



Common ground in the global quest for open science

By Glenn Hampson
Executive Director, Science Communication Institute (SCI)
Program Director, Open Scholarship Initiative (OSI)
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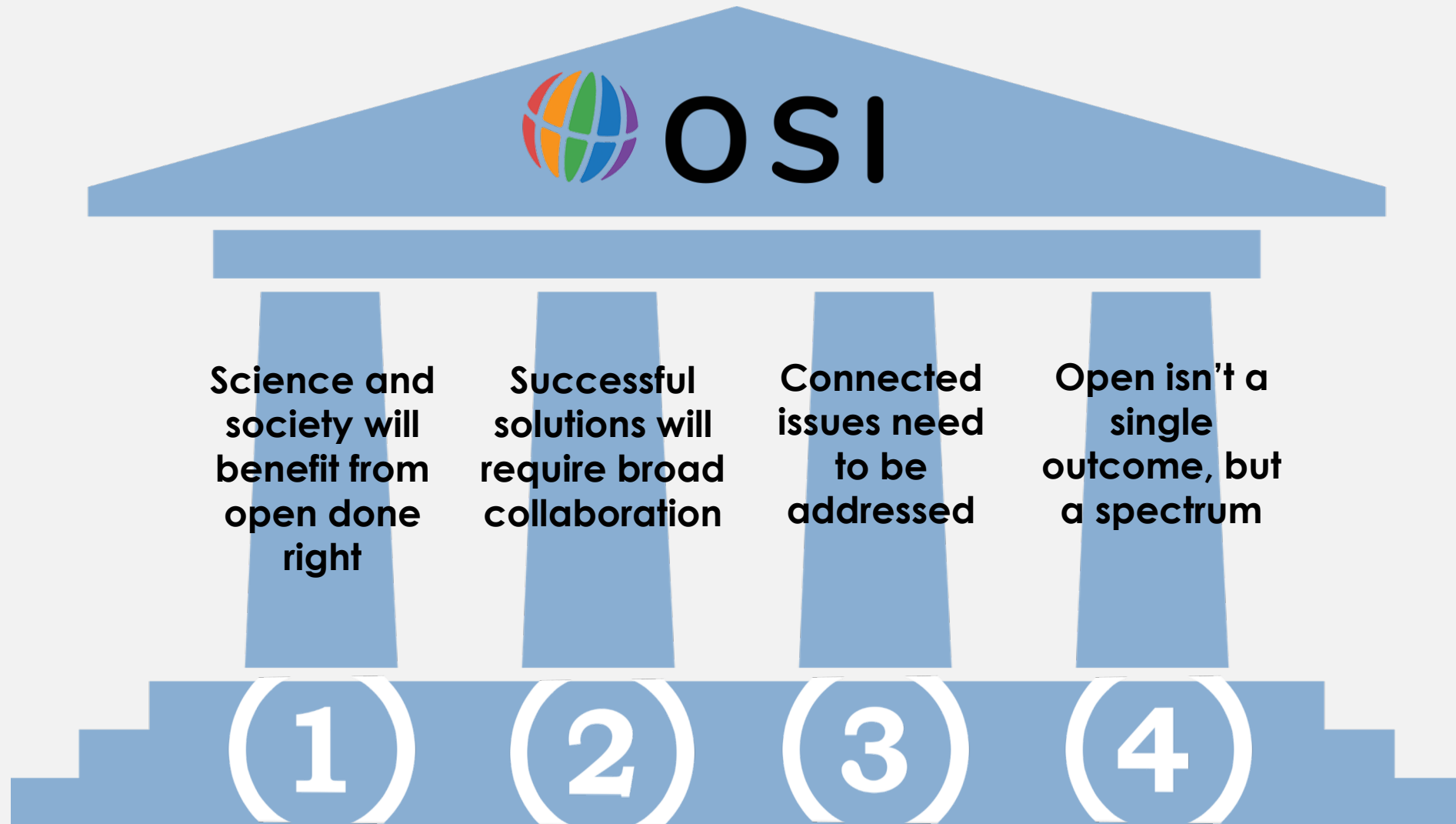
OSI is working to improve the future of open research by developing **common ground approaches and solutions**



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.

