific literature, data and contents including by removing barriers to publishing, sharing and archiving of scientific outputs” (para 13 (e) ). Indeed, Member States are tasked to “ensure equal access to science and knowledge derived from it” (para. 18 (b)).

25. Finally, the Recommendation on Science says it is a responsibility of each scientific researcher “to promote access to research results and engage in the sharing of scientific data between researchers, and to policy-makers, and to the public wherever possible, while being mindful of existing rights”. Institutions are called on to support the researchers in this specific regard (para. 16). The Member States are tasked to promote and support this open scholarship of scientific researchers, to promote open access to literature and research data (para. 27), to adjust appraisal systems to ensure that there are incentives for Open Science (para. 34), to ensure all research is published and that the data, methods and software that were used be made accessible (para. 35), and to encourage that scientists participate in the international scientific community, sharing and open access publishing (paras 31, 35-37, 39).

26. Yet, more specific Open Science norms protocols and regulation may still be needed at the international level to ensure the transition to Open Science advances smoothly and balances in appropriate ways the respect for data privacy, confidentiality and intellectual property.

### ***Towards Enhanced Regulatory Action on Open Science***

27. Some of the world’s most innovative economies have invested in and are beginning to demonstrate that Open Science practices can fulfil high aspirations, helping them build human and institutional capacity in their science, technology and innovation systems. While the international scientific community increasingly embraces open science approaches, there is still a pressing need to foster links between knowledge holders/producers and users, to foster fair and equitable international North-South, South-South and triangular cooperation, and to support an Open Science transition in all parts of the globe by offering support to some countries. Open science is fuelling innovation, but there remain global divides.

28. International level protocols and institutions may be needed to address the data/knowledge sharing challenges inherent to Open Science. Appropriate infrastructure, including trusted web-based repositories and storage capacity are equally important in making data publicly accessible and useable.

29. Open Science raises very important issues from the legal point of view at international level. Mismatched practices already pose challenges for international scientific cooperation. Sharing results and data requires legal protections for (e.g. for personal privacy and intellectual property) yet there remain disparities in access to justice that make the application of protections uneven and uncertain. Open Science in practice will require Open Science literacy and skills training, the participation of citizens and whole countries in the global enterprise of science, and may raise issues of how to protect human rights, and how to best ensure professional ethics and productivity.

30. In light of a proliferation of Open Science operational, policy and legal frameworks, there may be a need to reach a global consensus on Open Science and to establish more clearly and specifically the shared values, norms, principles and standards at the international level, aiming at a framework conducive to an Open Science transition.

## DESIRABILITY OF A RECOMMENDATION ON OPEN SCIENCE

31. According to the UNESCO Constitution, the Organization should realize its purpose, namely maintaining, increasing and diffusing knowledge: (i) by assuring the conservation and protection of the world's inheritance of books, works of art and monuments of history and science, and recommending to the nations concerned the necessary international conventions; (ii) by encouraging cooperation among the nations in all branches of intellectual activity, including the international exchange of persons active in the fields of education, science and culture and the exchange of publications, objects of artistic and scientific interest and other materials of information; (iii) by initiating methods of international cooperation calculated to give the people of all countries access to the printed and published materials produced by any of them. Although written more than seventy years ago, these tasks are still highly up-to-date, especially in light of the issues raised by Open Science.

32. In the Article IV of the aforementioned UNESCO Constitution, two normative instruments are envisaged to be approved by the General Conference: recommendations and international conventions.

33. Declarations are another means of defining norms, which are not subject to ratification. Like recommendations, they set forth universal principles to which the community of States wished to attribute the greatest possible authority and to afford the broadest possible support.

34. Taking into account the current aspects of Open Science debates and previous actions taken by UNESCO, a Recommendation on Open Science could be the most appropriate form of the instrument to be used. In this way, UNESCO can affirm on the international scene its comparative advantage over other international organizations.

35. It is important to note that the adoption of a normative instrument can be of the utmost importance. However, as important as the text itself is the discussion process leading to its drafting and approval, as well as the subsequent process of follow-up and implementation. It is very important that this process be exemplary, involving all the people who, within and outside UNESCO, are concerned with this issue and getting all Member States involved. The success of this initiative on Open Science depends on the quality and involvement of all stakeholders in this process. Also, the process will have to take into account the ongoing movement toward defining international norms in the Open Educational Resources area.

