Monitoring = Power

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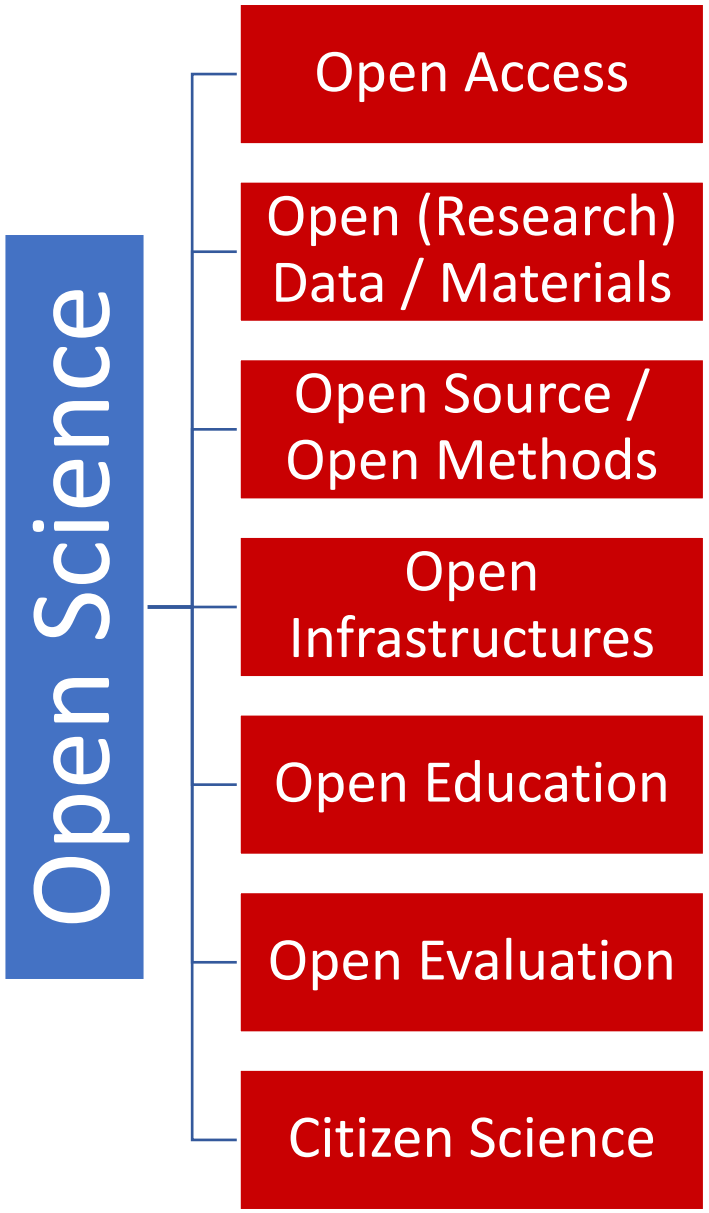
"What science becomes in any historical era depends on what we make of it"

Sandra Harding



Open science is the idea that scientific knowledge of all kinds should be openly shared as early as is practical in the research process.

Open strategies in science share the following objectives

- sharing and collaboration
- transparency and reproducibility
- re-usability and new applications
- societal participation and feedback loops

How is openness envisioned and enacted in practices?

