Panel
Transforming Research Assessment for Next Generations

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The Promise of Open Science

Improve academic culture

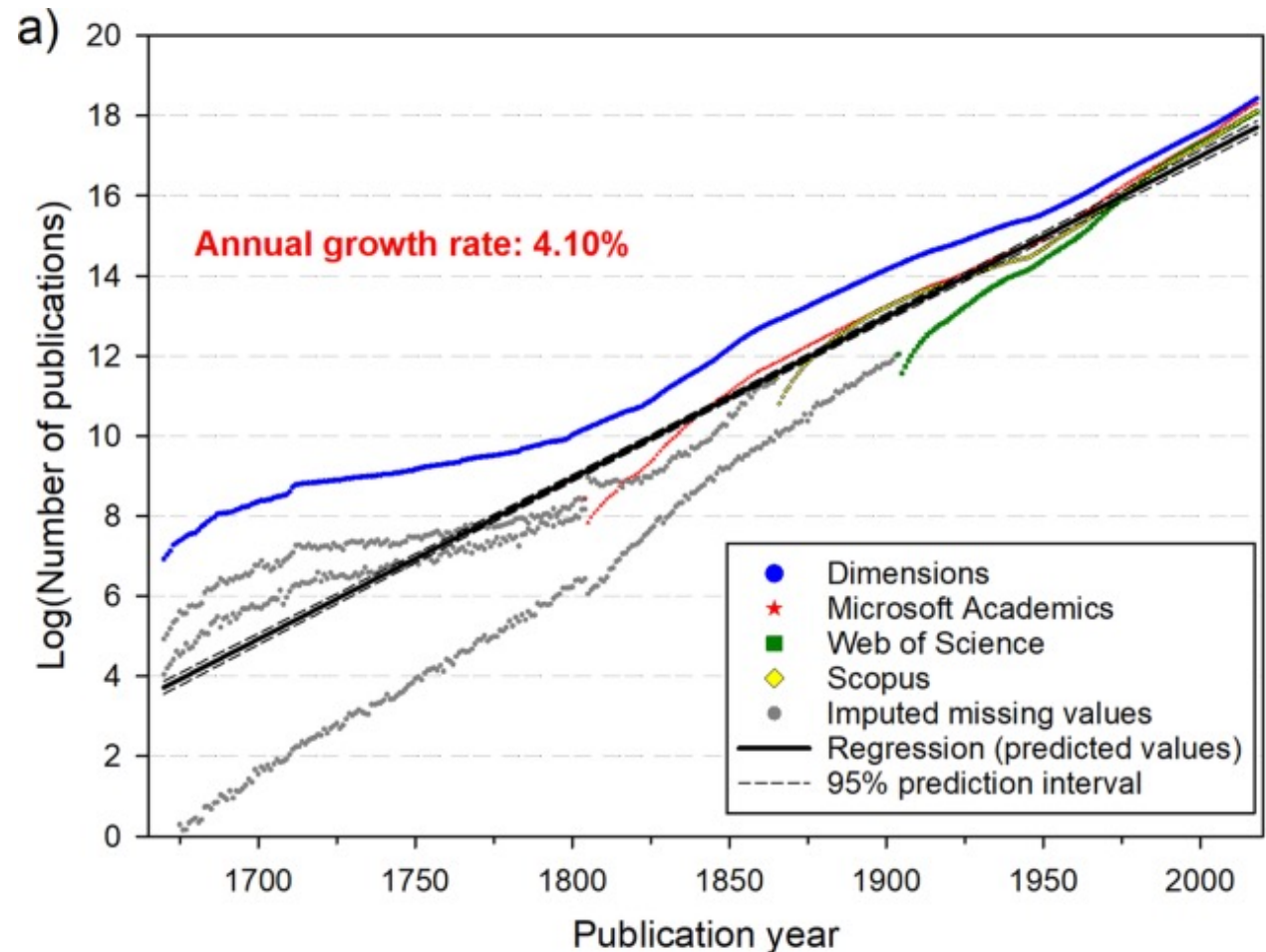**Foster responsible research conduct**

Improve interaction and impact
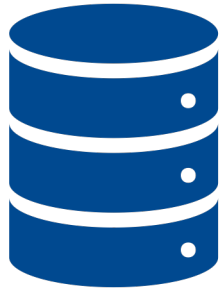
64 million academic papers since 1996

5,14 million annually (2022)

Doubling time of 17.3 years

a)

Annual growth rate: 4.10%

Log(Number of publications)

- Dimensions
- Microsoft Academics
- Web of Science
- Scopus
- Imputed missing values
- Regression (predicted values)
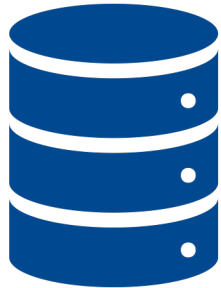- 95% prediction interval