36. A possible UNESCO Recommendation on Open Science might address issues such as:

- definition and description of the main components and key stakeholders of Open Science at national, regional and international levels,
- discussion of impacts of Open Science on the scientific endeavour and society at large, particularly in the context of emerging science systems in Africa,
- proposals for alternatives for the establishment of adequate legal and policy frameworks for Open Science, as well as instruments for its implementation in Member States,
- tools for monitoring the implementation of the recommendation by Member States and UNESCO.

37. By virtue of its mandate and normative role, UNESCO now invites this debate on Open Science within the international community and consults Member States on possible courses of action, including programmatic and regulatory action. Should new standard-setting activities be decided, based on lessons learned from previous related experiences and on the ongoing discussions on Open Science, it would be strongly recommended to establish a wide multi-stakeholder consultative mechanism on the topic of Open Science. Such a consultative mechanism should invite the input of



all Member States, as well as their scientists' and young researchers' communities, academics, intellectuals, and civil societies at large. Such an initiative would require financial means. The process could result in the submission of a standard-setting instrument to the General Conference in 2021.

38. It is estimated that broad outreach and global consultations as part of the preparatory work for delivery of a draft regulatory instrument, such as a Recommendation would have an overall cost of US \$1.95 million. Given UNESCO's financial situation, the budget would need to be fully covered by extrabudgetary contributions (see Annex for a Draft Roadmap).

39. In the light of the above, the Executive Board may wish to adopt a decision along the following lines:

The Executive Board,

1. Having examined document 206 EX/9,
2. Decides to include an item on the technical, financial and legal aspects of the desirability of a standard-setting instrument on Open Science in the provisional agenda of the 40th session of the General Conference;
3. Invites the Director-General to submit to the General Conference at its 40th session the preliminary study on the technical, financial and legal aspects of the desirability of a standard-setting instrument on Open Science contained in document 206 EX/9, together with the relevant observations and decisions of the Executive Board thereon;
4. Recommends that the General Conference at its 40th session invite the Director-General to submit, provided the resources are available, a draft text of a new standard-setting instrument on Open Science, in the form of a recommendation, for consideration by the General Conference at its 41st session.

## ANNEX

### DRAFT ROADMAP FOR A POSSIBLE UNESCO RECOMMENDATION ON OPEN SCIENCE

1. The implementation of this initiative would involve SC, CI, and SHS, through a joint coordination team led by SC. A team of Open Science experts would be established to:
  - (i) Elaborate an inventory of ongoing work on Open Science across UNESCO;
  - (ii) Identify the existing mechanisms and documentation on Open Science within the United Nations and relevant regional groupings of states;
  - (iii) Organize a large consultation with Member states, National Commissions, networks of young and experienced researchers, academics, public and private scientific institutions;
  - (iv) Develop studies, preparatory briefs and a Roadmap for the Recommendation, between 2019 and 2021.
  
2. The work would involve the participation of a large network of partners, *inter alia*:
  - (i) UNESCO Chairs and Centers; and university associations such as AAU;
  - (ii) The International Council for Science;
  - (iii) Institutions like SESAME, and CERN, with whom UNESCO developed the free digital library *Invenio* used in Africa for capacity building;
  - (iv) The Global Young Academy, which is the voice of young scientists all around the world;
  - (v) The United Nations Technology Facilitation Mechanism, in particular its Inter Agency Task Team on Science, Technology and Innovation for SDGs;
  - (vi) The African Open Science Platform, developed by the International Council for Science with the support of UNESCO.
  
3. The timeline for the development of this initiative would be as follows:
  - A. Project preparation phase: January to October 2019**
    - (i) Inventories of the existing mechanisms and documentation on Open Science;
    - (ii) Preparation of the preliminary study on the technical, financial and legal aspects on the desirability of a standard-setting instrument on Open Science, including a draft Roadmap, based on the *Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV, paragraph 4, of the Constitution*;
    - (iii) Submission of the preliminary study and the draft Roadmap to the Executive Board at its 206th session (April 2019);
    - (iv) Setting up of a large partnership on Open Science;
    - (v) Organization of a large electronic consultation with UNESCO Chairs, C2Cs, external partners, National Commissions and Member States;
    - (vi) Consolidation of the Roadmap;

- (vii) Consideration of the consolidated Roadmap by the Preparatory Group;
- (viii) Organization of an Information meeting for Member States on the consolidated Roadmap (September 2019).

