



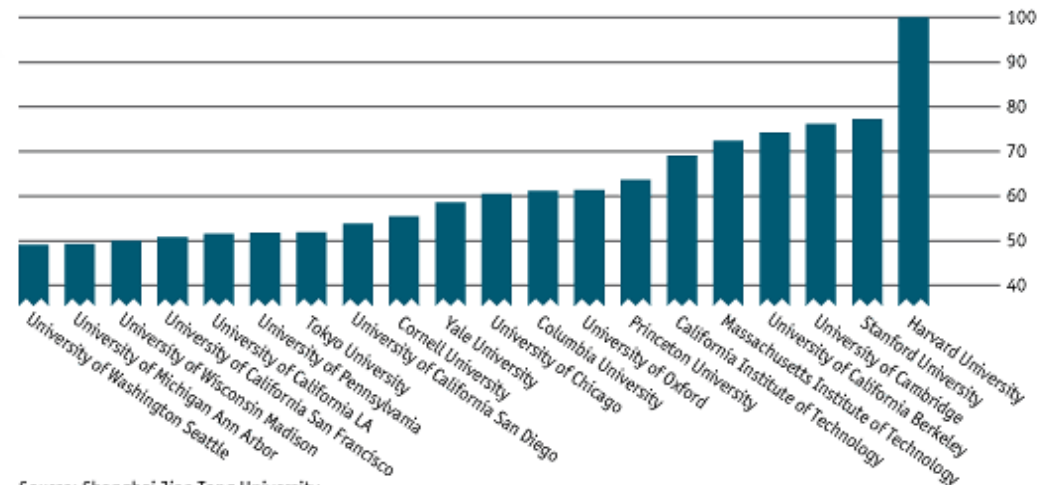
www.scienceintransition.nl

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The (new) reality: research funding in competition



Top universities
Overall quality score (100=perfect ranking)



Source: Shanghai Jiao Tong University



Developments over the past 30 years

- Big Science: international, interdisciplinary, capital intensive, competitive
- Increase in scales and introduction of business models
- Incentives and rewards have changed: quantitative criteria to measure impact

Growing concern about:

- The role of science as producer of useful knowledge
- The role of the university as producer of the intellectual elite of the future
- The way in which these challenges are met, using financial incentives and quantitative evaluation criteria

The Economist, 19 October 2013



Two recent quotes

- ‘There is a strong feeling among many scientists that something has gone wrong with our system for assessing the quality of scientific research’ ... ‘We need less research, better research, and research done for the right reasons’ - *The Lancet*, 8 January 2014
- ‘Many fields of science now resemble war zones’ ... ‘Every decade now produces as many scientists as have ever lived before’ - *Nature*, June 2014

A sense of urgency

- Fraud cases: incidents or the consequence of systemic flaws?
 - Emphasis on quantity rather than quality (publications, students)
 - Withdrawing state, imperative of valorization
 - Rise of an *audit culture*
 - *Burn out*-cases among academic staff
 - Profoundly different incentives and priorities, as compared to before 1970
- >>> How to organize democratic participation in the knowledge society?

The initiators of Science in Transition

- Prof. Frank Miedema (Dean Medical Faculty UU and vice chair of UMC Utrecht)
- Prof. Frank Huisman (UU / UM)
- Prof. Wijnand Mijnhardt (Descartes Centre UU)
- Prof. Huub Dijkstra (WRR / UvA)

