

Stakeholder Positionen:

„Grenzen, Möglichkeiten und Notwendigkeit der Unabhängigkeit von Wissenschaft“

• Dr. Wolfgang Wodarg



Dr. Wolfgang Wodarg

Universität Flensburg – European Studies

Mitglied des Deutschen Bundestages von 1994 bis 2009

Ehrenmitglied Parl. Versammlung des Europarates

Vorstandsmitglied von Transparency International Deutschland

und Leiter der Arbeitsgruppe Gesundheitswesen

**Europäische
Stakeholderkonferenz
„Wie unabhängig kann
Wissenschaft sein?“**



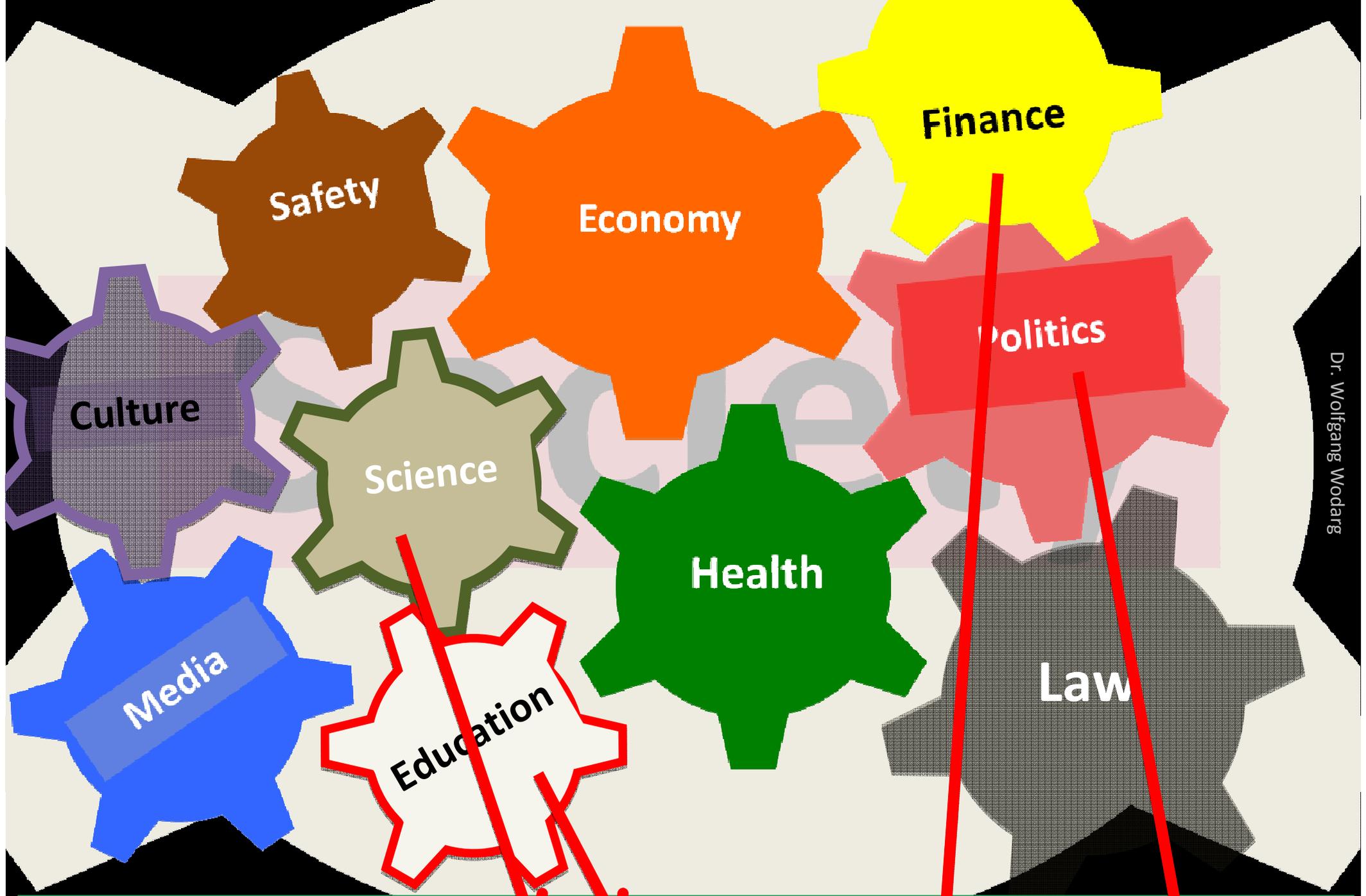
20. und 21. November 2012

Mehr Informationen: www.wodarg.de

das Medium „Wissen“

Wissenschaft stellt natürliche, gesellschaftliche oder geistige Phänomene in Frage und beschreibt sie durch ihren binären Code "wahr oder nicht wahr".