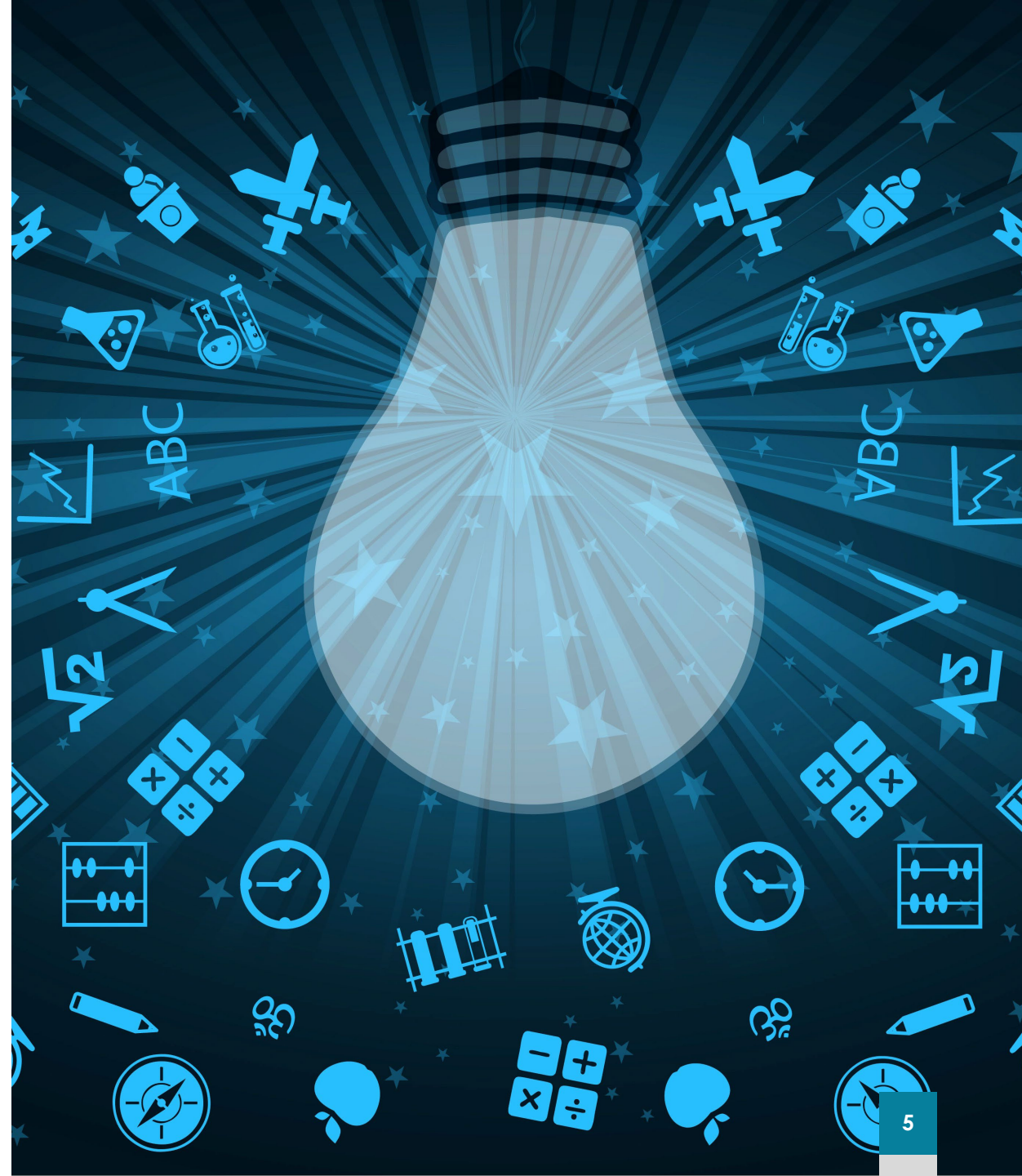
- Over 400 participants, representing 250 institutions, 27 countries, and 18 stakeholder groups (see chart, left)