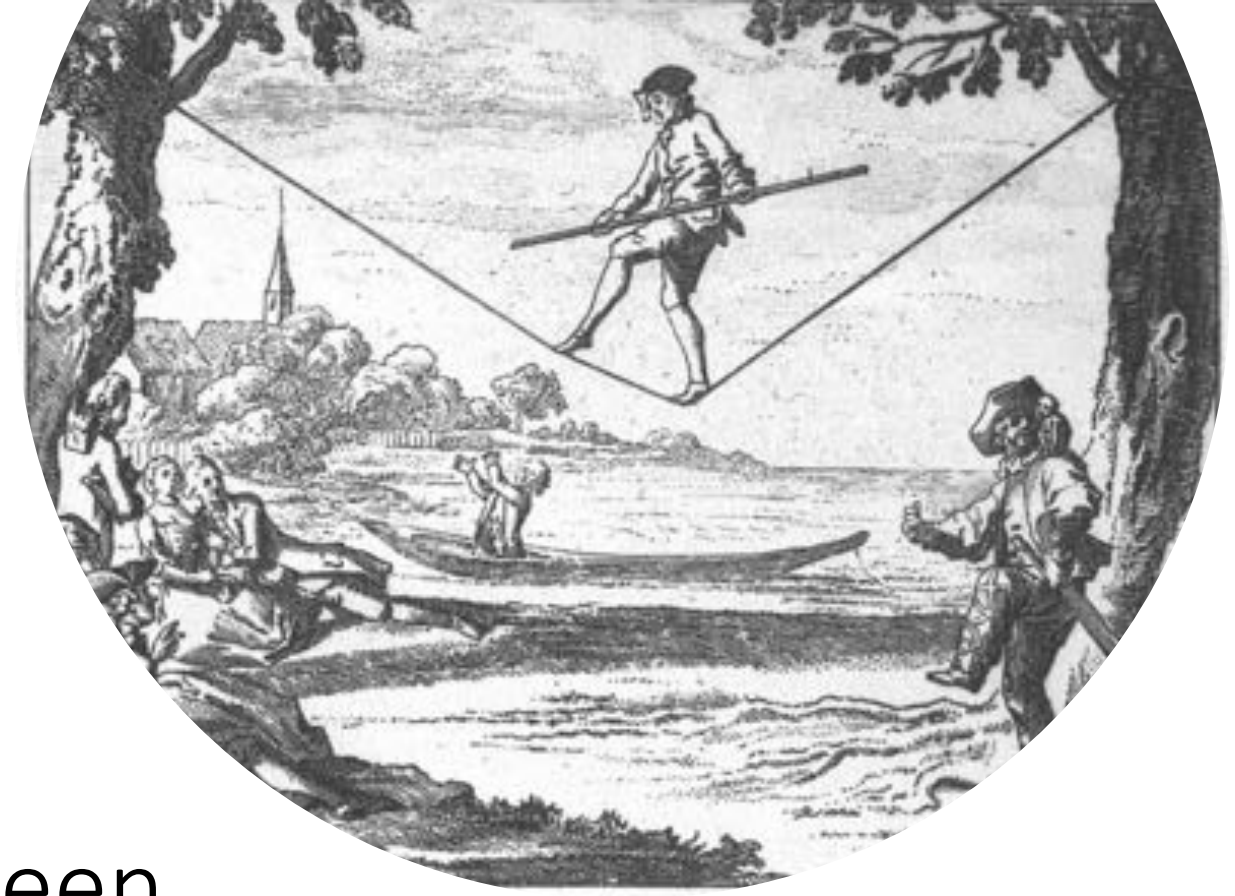
Sticker by Jon Tennant @protohedgehog and Melanie Imming @melimming