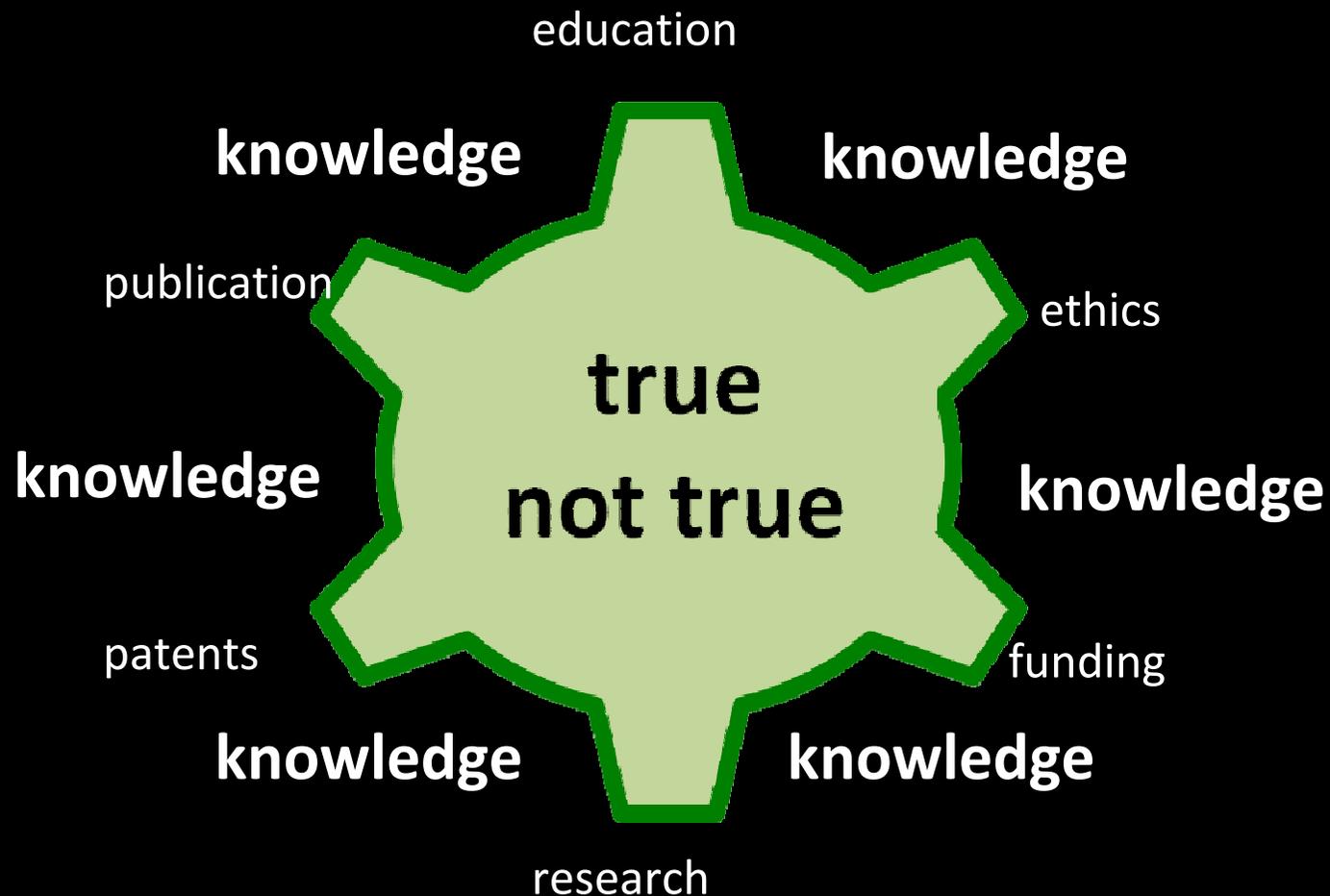
Sie schafft das Medium „Wissen“, welches die Komplexität aller Subsystemen der Gesellschaft reduziert und deren Funktion erleichtert.



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social media: knowledge/ money/ power

subsystem science

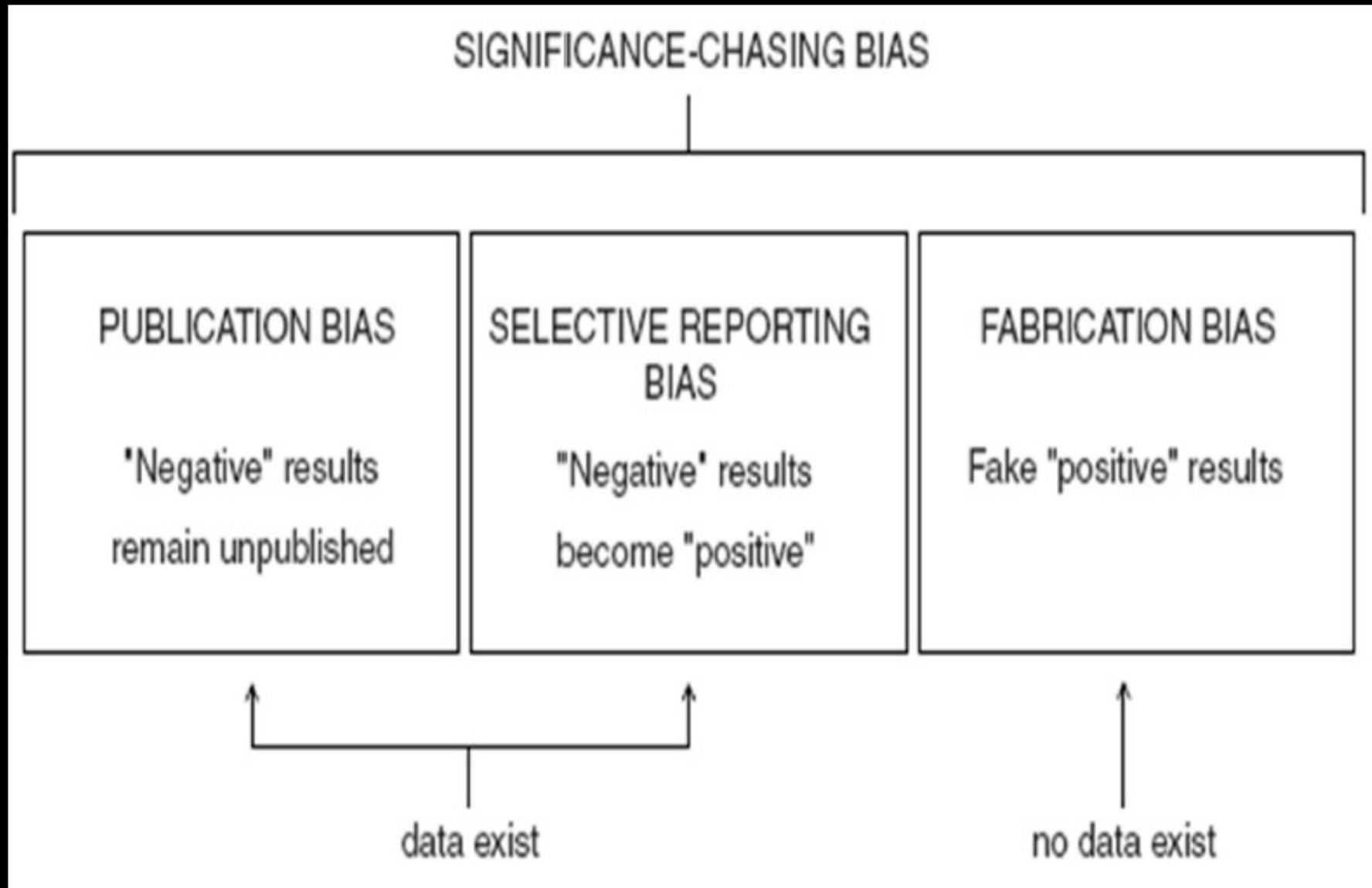


research, publish, learn, remember, hypothesis, bias, validity, propability, knowledge, trust

