



Transition to Open Science

Frank Miedema

Vice Rector Research,

Chair Utrecht University Open Science Program

Twitter @MiedemaF

www.scienceintransition.nl

uu.nl/openscience



Open Science as Game Changer? ...Where to? For Whom?

Norms of Academic Science: Merton 1942

- **C communism (or communitarianism)**
- **U universality: universal knowledge**
- **D disinterestedness: no personal stakes(except honour)**
- **O originality: NEW knowledge**
- **S scepticism: try to falsify**

Post-Academic Science: Ziman 2000;

- **P proprietary (IP, business opportunity)**
- **L local: related to local network of stakeholders**
- **A authoritarian: hierarchical control**
- **C commissioned (researcher is 'consultant')**
- **E expert: role is problem-solver**



The Scientific Field: How Scientist Get Credit

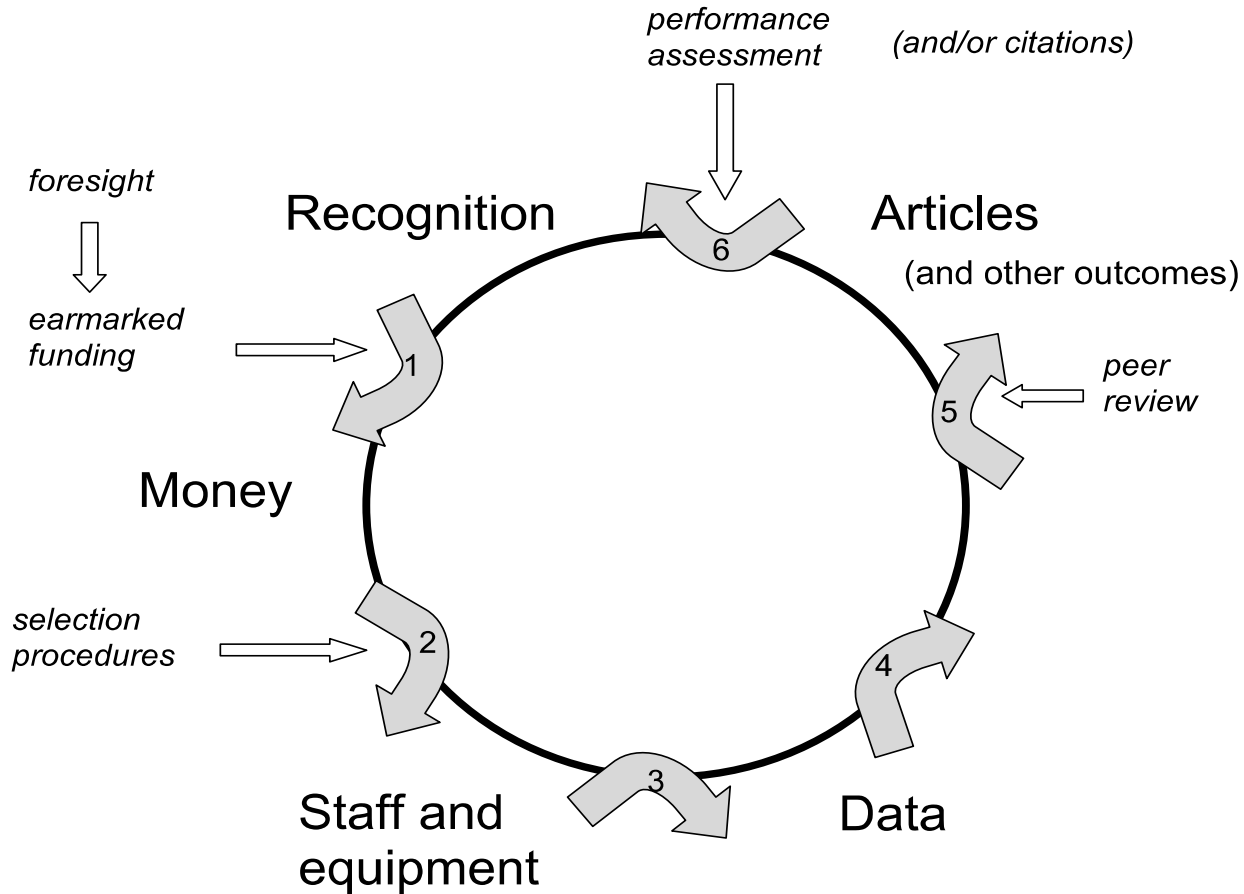


Figure 3. The credibility cycle, adapted from Latour and Woolgar (1986). Points at which organizational devices connect to the cycle are shown
Pierre Bourdieu, *Science of Science*, 2004
Hessels et al, *Science and public policy*, 2009