OSI is built on these 4 common ground beliefs



Plus a few common ground insights

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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



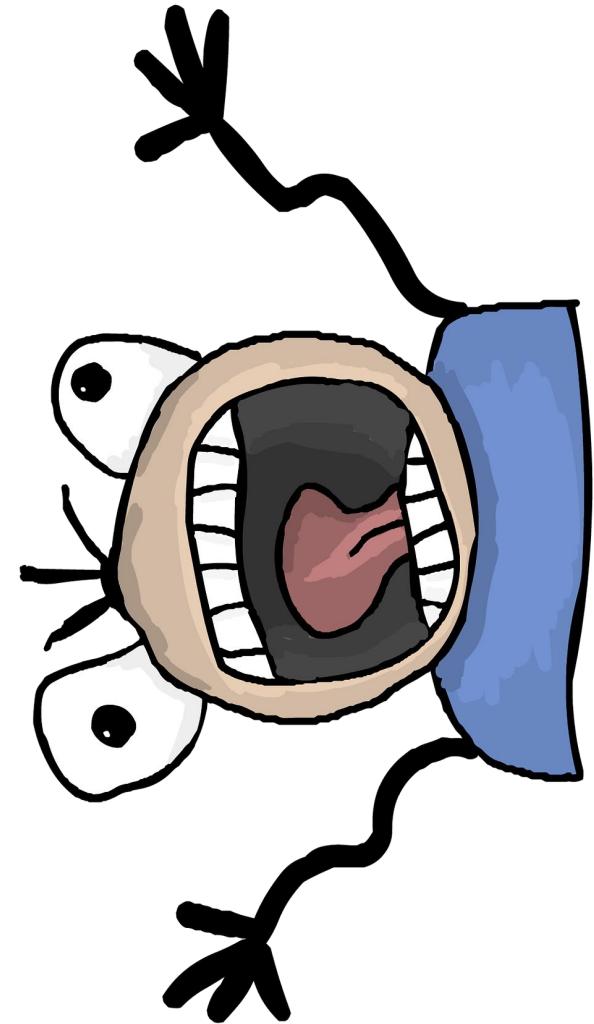
Who

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?