Self-correction in science

- The ability of self-correction is considered one of the main features of science.
- In a cumulative meta-analysis framework, if sufficient time elapses, the accumulation of replication effects should gravitate towards the “truth”.
- However, self-correction is often not happening.
- Self-correction may be impeded by destruction of evidence, production of wrong evidence, and/or distortion of evidence.

so many ways to lie

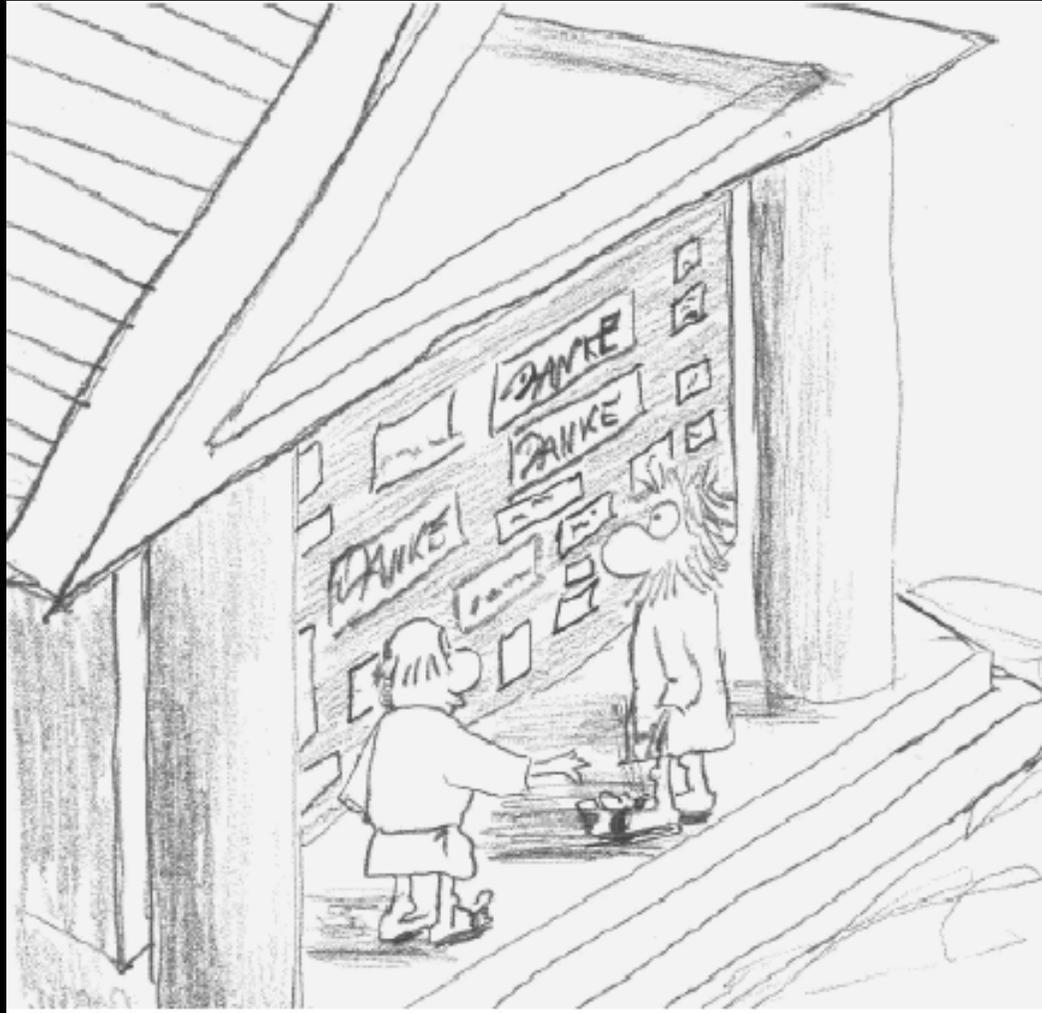


publication bias

source: Hans-Hermann Dubben, Hans-Peter Beck-Bornholdt,
Unausgewogene Berichterstattung
in der medizinischen Wissenschaft - *publication bias*, 2004
(siehe nächste Folie)

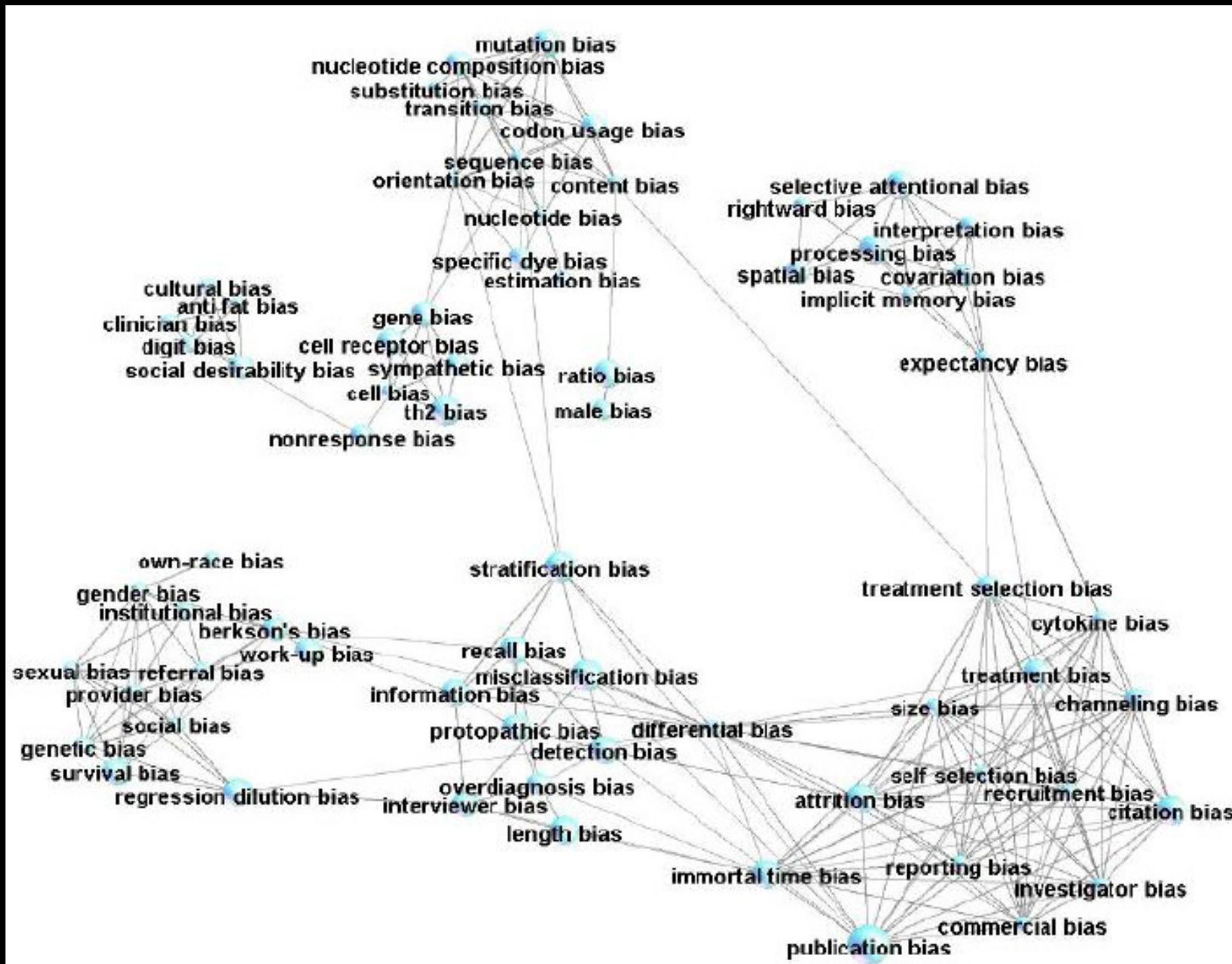
„...and where are the lables of the drowned?“