Open Science is not only **FOR** science

it is also **ABOUT** science

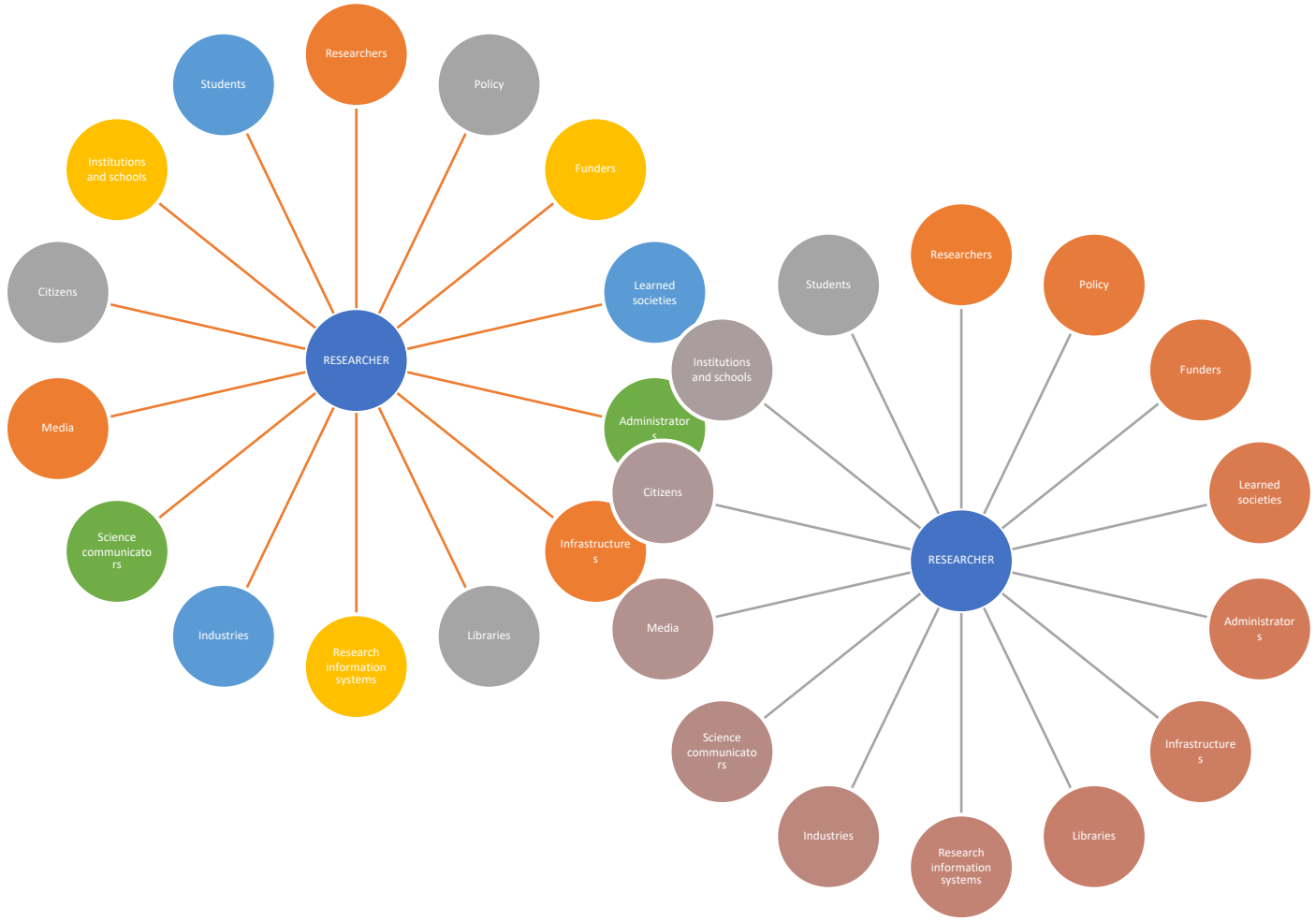
OPEN SCIENCE – OPEN CULTURES

DOING SCIENCE INVOLVES MANY STAKEHOLDERS

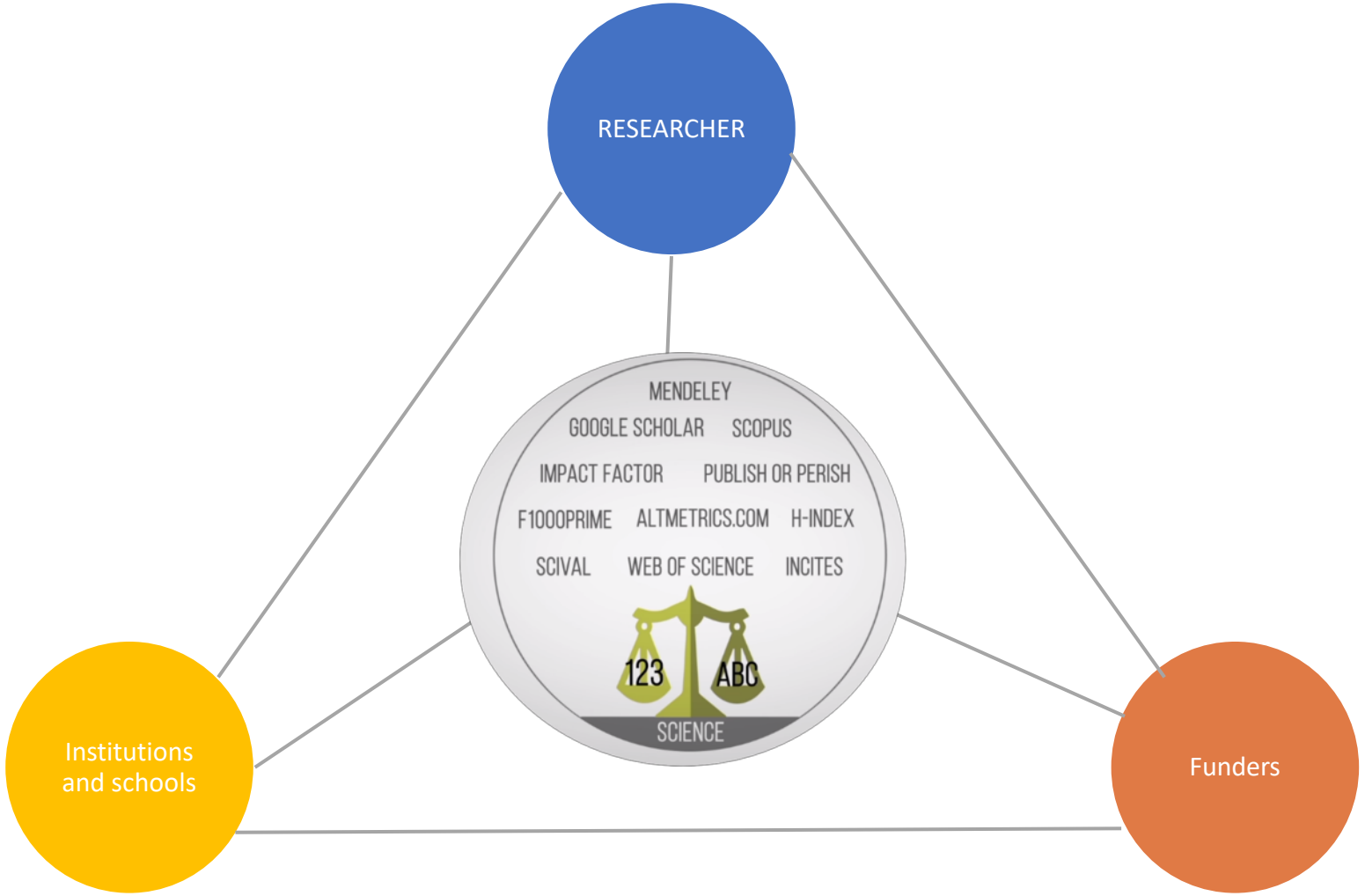


A balancing act between partly closed and partly open systems in transition