**B. Consolidation and deployment phase: October 2019 to February 2020**

- (i) Submission of the preliminary study on the technical, financial and legal aspects on the desirability of a standard-setting instrument on Open Science, including its consolidated Roadmap, to the General Conference at its 40th session (November 2019);
- (ii) Publication of a brochure for the general public on the initiative, based on the preliminary study and observations of UNESCO's governing bodies (December 2019).

**C. Implementation phase and adoption of the Recommendation: March 2020 to February 2022**

- (i) Preparation of the first draft text of the Recommendation (March 2020);
- (ii) Consultation with stakeholders on the first draft text of the Recommendation: (a) UNESCO centres and Chairs, and key science partners; (b) Open consultation to key scientists, young researchers, university professors, academicians and intellectuals, engaged citizens, and relevant public and private entities (April 2020);
- (iii) Organization of six regional meetings (one in each region). This will nurture the work with region-related considerations and the regional scientific cultures (from May to October 2020);
- (iv) Communication of the Director-General's preliminary report on the proposed recommendation, accompanied by the first draft of the recommendation, to the Member States (September 2020) for their comments by end January 2021;
- (v) On the basis of the comments received by Member States, communication of the Director-General's final report containing a draft of the recommendation to the Member States (April 2021);
- (vi) Submission of the final report to the special committee consisting of technical and legal experts appointed by Member States (category II meeting) (July 2021);
- (vii) Submission of the draft recommendation to the General Conference at its 41st session with a view to its adoption (November 2021);
- (viii) Organization of a Global Conference to present the Recommendation adopted by the General Conference at its 41st session (February 2022).



## General Conference

40th Session, Paris, 2019

United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
la Ciencia y la Cultura

Организация  
Объединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

联合国教育、  
科学及文化组织

Item 5.20 of the agenda

# 40 C

40 C/63 Add.  
14 November 2019  
Original: English

### PRELIMINARY STUDY OF THE TECHNICAL, FINANCIAL AND LEGAL ASPECTS OF THE DESIRABILITY OF A UNESCO RECOMMENDATION ON OPEN SCIENCE

#### ADDENDUM

#### CONSOLIDATED ROADMAP FOR A POSSIBLE UNESCO RECOMMENDATION ON OPEN SCIENCE AND DRAFT TERMS OF REFERENCE FOR THE OPEN SCIENCE ADVISORY COMMITTEE

#### OUTLINE

**Source:** 207 EX/Decision 7.

Further to the Executive Board decision, 207 EX/Decision 7, this document proposes the draft Terms of Reference for the Open Science Advisory Committee for consideration by the General Conference at its 40th session as addendum to document 40 C/63.

**Decision required:** paragraph 5.



## INTRODUCTION

1. Following up to 206 EX/Decision 9, the Director-General presented to the Executive Board at its 207th session, the requested “Consolidated roadmap towards a possible UNESCO recommendation on open science” (see Annex I to this document).
2. In its decision (207 EX/Decision 7)<sup>1</sup> the Executive Board took note of the consolidated roadmap presented in the above-mentioned document.
3. While noting “the importance of ensuring an open and transparent process based on a proper geographical gender balance for the selection of the members of the Advisory Committee”, in their decision, the members of the Executive Board have also:
  - requested the Director-General “to ensure a broad and geographically representative Open Science Partnership, with relevant stakeholders and institutions from all regions and from all branches of Basic and Applied Sciences, including Natural Sciences , and Social and Human Sciences, particularly taking into account local and indigenous peoples and their traditional knowledge”;
  - recommended that “the specific challenges of scientists in developing countries in regards to weak Science Technology and Innovation (STI) policy and legal systems, and the digital, technological and knowledge divides, be adequately addressed within the consolidated Roadmap and future recommendation to enable the scientists to fully participate and reap the benefits of the Open Science framework”;
  - recommended that the General Conference, at its 40th session, “request the Director-General to hold at least one category II intergovernmental meeting *in presentia* with a view to the elaboration of a recommendation on Open Science”;
  - recommended to the Director-General “to elaborate a draft Terms of Reference of the Open Science Advisory Committee to be presented at the 40th session of the General Conference, for its consideration”.
4. Further to the request above, the draft Terms of Reference are presented in Annex II to this document.

### Proposed draft resolution

5. In view of the above, the General Conference may wish to adopt a decision along the following lines (this draft resolution replaces the one contained in paragraph 8 of document 40 C/63):

*The General Conference,*

*Recalling* the Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV, paragraph 4, of the Constitution,

*Having examined* documents 40 C/63 and 40 C/63 Add,

1. *Recognizes* the need for a new standard-setting instrument on open science, in the form of a recommendation;
2. *Takes note* of the terms of reference of the Open Science Advisory Committee, as contained in Annex 2 to document 40 C/63 Add.;

---

<sup>1</sup> 207 EX/Decision 7 is available in its entirety in Annex III to this document.