Diagoras von Milos (ca. 500 v.Ch.)



The chance for positive results to be published is three times bigger than that of negative results.

mapping biases



Mapping 235 biases in 17 million Pub Med papers, Chavalarias and Ioannidis, JCE 2010 ;
presented by John P.A. Ioannidis on the Equator Conference Freiburg 12. Okt. 2012

4 questions to a scientist

- **1. Why did you start?**
- **2. What did you do?**
- **3. What answer did you get?**
- **4. And what does it mean anyway?**

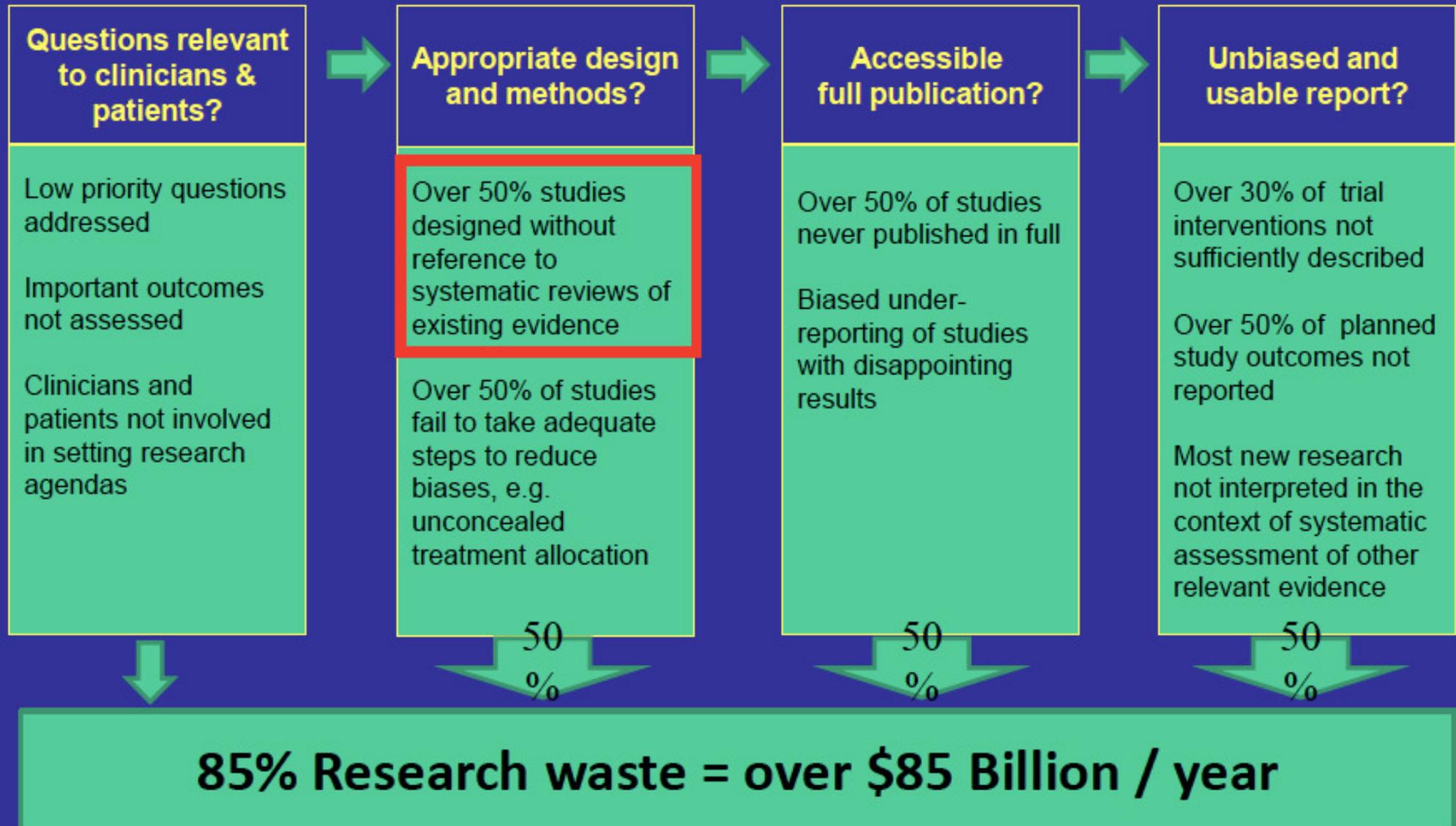
Austin Bradford Hill, 1965

[/http://www.jameslindlibrary.org/contents](http://www.jameslindlibrary.org/contents)

Avoidable waste in the production and reporting of research evidence

Iain Chalmers, Paul Glasziou

Lancet 2009; 374: 86-89



new incentives

THE LANCET



Dear Lancet reader,

Thank you for your continued support for *The Lancet*. As a valued reader, we'd like to share some very exciting news with you: 2011 saw another year of ground-breaking research being published in *The Lancet*, and many of these papers contributed to increasing our impact factor through an ever-increasing number of research citations.