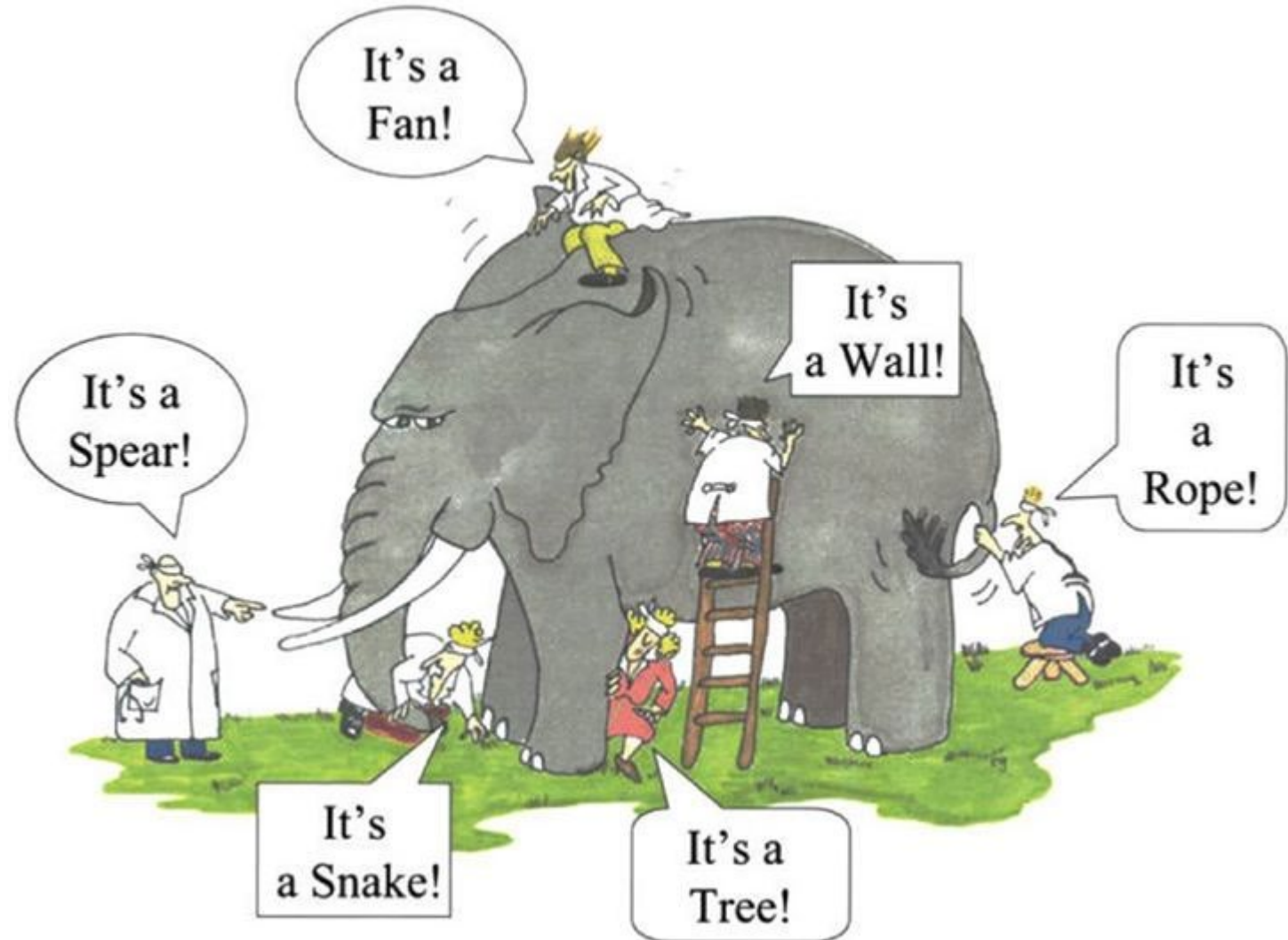


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These aren't small and insignificant questions. But one that looms even larger in our disagreements (believe it or not) is...

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