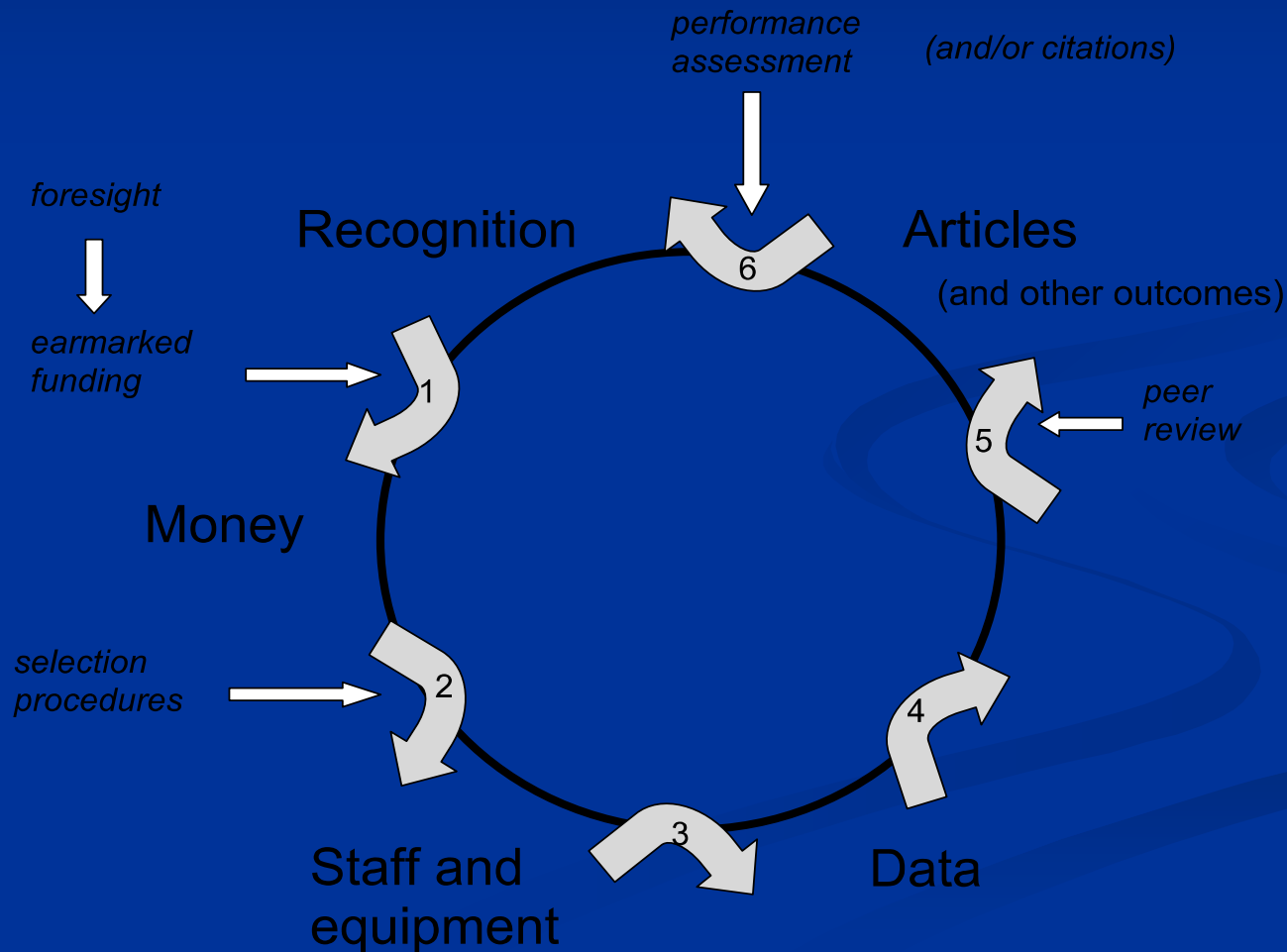
Problem analysis: 7 themes

- Image
 - Trust
 - Quality (*)
 - Corruption
 - Democracy
 - Communication
 - University / teaching (*)
-
- Position paper
 - Website (www.scienceintransition.nl)
 - Four workshops
 - International conference (a second one on 3 Dec 2014)

Quality: analysis

- The dominant method to measure quality is in terms of quantity (number of publications, citations, awards, scholarships, patents)
- This mainly concerns medicine, but the humanities and the social sciences as well
- Strong tendency to engage in low risk research and quick (“sexy”) results
- However: not everything can be quantified, and every discipline has its own style