We are pleased to announce that our Impact Factor has increased to **38.28**, retaining our position as one of the leading general medicine journals in the world (2011 Journal Citation Reports®, ©Thomson Reuters, 2012). This result is evidence of the integrity researchers place on *The Lancet's* content.

Below is a list of the 10 most highly cited and ground-breaking articles which contributed to our new impact factor. To view the articles in full please [click here](#). They are freely available in full.



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science for sale

Approximately one fourth of investigators have industry affiliations, and roughly two thirds of academic institutions hold equity in start-ups that sponsor research performed at the same institutions.

Eight articles, which together evaluated 1140 original studies, assessed the relation between industry sponsorship and outcome in original research. **Aggregating the results of these articles showed a statistically significant association between industry sponsorship and pro-industry conclusions**

(pooled Mantel-Haenszel odds ratio, 3.60; 95% confidence interval, 2.63-4.91).

Industry sponsorship was also associated with restrictions on publication and data sharing. The approach to managing financial conflicts varied substantially across academic institutions and peer-reviewed journals.

*Scope and Impact of Financial Conflicts of Interest in Biomedical Research- A Systematic Review,
Justin E. Bekelman, AB, Yan Li, Mphil, Cary P. Gross, MD, <http://jama.ama-assn.org/cgi/content/full/289/4/454>*

One example of many: 'The Weinberg Group'

Self-presentation

"The Weinberg Group **solves critical business problems** leveraging the talent of an elite team of scientists. As a multinational scientific and regulatory consulting firm, we help companies resolve complex issues surrounding science, management, law and regulation. Since 1983*, we have been **committed to helping our clients address regulatory requirements**, improve manufacturing processes and support products in the legal system, the media and in the court of public opinion. "

*First case was 'Agent Orange'

<http://www.linkedin.com/company/the-weinberg-group>

the ®Teflon Case

Weinberg-Group

Dr. Wolfgang Wodarg

...creating the outcome our client desires

DuPont and Perfluorooctanoic Acid (PFOA)

In an article authored by Paul Thacker, *Environmental Science & Technology* reported that in April 2003, the Weinberg Group proposed a strategy to DuPont to help defuse the growing controversy over the health impacts of perfluorooctanoic acid (PFOA), a compound used to make Teflon. **Weinberg's Vice-President of Product Defense, P. Terrence Gaffney**, wrote, "DuPont must shape the debate at all levels." **One of his suggested strategies was to facilitate the "publication of papers and articles dispelling the alleged nexus between PFOA and teratogenicity as well as other claimed harm."**

Gaffney also proposed to "develop 'blue ribbon panels' of thought leaders on issues related to PFOA" and to "coordinate the publishing of white papers on PFOA, junk science and the limits of medical monitoring." DuPont confirmed that they had hired the Weinberg Group to help with "scientific third party experts." The five-page 2003 letter also states that the **Weinberg Group** "has helped numerous companies manage issues allegedly related to environmental exposures.

"[W]e will harness, focus and involve the scientific and intellectual capital of our company with one goal in mind—creating the outcome our client desires."

Michaels, David (2008). *Doubt Is Their Product: How Industry's Assault on Science Threatens Your Health*. New York: Oxford University Press.

Paul D. Thacker (22 February 2006). The Weinberg proposal. *Environ. Sci. Technol.*, Feb 22, 2006.

Effekt neuer Grenzwerte auf die Anzahl der Betroffenen

	Wert		Fälle USA		
	vorher	nachher	vorher	nachher	
Diabetes					
Nüchtern-BZ	140	126	11.697.000	13.378.000	+14%
Bluthochdruck	syst 160	140	38.690.000	52.180.000	+35%
	diast 100	90			
Hyperlipidämie					
Cholesterin	240	200	49.480.000	92.127.000	+86%
Osteoporose					
T-score	-2,5	-2	8.010.000	14.791.000	+85%

challenges for society and its science

economy

- global finance crash – failure of money systems
- social decoupling of the economic system
- crisis of natural resources
- food and water crisis because of speculations and miss-management

social

- growing global disparities
- mass - migrations
- dooming of traditional ethical frameworks (growing social complexity)
- new possibilities and patterns of social self-organisation (Web 2)
- loss of public control over the use of power (PMF)

technological

- cheap technologies for energy storage
- demographic stress because of new medical possibilities
- bio-electronic interfaces /implants
- growing social decompensation and uprootedness

ecological

- climate change
- degradation of soils
- wide spread contamination of water and soil
- ecological crisis / eradication of key-species

modified after Kreibich 2000

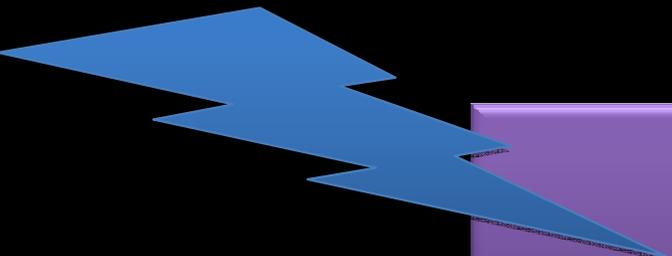
...we shall need a lot of valid knowledge to manage all those problems!

two aspects of decisionmaking

- **risk** for decisionmakers
 - **risk readiness** (politics, business)
- **danger** for the affected
 - **fear, unsafety** (population, customers)