3. *Invites* the Director-General to initiate, in accordance with the applicable rules and provided the resources are available, the process of elaborating a draft text of a new standard-setting instrument on open science, in the form of a recommendation;
4. *Requests* the Director-General to hold at least one category II intergovernmental meeting *in presentia* with a view to the elaboration of a recommendation on open science;
5. *Also requests* the Director-General to take all necessary measures to ensure an inclusive consultative process leading to a recommendation on open science;
6. *Also invites* the Director-General to submit to it at its 41st session the draft text of a UNESCO recommendation on open science in accordance with the Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV, paragraph 4, of the Constitution.

## ANNEX I

### CONSOLIDATED ROADMAP TOWARDS A POSSIBLE UNESCO RECOMMENDATION ON OPEN SCIENCE<sup>2</sup>

#### ***The organization of the process leading to the possible adoption of the UNESCO Open Science Recommendation***

1. The three-year (2019-2021) consultative, inclusive and transparent process leading to the possible adoption of the Recommendation will be led by UNESCO Member States and:
  - Facilitated by an internal multisectoral UNESCO Open Science Team;
  - Supported by a broad Open Science Partnership;
  - Steered by an Open Science Advisory Committee;
2. The internal multisectoral UNESCO Open Science Team, coordinated by SC, will include representatives from the five programme sectors (SC, CI, ED, CLT and SHS). Its objectives will be to:
  - Elaborate an inventory of ongoing work on Open Science across UNESCO;
  - Identify the existing mechanisms and documentation on Open Science within the United Nations and relevant regional groupings of states;
  - Develop the relevant studies, preparatory briefs and a draft Roadmap for the Recommendation, as presented in this document, for the consideration of the UNESCO Member States;
  - Organize large consultations with Member states, National Commissions, networks of young and experienced researchers, academics, public and private scientific institutions on:
    - the definition of Open Science;
    - the Scope of the draft Recommendation;
    - the Provisions of the draft Recommendation;
  - Organize the consultations among the Member States leading to the possible adoption of the Recommendation by the UNESCO General Conference in 2021.
3. The broad **Open Science Partnership** will bring together all the relevant and interested Open Science stakeholders across the world. The Partnership will be open ended and include interested Member States, scientific community, public and private science, technology and innovation institutions, relevant private sector and industry, United Nations agencies. *Inter alia* the Partnership will include:
  - UNESCO Chairs and centres; and university associations such as the Association of African Universities;
  - The World Academy of Sciences (TWAS) and the International Centre for Theoretical Physics (ICTP);

---

<sup>2</sup> This document was presented to the Executive Board in the Annex to document 207 EX/7.

- The International Science Council (ISC);
  - Institutions such as the Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME) and the European Organization for Nuclear Research (CERN), with whom UNESCO developed the free digital library Invenio used in Africa for capacity-building;
  - The Global Young Academy, which is the voice of young scientists all around the world and has a Working Group on Open Science;
  - The United Nations Technology Facilitation Mechanism, in particular its Inter Agency Task Team on Science, Technology and Innovation for SDGs;
  - The World Intellectual Property Organization;
  - The African Open Science Platform, developed by the International Council for Science with the support of UNESCO;
  - European Union Open Science;
  - The Confederation of Open Access Repositories;
  - The African Academy of Science.
4. The **Open Science Advisory Committee** will be established to guide and advice on the process leading to the Recommendation. The 15 members will include, inter alia, representatives of Member States from the six electoral groups of UNESCO and representatives of key scientific bodies/institutions dealing with Open Science and interested donors. Its role will be to steer the consultative process leading to the Recommendation by:
- providing expert and strategic advice;
  - ensuring delivery of the process milestones;
  - providing support with fundraising.

### **Timeline**

- A. Project preparation phase: January to October 2019 (already achieved)
- (i) Preliminary study prepared on the technical, financial and legal aspects on the desirability of a standard-setting instrument on Open Science, including a draft Roadmap, based on the *Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV, paragraph 4, of the Constitution*;
  - (ii) Preliminary study and the draft Roadmap submitted to the Executive Board at its 206th session (April 2019);
  - (iii) Bibliographic study on the definition(s) of Open Science initiated;
  - (iv) An information meeting organized for Member States on the draft consolidated Roadmap (June 2019).