Publication year

(Bornmann, Haunschild, Mutz, 2021)

The system needs to change

- Novelty and quantity dominate over quality, replicability, and societal relevance
- 4-year funding cycles → short-termism & risk aversion
- Fields with high societal impact, but low citation impact suffer (applied vs basic; SSH vs STEM)
- National and institutional research agendas are thus not properly reflecting societal needs
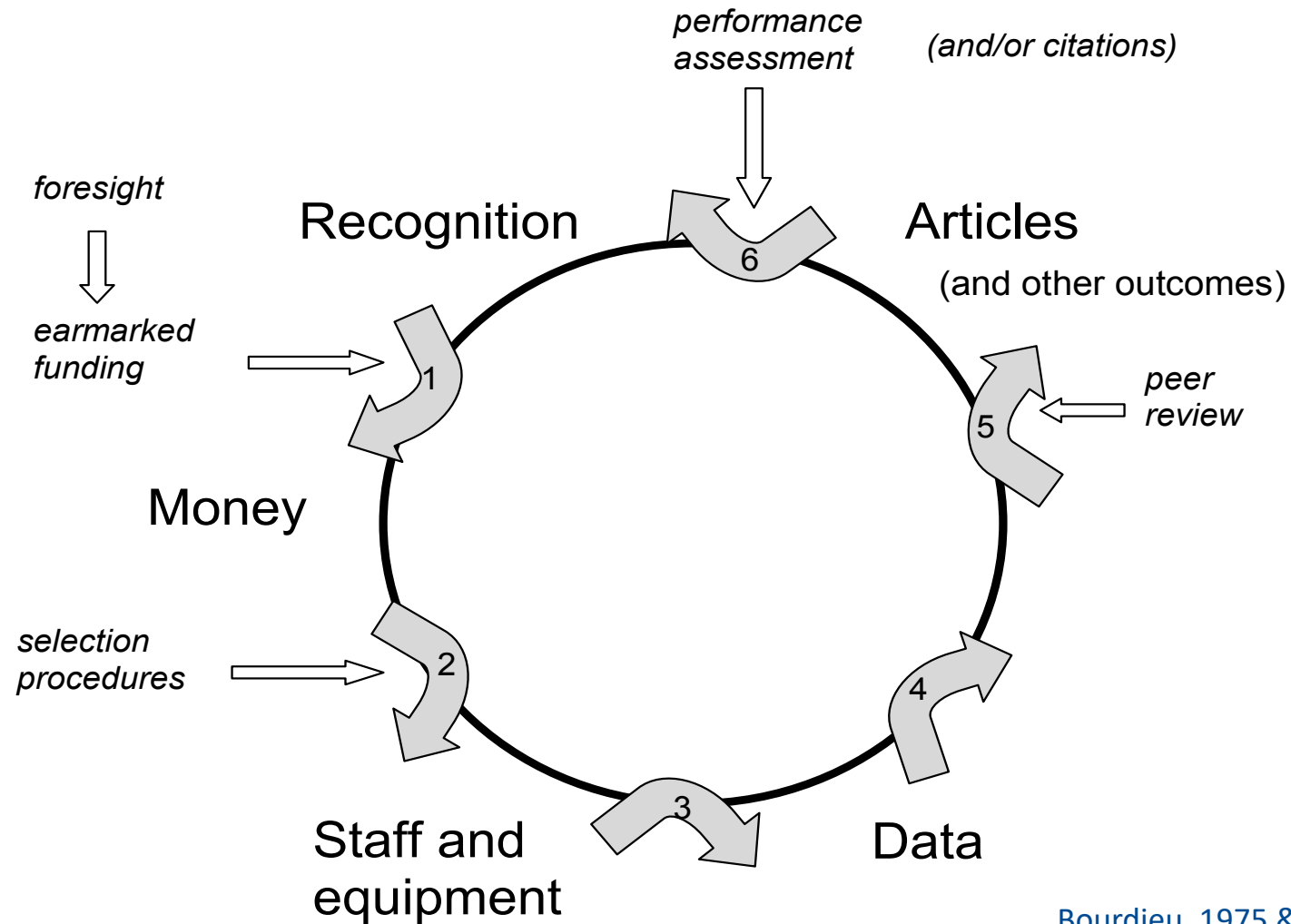- Competitive and non-cooperative practices