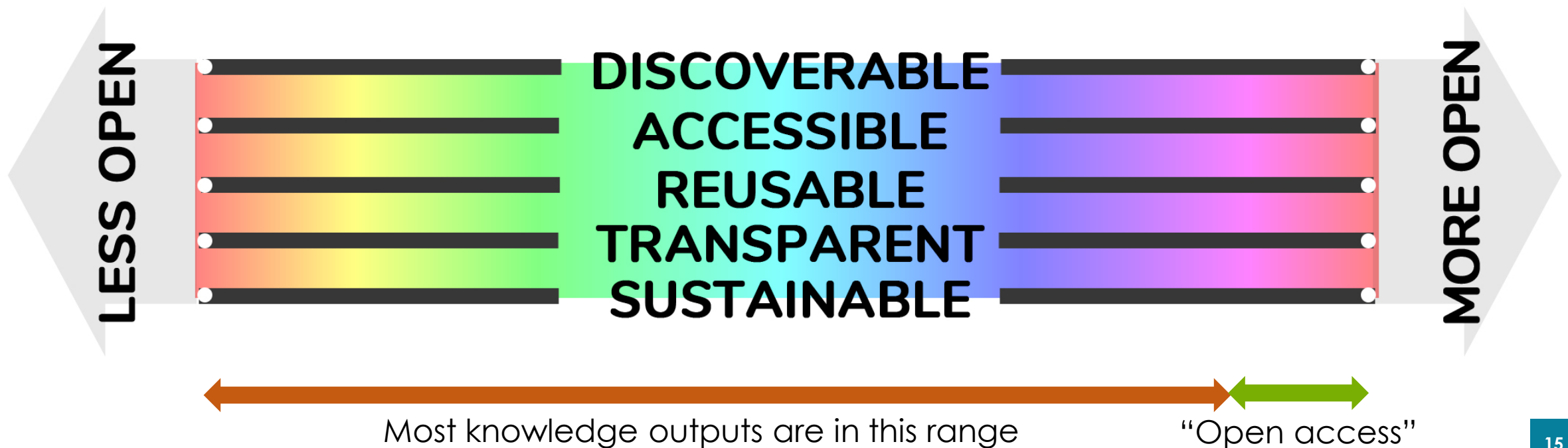
For some, "open" means BOAI-compliant information. For others--especially outside the scholarly publishing expert space--"open" can be more casually interpreted, which has led to a lot of talking across each other.