DOING SCIENCE AND CREATING IMPACT INVOLVES MANY DIFFERENT RELATIONAL TRAJECTORIES AND PATH DEPENDENCIES



ASSESSING SCIENTIFIC PERFORMANCE



PERSISTENCE OF PATH DEPENDENCIES AND PUBLICATION SYSTEM BIASES

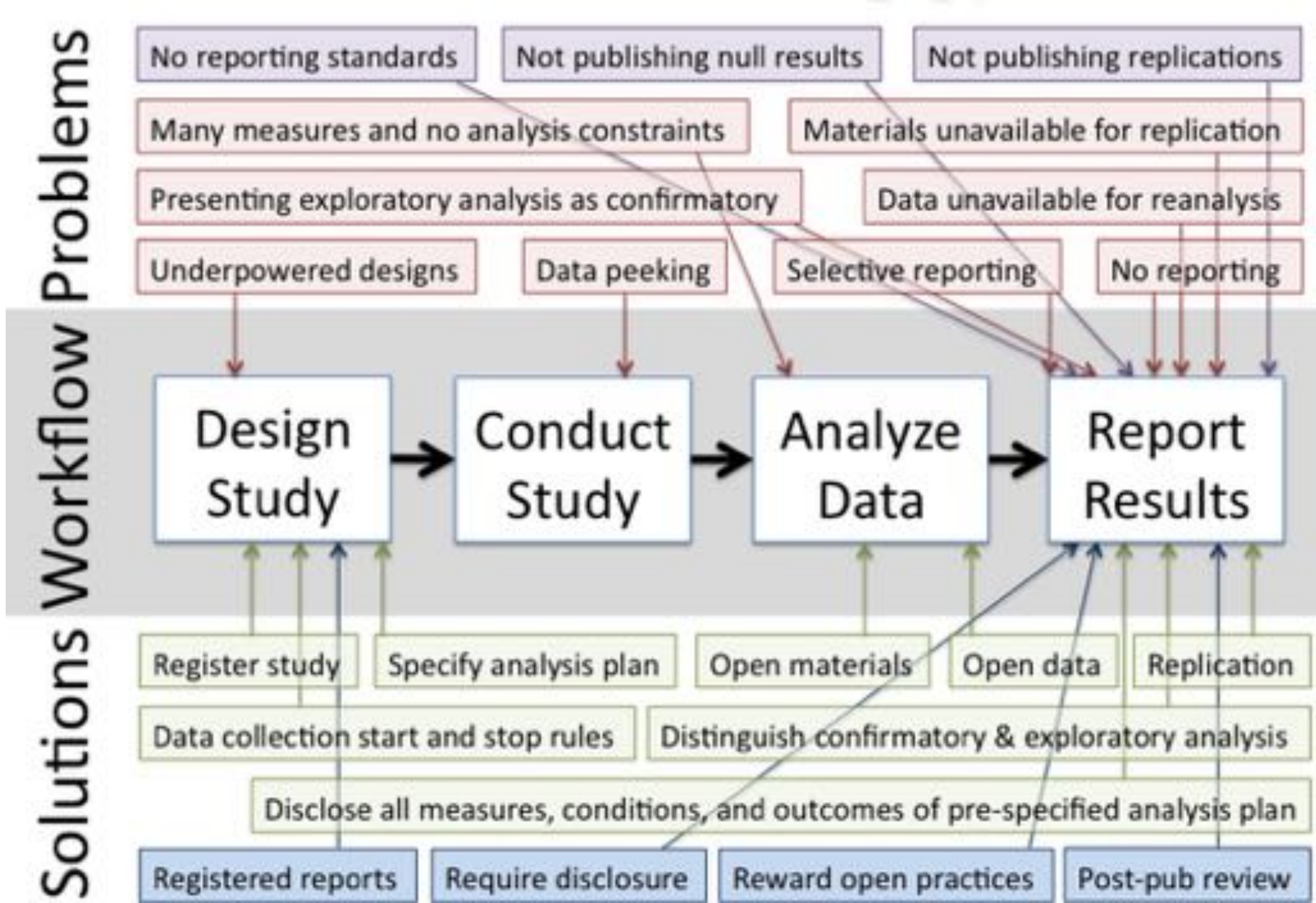
Leiden Manifesto Video https://vimeo.com/133683418

We need to shift incentives
“from getting it published to getting it right” (Brian Nosek)

We need to change the questions

What matters?

- What do we want to achieve with research through open science?
  - Getting it right?
  - Making it visible and (re)usable (FAIR)?
  - Create robust knowledge production (quality, responsibility, trust)?
  - Trigger and foster innovation?
  - Create well-being?
  - …..