- B. Consolidation and deployment phase: October to November 2019
- (i) Submission of the draft consolidated Roadmap to the Executive Board at its 207th session (October 2019);
  - (ii) Multi-stakeholder workshop on Open Science in Africa (October 2019-TBC);
  - (iii) Submission of the preliminary study and of the consolidated Roadmap, with the observations and decisions of the Executive Board at its 206th and 207th sessions, to the General Conference at its 40th session (November 2019).
- C. Implementation phase and adoption of the draft Recommendation (depending on the decision by the General Conference): December 2019 to February 2022
- (i) Publication of a brochure and other communication material (e.g. short video) for the general public on the initiative, based on the preliminary study, the roadmap and including observations of UNESCO's governing bodies (December 2019).
  - (ii) Establishment of the Open Science Partnership (December 2019)
  - (iii) Establishment of the Open Science Advisory Committee (December 2019)
  - (iv) Mobilization of Open Science Partnership and organization of an electronic consultation with UNESCO Chairs, C2Cs, external partners, National Commissions and Member States on the draft definition of Open Science and the scope of the Recommendation (January-February 2020);
  - (v) Based on the inputs received, preparation by the Secretariat of the first draft text of the Recommendation (March 2020);
  - (vi) Consultation with relevant stakeholders to collect inputs for the drafting of the Recommendation: (a) UNESCO centres and Chairs, and key science partners; (b) Open consultation with key scientists, young researchers, university professors, academicians and intellectuals, engaged citizens, and relevant public and private entities (April 2020);
  - (vii) Organization of six regional multistakeholder meetings (one in each region), including representatives of Member States (from May to September 2020) to collect comments on the first draft of the recommendation;
  - (viii) Communication of the Director-General's preliminary report on the proposed recommendation, accompanied by the first draft of the recommendation, to the Member States (September 2020) for their comments by end January 2021;
  - (ix) On the basis of the comments received by Member States, communication of the Director-General's final report containing a draft of the recommendation to the Member States (April 2021);
  - (x) Submission of the final report to the special committee consisting of technical and legal experts appointed by Member States (category II meeting) (July 2021);
  - (xi) Submission of the draft recommendation to the General Conference at its 41st session with a view to its adoption (November 2021);
  - (xii) Subject to adoption of the Recommendation by the General Conference at its 41st session, organization of a Global Conference to present the Recommendation will be foreseen in February 2022.

## ANNEX II

### DRAFT TERMS OF REFERENCE OF THE OPEN SCIENCE ADVISORY COMMITTEE

#### 1. Background

Recognizing the potential of Open Science to democratize science and close the gaps in science technology and innovation, the Executive Board recommended the General Conference to invite the Director-General to initiate the process of elaborating a draft text of a new standard-setting instrument on Open Science in the form of a Recommendation, to be submitted for consideration by the General Conference at its 41st session (206 EX/Decision 9 and 207 EX/Decision 7).

In this context and further to the request of the Executive Board, the Director-General also presented a consolidated roadmap for a possible UNESCO Recommendation on Open Science (as contained in the Annex of the Executive Board Document 207 EX/7) describing the organization and the timeline of a consultative process leading to the adoption of a UNESCO Recommendation on Open Science in 2021.

As noted in the above-mentioned consolidated roadmap, the organization of the process leading to the possible adoption of the UNESCO Recommendation on Open Science in 2021 will be led by UNESCO Member States and:

- facilitated by an internal multisectoral UNESCO Open Science Team led by the Natural Sciences Sector;
- supported by a broad Open Science Partnership;
- guided by an Open Science Advisory Committee.

The current document provides the draft Terms of Reference of the Open Science Advisory Committee.

#### 2. Role of the Open Science Advisory Committee

The Open Science Advisory Committee will be established by the Director-General of UNESCO to provide guidance and advice on the overall implementation of the Consolidated Roadmap for the UNESCO Recommendation on Open Science as contained in the Annex of the Executive Board Document 207 EX/7.

Its role will be to guide the consultative process leading to the Recommendation by:

- providing expert and strategic advice;
- ensuring delivery of the process milestones;
- providing support with fundraising.

In addition, the Advisory Committee will be invited to:

- propose relevant institutions and stakeholders to join the Open Science Partnership so as to ensure its geographical representativeness and broad scope covering all scientific disciplines and systems of knowledge;
- propose experts to take part in the regional and thematic consultations taking into account gender and geographical balance;

- contribute to and review any documentation that will be produced to accompany the consultative process leading to the Recommendation;
- communicate broadly on the importance of the Recommendation and the related work of UNESCO.