The classical image of science distorts the system

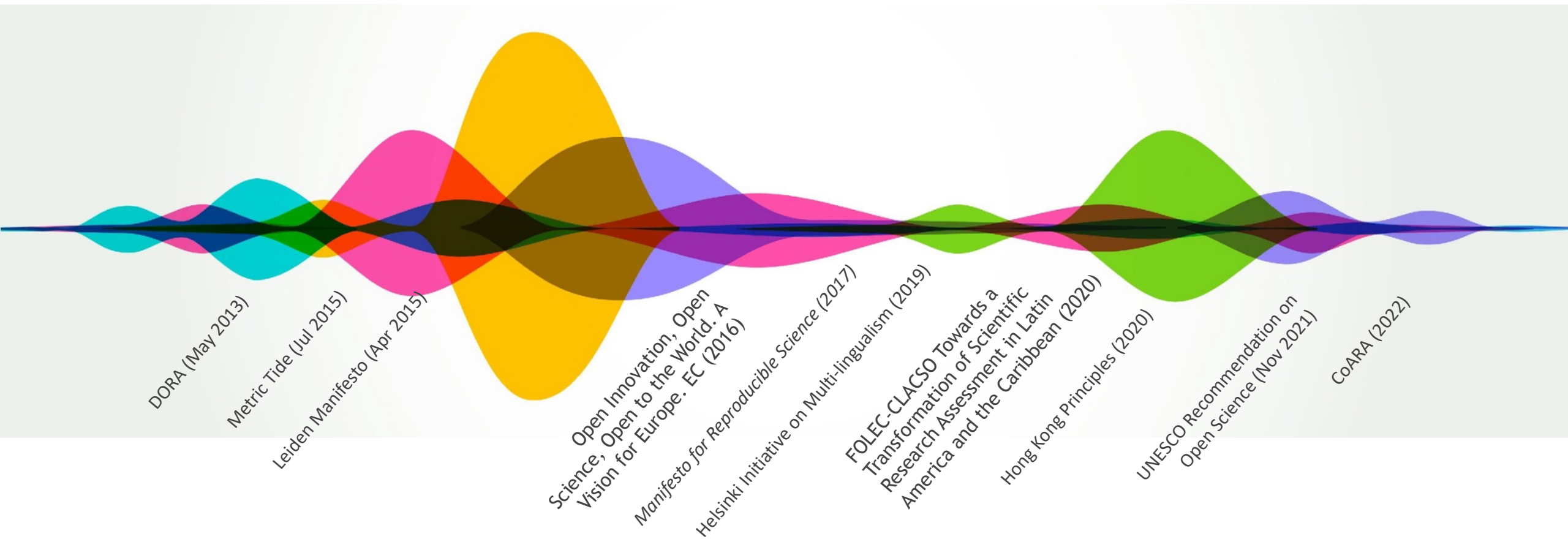- Natural science > Social science > humanities ('physics envy')

- Theoretical & pure science > applied science & technology

- 'Curiosity-driven research is best for solving societal problems'

- 'Science should be autonomous; no external interference'

- 'Scientific knowledge is neutral; scientists are not responsible for the knowledge they (don't) produce'

Miedema (2021)

Flawed academic hierarchies

How scientists get credit

Bourdieu, 1975 & 2004, Latour & Woolgar 1979

Transforming research culture through RRA & Open Science

DORA (May 2013)

Metric Tide (Jul 2015)

Leiden Manifesto (Apr 2015)

Open Innovation, Open Science, Open to the World. A Vision for Europe. EC (2016)

Manifesto for Reproducible Science (2017)

Helsinki Initiative on Multi-lingualism (2019)

FOLEC-CLACSO Towards a Transformation of Scientific Research Assessment in Latin America and the Caribbean (2020)

Hong Kong Principles (2020)

UNESCO Recommendation on Open Science (Nov 2021)

CoARA (2022)

DRIVERS

| 1. Misapplication of narrow criteria & metrics | 2. Desire for non-bibliometric indicators for a broader view of research | 3. Increasing focus on societal and economic outcomes of research | 4. Increasing focus on institutional mission and local priorities/needs | 5. Drive to create (open) research and evaluation infrastructure | 6. Drive to change research culture (esp. Inclusion & Diversity and Sustainability) |

Adapted from Plume, JOSS 2021

Responsible Research Assessment

Umbrella term for approaches to assessment
which incentivise, reflect and reward
the plural characteristics of high-quality research
in support of diverse and inclusive research cultures

Research evaluation systems affect

- the culture of research
- individual career trajectories and researchers' well-being
- the quality of evidence informing policy making
- priorities in research and research funding

Some guiding Principles

➤ **It takes a global, combined effort of many different stakeholders** to break the barriers in research assessments

➤ Align research assessments with **principles Open Research**

➤ Change current research culture and **reward researchers for sharing, collaborating and engaging with society**