The credit cycle, Latour and Woolgar (1979)





Quality: recommendations

- Use qualitative criteria (rather than mechanistic-bibliometrical ones) to evaluate articles, grants and people
- Publish less but better
- Organize debates where quality standards are discussed
- Differentiate between disciplines
- Mobilize stakeholders to prioritize research agendas and funding
- Give more autonomy to universities in creating profiles; negotiate division of labour between universities

University: analysis

- The ideal of 'higher education for the many' is under pressure
- *Output funding* is putting a bonus on the 'production' of as many graduates as possible, in mutual competition between universities
- *Burn out* among members of staff; the quality of curricula under pressure
- Inflation of degrees: overproduction of graduates and PhD's; academic degrees are becoming less relevant on the job market

‘Perverse incentives’, *Vrij Nederland*, 8 Febr 2014



University: recommendations

- Stop perverse financial incentives like *output funding*
- Reflect on the number of graduates that the university should 'deliver' to society
- Make courses in *scientific literacy* obligatory in the curriculum of all faculties
- Stop temporary contracts and other forms of flexibility
- Regard a PhD trajectory as the end of education, rather than as the start of a research career
- Improve the connection between university, government, companies and NGO's

Responses to SiT

- Support: much media attention; much approval
- Much acclaim among the academic community; this points to a general recognition of the problems
- Criticism: the tone of SiT is too 'populist'; SiT is damaging public trust in science; 'don't wash the dirty linen in public in times of budget cuts'
- Overall: SiT triggered general debate and reflection on science and the university (newspapers, conferences and policy papers)

Activities

- Dozens of meetings with KNAW, NWO, VSNU, NFU, ZonMW, Rathenau Institute, The Young Academy, the Ministries of Education and Economic Affairs
- Talks with individual universities (CvB's and deans)
- Public debates at the universities of Maastricht, Utrecht, Groningen, Middelburg, Rotterdam and Amsterdam
- Providing input for IBO Toekomstvisie Wetenschap (= Interdepartementaal Beleidsonderzoek)
- Organization of a second international evaluative conference (KNAW, 3 December 2014)

Movement ... (1)

Project System Failure of ZonMW:

- Looking at perverse incentives in our current system of health research
- Looking at neutral or negative research findings
- Understanding structural flaws in health research
- Fighting publication and citation pressure
- Improving societal impact of health research

Movement ... (2)

Improving NWO policy with regard to scientific integrity:

- Creating awareness: VSNU scientific research code of conduct
- Reporting in case of suspicion of a breach of integrity
- Measures: withdrawal of research funding

Movement ... (3)

New Standard Evaluation Protocol (SEP), 2015-2021 by
KNAW, NWO and VSNU:

- Productivity is no longer an evaluation criterium ('more is not better')
- The three remaining criteria are:
 - scientific quality
 - societal relevance
 - focus on the future

Movement ... (4)

The Leiden Centre for Science and Technology Studies (CWTS) is doing research on the impact of impact factors at Dutch UMC's

- Charting the rise of performance indicators and procedures for research evaluation
- Analyzing the consequences of quantitative performance measurements for biomedical knowledge production
- Exploring the possibilities to minimize the negative effects of this

Movement ... (5)

- The European Commission opened a public consultation about Science 2.0 under the heading ‘Science in Transition’
- The goal of the consultation is to better understand the full societal potential of ‘Science 2.0’, as well as the desirability of any possible policy action

Movement ... (6)

Minister Bussemakers (OCW) is presenting her 'Vision for the Future of Science' in The Netherlands. Her main questions include:

- What is the value of science?
- How does science work?
- What should the role of the state with regard to science be?

Up for discussion:

- According to which (normative) model should the new university be shaped?
- Is transparency a threat or a solution?
- Who is problem owner, who is setting the research agenda?