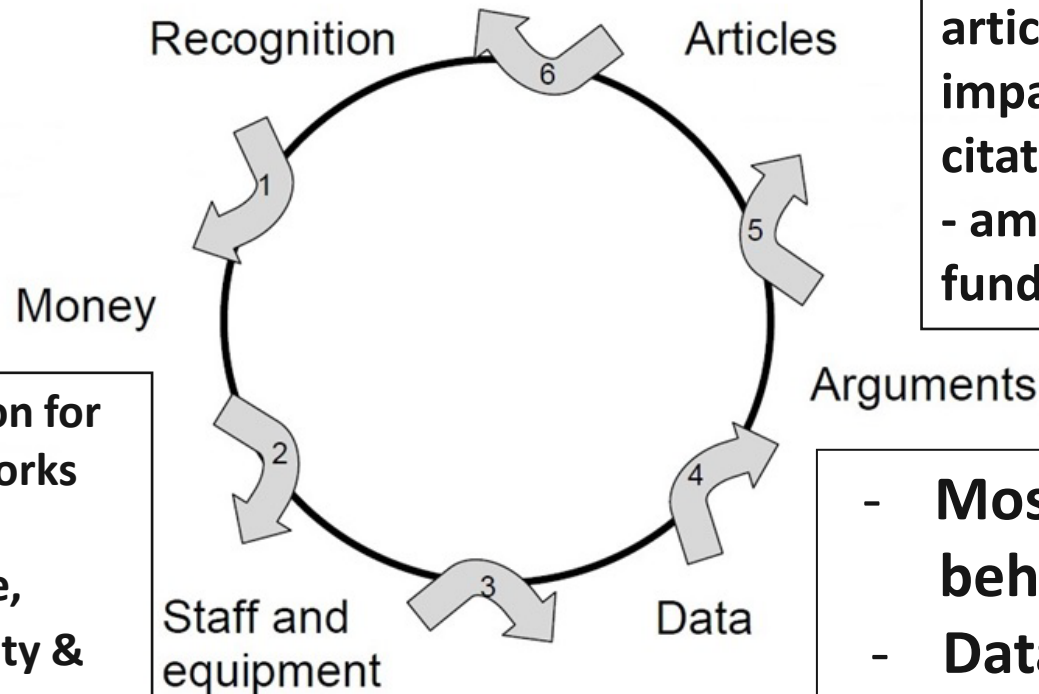


Problems of the Current Reward System in Science

Society is largely absent from the *credibility cycle*

Quality in Quantitative terms:

- number of articles, journal impact factor, citations, H-index
- amount of funding obtained



Hypercompetition for limited funds works against Team-Science, Multidisciplinarity & Diversity

- Most papers still behind paywalls
- Data not shared



Metrics Shapes Science 1

- Quality, relevance and impact are subordinate to *novelty and quantity*
- Short-termism and risk aversion because of 4 -year cycles
- Universities outsource talent management to funders based on flawed metrics instead of having a research strategy going with their mission



Metrics Shapes Science 2

- Fields with high societal impact, but low impact in metrics system suffer (SSH vs STEM)
- The national and institutional research agenda is not properly reflecting societal (clinical) needs and disease burden
- Open Science (responsible) research practices, stakeholder engagement, preregistration, FAIR DATA and Open Access are just ‘nice to have’



Amsterdam Call for Action on Open Science



April 2016

<http://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform> Including Open Science Career Advancement Matrix **EU 2017**



Jan 2017

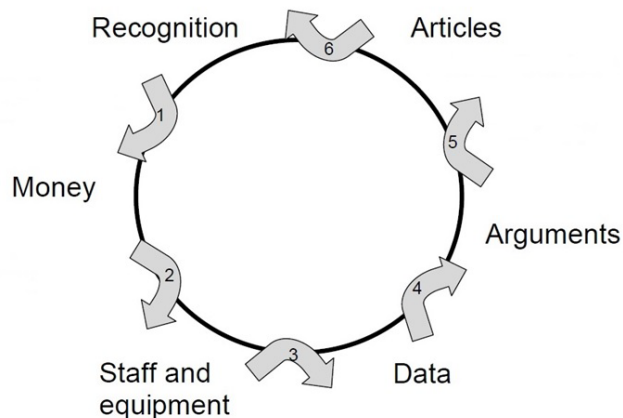
New reward and evaluation system in the Netherlands

New systems that really deal with the core of knowledge creation and account for the impact of scientific research on science and society at large. **November 15, 2019 VSNU, NWO, KNAW, NFU**



UMC Utrecht (2015): Inclusive set of generic indicators for research quality and impact

Engagement of societal stakeholders in problem choice and research design



FAIR data sharing

Indicators:
Teamwork/ academic culture
OS practices
Relevance of Question
Quality
Societal Impact
Use in & outside academia

<https://www.umcutrecht.nl/getattachment/Research/Science-in-Transition/Format-Impact-indicator-evaluation-pilot-incl-introduction.pdf.aspx?lang=en-US>

<https://sfdora.org> The San Francisco Declaration on Research Assessment