### **3. Membership of the Open Science Advisory Committee**

#### **3.1 Members**

It is proposed that the Open Science Advisory Committee be composed of 15 members including:

- representatives of Member States from the six electoral groups of UNESCO;
- representatives of key scientific bodies and institutions dealing with Open Science;
- representatives of the private/business sector;

#### **3.2 Guiding principles**

The selection of the members of the Advisory Committee will be done by the Director-General of UNESCO based on an open and transparent process taking into account the following principles:

- geographical balance;
- gender balance;
- expertise and competence in the field of Open Science.

#### **3.3 Co-chairs**

At their first meeting, the Advisory Committee members will elect two co-chairs with the following responsibilities:

- setting the agenda for the meetings in consultation with the Secretariat;
- making sure that each meeting is planned effectively and that matters are dealt with in an orderly and efficient manner
- encouraging participation of all members of the Advisory Committee in the discussions;
- summarizing the conclusions of discussions, the decisions taken and the agreed follow up actions.

#### **3.4 Observers**

Observer(s) will be permitted to attend the meetings of the Advisory Committee. The observer should inform the Secretariat about its intention to attend the meeting no less than five business days before the scheduled meeting.

#### **4. Operating procedures**

##### **4.1 Secretariat of the Advisory Committee**

The Secretariat will consist of the internal multisectoral UNESCO Open Science Team.

##### **4.2 Frequency of the Meetings**

The Advisory Committee meetings will be organized at least twice a year in line with the key steps of the implementation phase of the consultative process as foreseen in the Consolidated Roadmap. Depending on the funds available and/or the willingness of the Members of the Advisory Committee to self-fund, meetings will be conducted face-to-face or virtually.

##### **4.3 Documents for the Meetings**

The Agenda of the meetings will be set by the Advisory Committee Co-chairs in consultation with the Secretariat. The Secretariat will prepare and distribute the Minutes of the meetings. Any other documents to be considered by the Advisory Committee will be decided by the Advisory Committee Co-chairs in consultation with the Secretariat and the members of the Advisory Committee.

##### **4.4 Quorum and Decision-Making**

Quorum for meetings will be attendance by a simple majority of Advisory Committee members. All decisions will be taken by consensus.

##### **4.5 Reporting of the decisions of the Advisory Committee**

The results of the discussion of the Open Science Advisory Committee are reported to the Director-General of UNESCO, via the Chair of the Committee.

### ANNEX III

#### 207 EX/Decision 7 – Consolidated Roadmap for a possible UNESCO Recommendation on Open Science

The Executive Board,

1. Having examined documents 207 EX/7 and 207 EX/PG/1.INF.3 and Corr.,
2. Takes note of the consolidated Roadmap towards the adoption of a possible UNESCO Recommendation on Open Science contained in the Annex to document 207 EX/7;
3. Notes the importance of ensuring an open and transparent process based on a proper geographical and gender balance for the selection of the members of the Advisory Committee;
4. Requests the Director-General to ensure a broad and geographically representative Open Science Partnership, with relevant stakeholders and institutions from all regions and from all branches of Basic and Applied Sciences, including Natural Sciences, Life Sciences, and Social and Human Sciences, particularly taking into account local and indigenous peoples and their traditional knowledge;
5. Recommends that the specific challenges of scientists in developing countries in regards to weak Science Technology and Innovation (STI) policy and legal systems, and the digital, technological and knowledge divides, be adequately addressed within the consolidated Roadmap and future recommendation to enable the scientists to fully participate and reap the benefits of the Open Science framework;
6. Recommends that the General Conference, at its 40th session, invite the Director-General, to initiate, in accordance with the applicable rules and provided the resources are available, the process of elaborating a draft text of a new standard-setting instrument on open science, in the form of a recommendation, to be submitted for consideration by the General Conference at its 41st session;
7. Also recommends that the General Conference, at its 40th session, request the Director-General to hold at least one category 2 intergovernmental meeting *in presentia* with a view to the elaboration of a recommendation on Open Science;
8. Also recommends the Director-General to elaborate a draft Terms of Reference of The Open Science Advisory Committee to be presented at the next General Conference, for its consideration.

Printed on recycled paper



WILEY

CACTUS.



Taylor & Francis Group  
an informa business

SPRINGER  
NATURE



RM  
RESEARCH MEDIA