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4078993/

Incentives and Rewards for Open Scholarship

OS CAM

Open Science Career Assessment Matrix (OS-CAM)	
Open Science activities	Possible evaluation criteria
RESEARCH OUTPUT	
Research activity	Pushing forward the boundaries of open science as a research topic
Publications	Publishing in op Self-archiving
Datasets and research results	Using the FAIR Adopting quality Making use of
Open source	Using open sou Developing new
Funding	Securing fundin
RESEARCH PROCESS	
Stakeholder engagement / citizen science	Actively engagi Sharing provis platforms (e.g. Involving stakeh
Collaboration and interdisciplinarity	Widening partic Engaging in tea
Research integrity	Being aware of confidentiality, activities Fully recognis including collab
Risk management	Taking account
SERVICE AND LEADERSHIP	
Leadership	Developing a vi normal practice Driving policy a Being a role mo
Academic standing	Developing an contributing as
Peer review	Contributing to Examining or assessing open research
Networking	Participating in national and international networks relating to open science

RESEARCH IMPACT	
Communication and Dissemination	Participating in public engagement activities Sharing research results through non-academic dissemination channels Translating research into a language suitable for public understanding
IP (patents, licenses)	Being knowledgeable on the legal and ethical issues relating to IPR Transferring IP to the wider economy
Societal impact	Evidence of use of research by societal groups Recognition from societal groups or for societal activities
Knowledge exchange	Engaging in open innovation with partners beyond academia
TEACHING AND SUPERVISION	
Teaching	Training other researchers in open science principles and methods Developing curricula and programs in open science methods, including open science data management Raising awareness and understanding in open science in undergraduate and masters' programs
Mentoring	Mentoring and encouraging others in developing their open science capabilities
Supervision	Supporting early stage researchers to adopt an open science approach
PROFESSIONAL EXPERIENCE	
Continuing professional development	Investing in own professional development to build open science capabilities
Project management	Successfully delivering open science projects involving diverse research teams
Personal qualities	Demonstrating the personal qualities to engage society and research users with open science Showing the flexibility and perseverance to respond to the challenges of conducting open science