Solution:

transparency - participation - democracy



Corruption

**misuse
of entrusted power
for private gain or advantage**

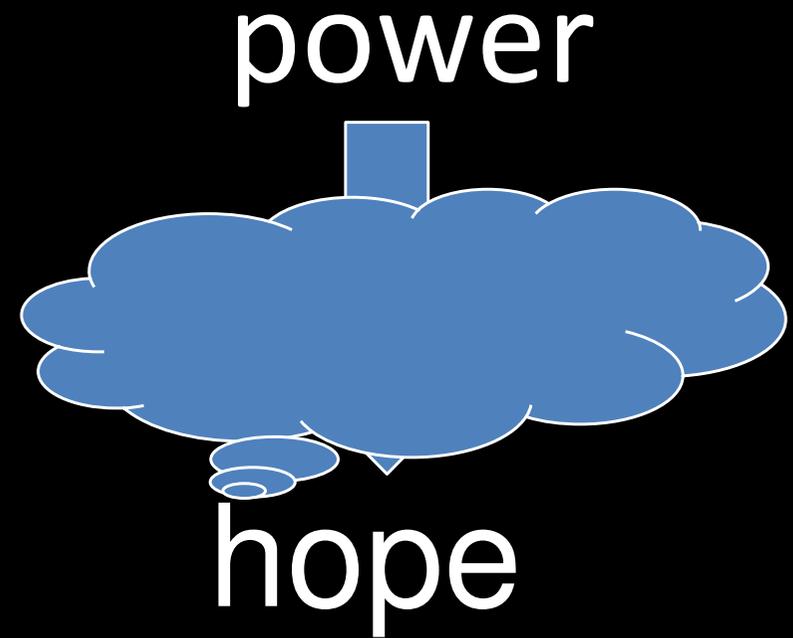
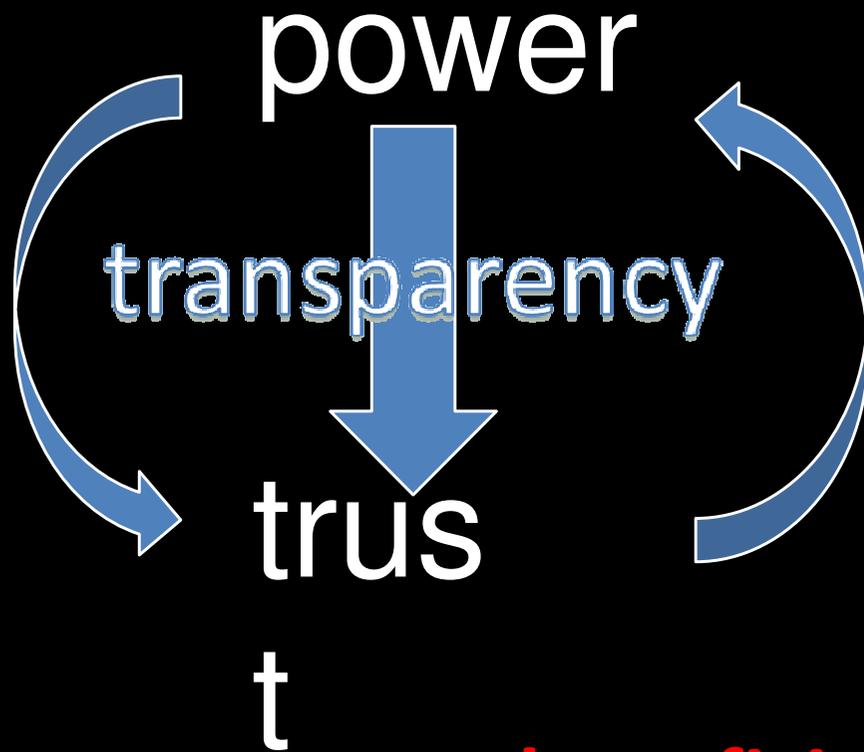
damaging social resources,
poison for democracy,
makes life complicated

Definition from the US Institute of Medicine, 2009

- *A conflict of interest is a set of circumstances that creates a risk that professional judgment or actions regarding a primary interest (such as the integrity and quality of research) will be unduly influenced by a secondary interest (such as personal financial gain).*
- IOM (Institute of Medicine). 2009. *Conflict of Interest in Medical Research, Education, and Practice*. Washington, DC: The National Academies Press, 46. It combines elements from: Emmanuel, E.J., Thompson, D.F., *The Concept of Conflicts of Interest*. The Oxford Textbook of Clinical Research Ethics, Oxford University Press, 2008, 760.