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.



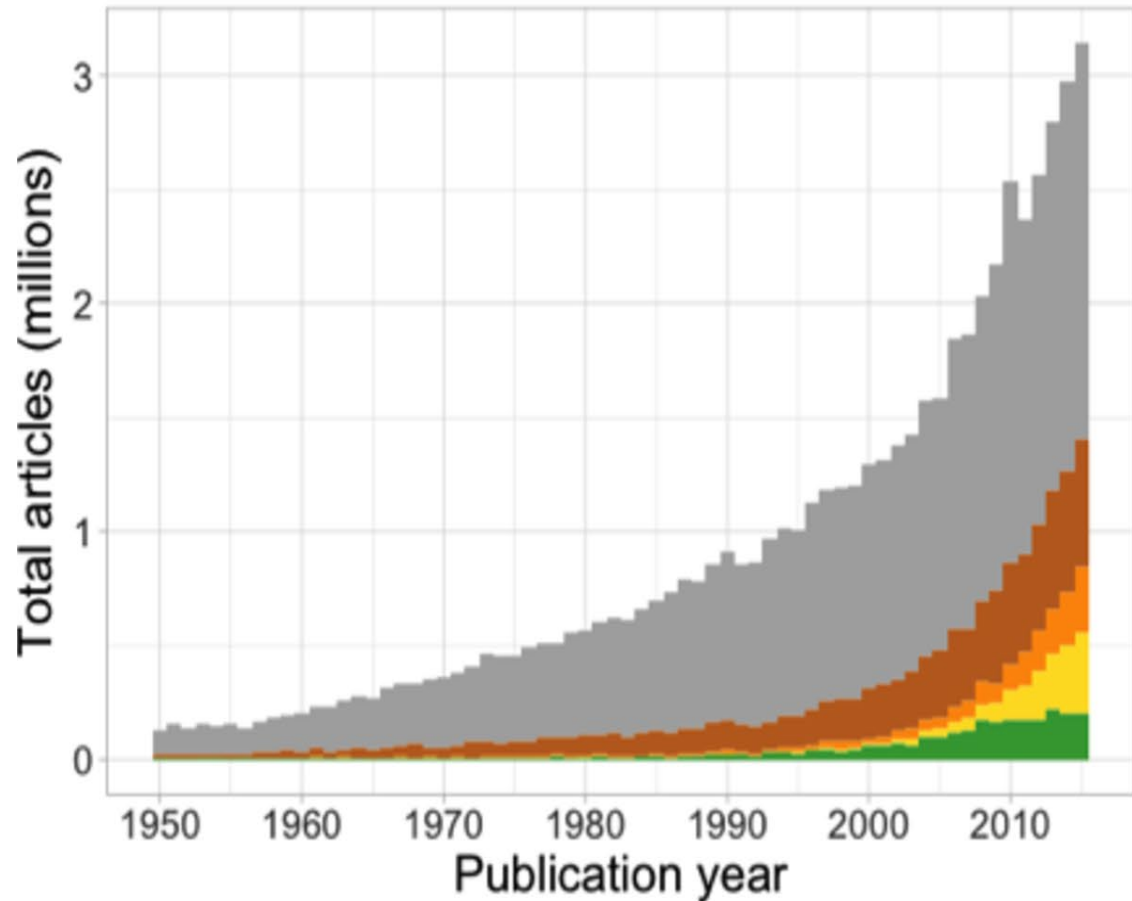
In a sad place? The amount of research being published doubles about every 20 years (due to R&D spending, new disciplines being created, continued pressure to publish or perish, and more. Can we keep up? If this worries you, you might be sad. Also, if you're only interested in the growth rate of CC-BY 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.