https://ec.europa.eu/research/openscience/index.cfm?pg=rewards_wg

Vienna PRINCIPLES

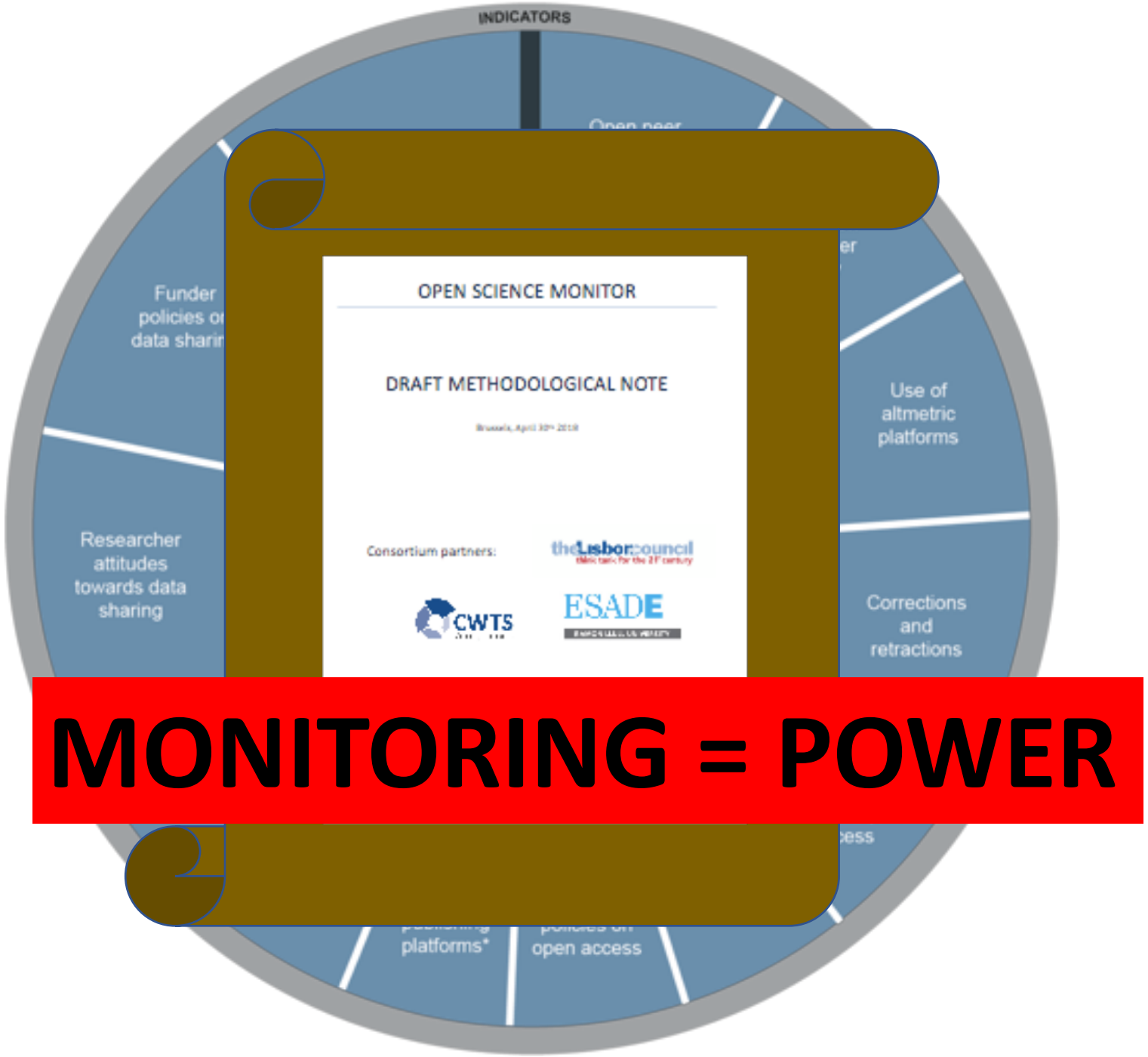
a vision for scholarly communication

1 Accessibility
2 Discoverability
3 Reusability
4 Reproducibility
5 Transparency
6 Understandability
7 Collaboration
8 Quality Assurance
9 Evaluation
10 Validated Progress
11 Innovation
12 Public Good

https://viennaprinciples.org/

Changing the questions needs new types of infrastructures and interfaces

- Monitoring infrastructures and research information systems
- Datasources
- Interfaces and methods of analysis
- Skills
- Mixed perspectives
- …..



MONITORING = POWER

https://ec.europa.eu/info/open-science/open-science-monitor_en

EU Open Science Monitor

"The contractors will (...) deliver a full-fledged monitoring system in order to determine open science scope, nature, impacts on science and scientific knowledge, and its socio-economic impacts. (...) It should be able to facilitate policy making."

https://etendering.ted.europa.eu/cft/cft-display.html?cftId=2356

Disentangling monitoring from commercial interests

Open Metrics

for Assessing and Incentivizing Open Science

- Open Data (open access, open citations, open metadata, open syllabi, ….)
- Open Methods and Interfaces (replicable methodology)
- Scalable, flexible and meticulously documented research information system infrastructure

commercial interests:
new service business models needed

Next Generation Researchers: Engaging with Open Infrastructures

- Explore the entanglements of infrastructures of publications and evaluation
- Think about how you would like to be evaluated
- Discuss what is needed to create transparent and reproducible research (even if you work with sensitive data)
- Liberate data (e.g. CROCI crowd source open citation index) and reflect data sovereignty
- Reflect research integrity and data governance
- Reflect on your own searching behavior when looking for knowledge and experiment with other types of search, e.g. visual search like Open Knowledge Maps https://openknowledgemaps.org/
- Discuss what is needed to document and monitor research activities, such as Research Information Systems, and if there are publicly owned or open sourced solutions for that
- Think about using Wikidata or Wikicite as secondary data outlets

WIKIDATA { } wikicite

Further information: https://open-science-training-handbook.gitbook.io/book/open-science-basics/

Many Opportunities….

- National Research Information Systems
- Push for Open Access
- Databases and learned societies' policies
- European Open Science Could
- Open movement (open citations, open repository software, ….)
- ….

Pic Jason Priem Taken at Scielo Conference 2018

#dontleaveittogoogle

Thank you!
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