to entrust

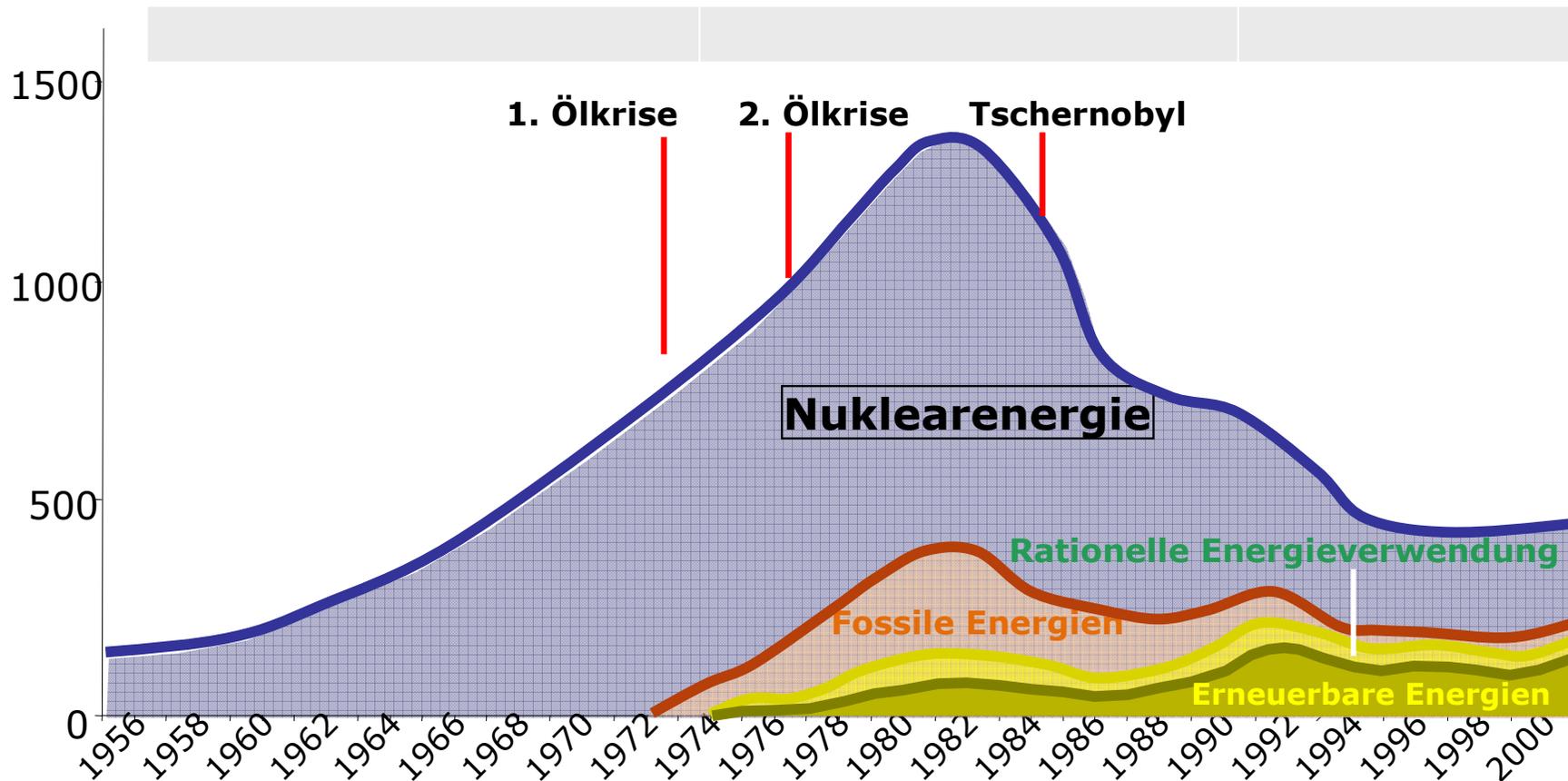
Defining corruption



beneficiaries

Forschungsausgaben Energiesektor OECD

Öffentliche Forschungsausgaben in Mio. € nominal



Quelle: BMBF, Berechnungen Prof. Dr. Dietmar Winje, zit n.: Josef Fell ISM-Vortrag 2010 in Ffm

Ergebnis: Nuklearenergie deckt ca. 2% der Weltenergienachfrage

ministers for science: legalize Prostitution!

Durch neue landesrechtliche Regelungen kann verdeutlicht werden, dass **Drittmittelforschung und damit die Einwerbung und Entgegennahme von Drittmitteln zu den Aufgaben der Hochschullehrer zählen und dass dies hochschulpolitisch in besonderer Weise gewollt ist.** Ziel einer solchen hochschulrechtlichen Regelung wäre es, die Drittmittelannahme noch klarer als bisher als eine Aufgabe der Hochschullehrer zu definieren, um

- für die Strafverfolgungsbehörden zu verdeutlichen, wo hochschulrechtlich die Grenzen zwischen zulässiger Annahme und Zuwendung von Drittmitteln für Forschung und strafbarer Vorteilsannahme bzw. -gewährung liegen;

- für die Hochschule und die ihr angehörenden Forscher (und auch für die Zuwendenden) **klarzustellen, dass bei rechtlich gestatteter Drittmittelannahme bzw. -Zuwendung kein strafbares Verhalten vorliegt** (was rechtlich gestattet ist, kann nicht strafbar sein).

European Semantics

European Framework Programmes of Research and Development

Short semantic analyses

	FP5	FP6	FP7
Industry, SME	53	52	50
Competitive*	24	21	91
Business, economy	8	15	24
Total	85	88	165
Citizens	7	21	15
Democracy	0	3	2
Civil society	0	1	1
Total	7	25	18

=> FP8 negotiations start in 2010

Systemstabilität

Rückkopplung: **negative \geq positive**

Die Bremsen eines Fahrzeugs müssen so gut sein, dass es auch bei Höchstgeschwindigkeit ggf. rechtzeitig gestoppt werden kann.

Doch die Lobbyisten der Wirtschaft wollen Wachstum und stehen auf dem Gaspedal.

Self-correction in science ?