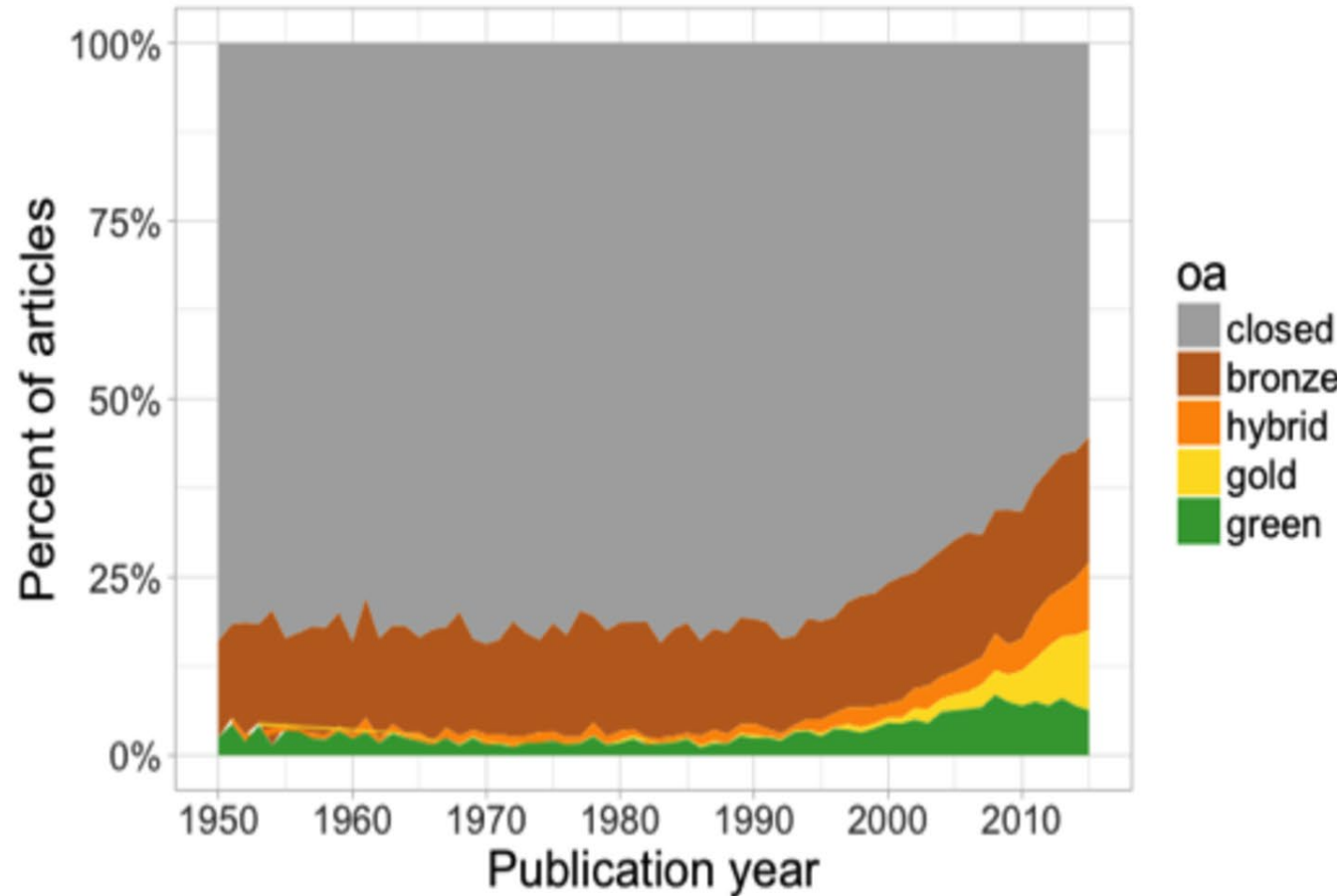


Source: Piwowar & Priem 2017

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).

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).

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

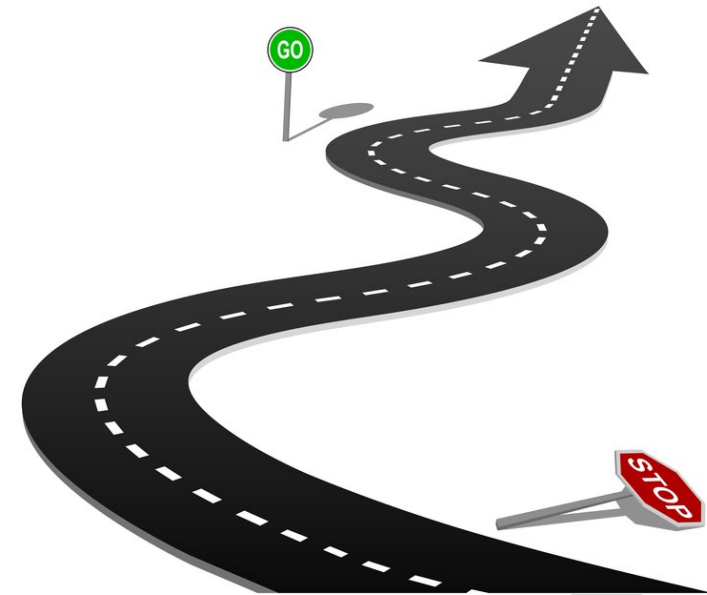


Watch the road instead of the map. Our community's map to the future is old...

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:

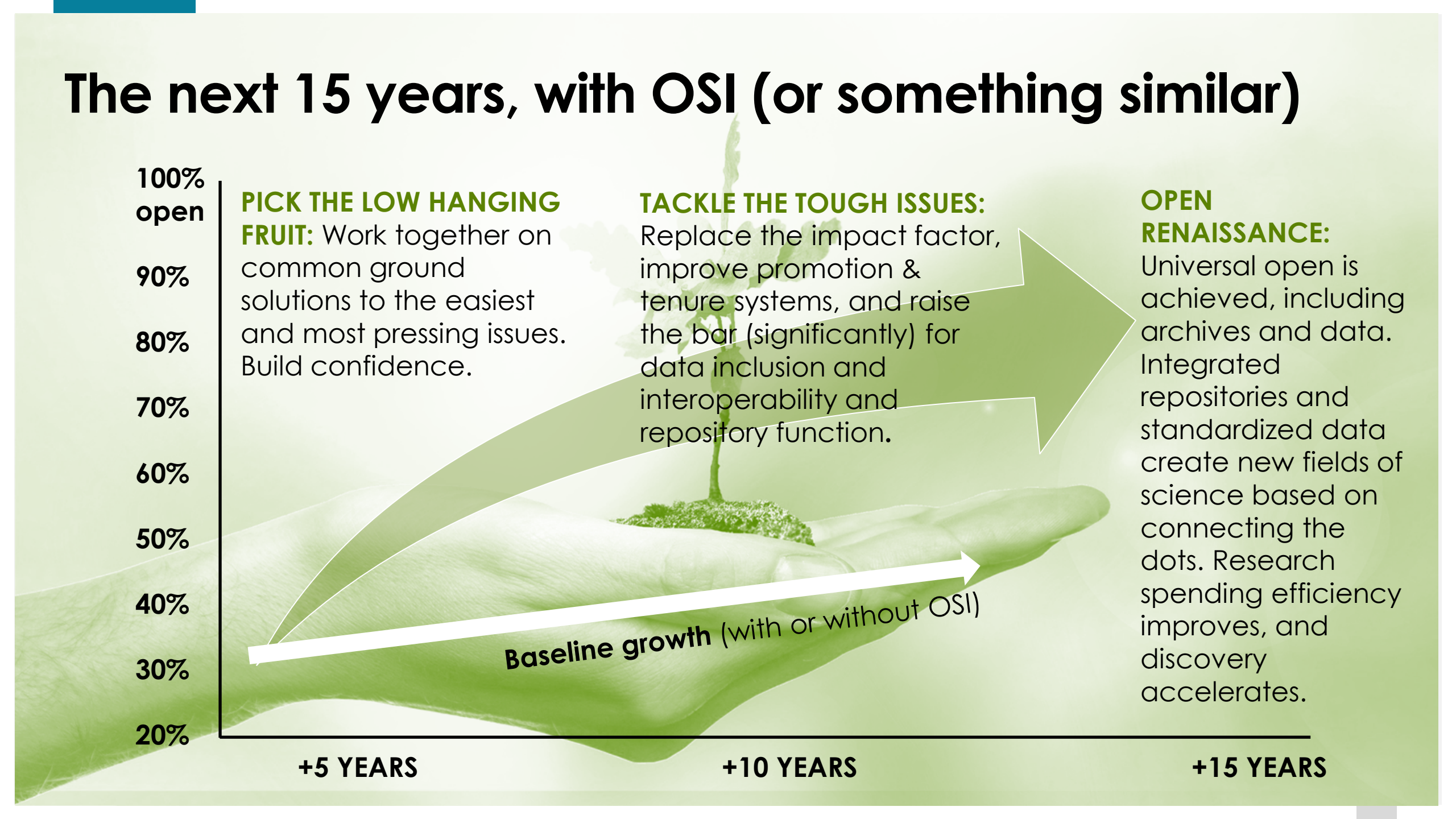
Universal open is achieved, including archives and data. Integrated repositories and standardized data create new fields of science based on connecting the dots. Research spending efficiency improves, and discovery accelerates.

Baseline growth (with or without OSI)

+5 YEARS

+10 YEARS

+15 YEARS



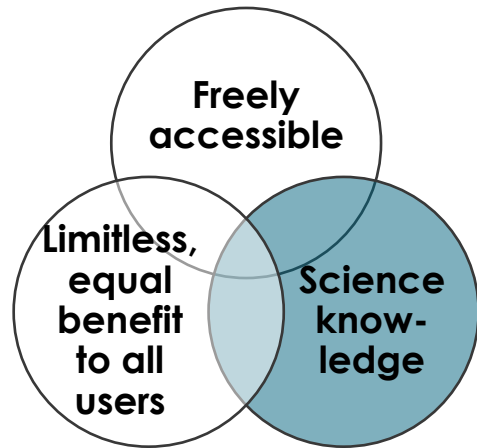
The Open Renaissance

- **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**

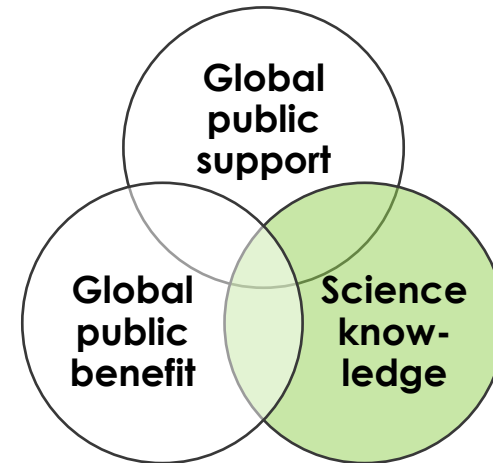
Science knowledge is a “public good.” **However...**

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



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 interested 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