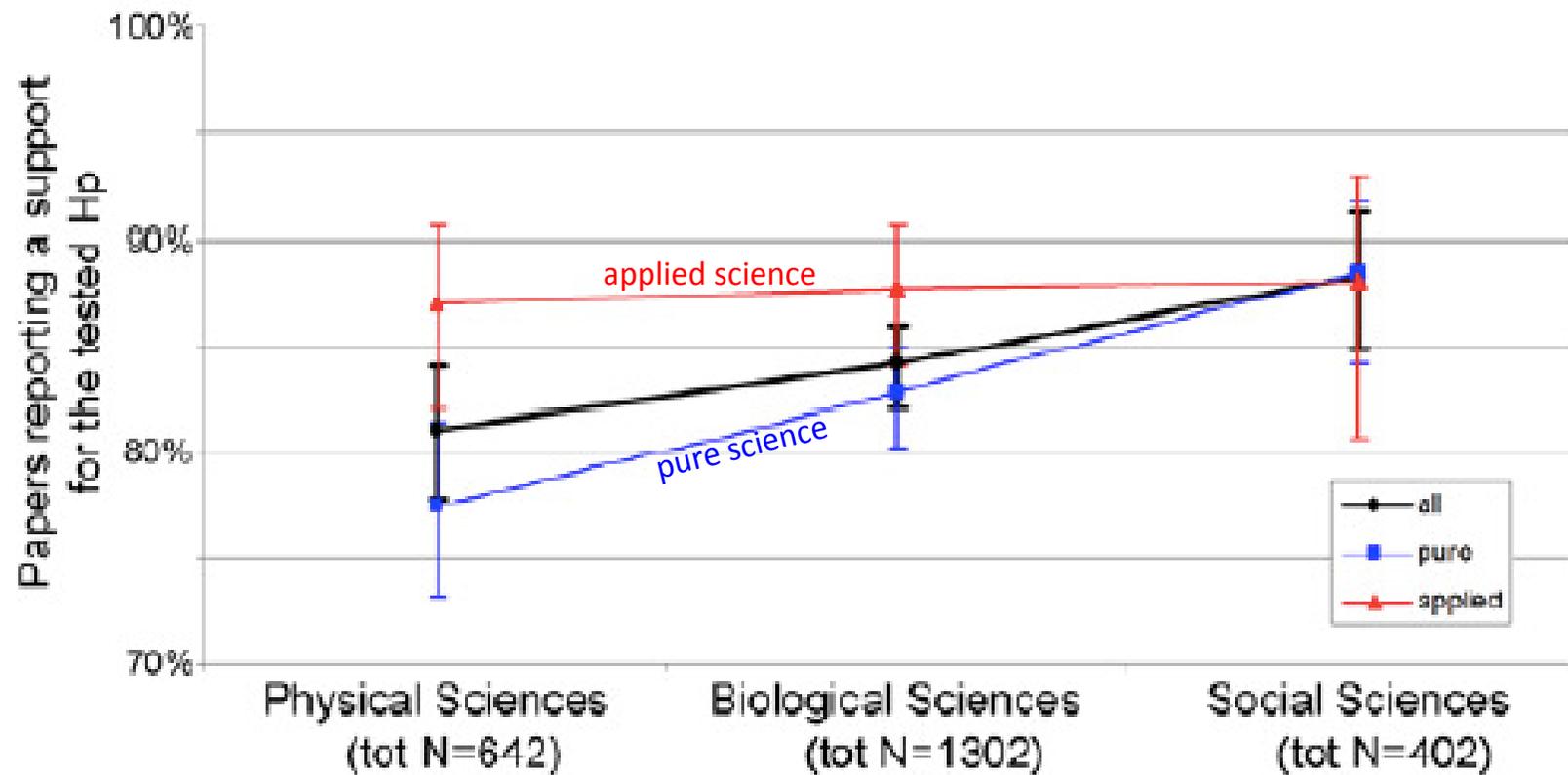
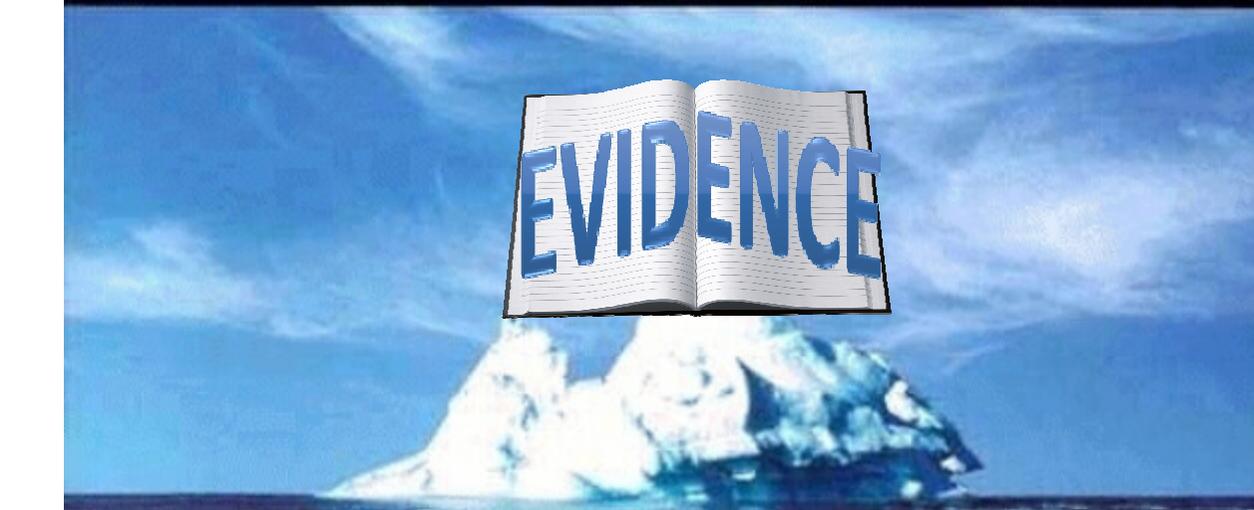


Figure 3. Positive Results by Disciplinary Domain. Percentage of papers that supported a tested hypothesis, classified by disciplinary domain. Blue = including only pure disciplines, Red = including only applied disciplines, Black = all disciplines included. Error bars represent

„Empirical studies suggest that most of the **claimed statistically significant effects** in traditional medical research are false positives or substantially exaggerated“

presented by John P.A. Ioannidis on the Equator Conference, Freiburg 12. Okt. 2012



EVIDENCE

transparency

in clinical studies

mandatory register of all studies started

public access to this register

access to **all** data for official control agencies (incl. protocols and raw data)

research problems

1. **internal resource-allocation follows third-party-funding**
2. **third-party-funding influences and tunes research priorities**
3. **„publish or perish“ internal und external**
4. **Networking limited by patent interests**
5. **suppression of „negative“ results because of economic reasons**
6. **premature publishing because of economic reasons**
7. **formalized regulations come along with more bureaucracy**
8. **ethic in science ins becoming a field of marketing**

Schlussfolgerungen

1. betriebswirtschaftliche Interessendominanz der Hochschulen leidet
2. Drittmittelaquisition führt zu korrupten Karrieren in Forschung und Lehre
3. Vernachlässigung schwer vermarktbarer Fächer (Geisteswissenschaften etc.)
4. prägender Einfluss von Geldgebern auf Inhalte von Forschung
5. weniger Grundlagenforschung mehr Produktentwicklung und Marketinghilfen
6. keine Übersicht über die Interessen und Mittelflüsse bei verantwortlichen Agenturen
7. unklare Grenzziehungen zwischen erfolgreicher Drittmittelaquisition und Korruption
8. ungleiche Publikations-Chancen, Industrie-Marketing prägt öffentliche Wahrnehmung
9. Lehrinhalte und Lehrangebote weniger am Nachwuch- als an „Kunden“ orientiert
10. Entpolitisierung der Hochschul-Eliten (Ethik wird zum Marketing-Faktor)
11. mehr Bürokratie durch formalisierte Erfolgsparameter
12. wissenschaftlicher Publikationsbias durch ökonomischen Konkurrenzdruck
13. Wissenschaftsbetrug in Deutschland nicht strafbar
14. unzureichende Offenlegungs- und Dokumentationspflichten für Geber und Nehmer
15. zu wenig öffentliche Mittel/Aufmerksamkeit für Forschung und Lehre
- 16. Selbstkorrektur des Wissenschaftssystems versagt zunehmend**

Danke für die Aufmerksamkeit

**„Es ist sehr schwierig,
jemandem etwas verständlich zu machen,
wenn sein Gehalt davon abhängt,
dass er es nicht versteht.“**

Upton Sinclair, Candidate for Governor: And How I Got Licked (1935) übersetzt nach Klempner 2011, IPPNW

**„Ich habe zwar geldwerte Leistungen von der Industrie bekommen,
dies hat meine medizinischen Entscheidungen oder andere Einstellungen aber nicht beeinflusst.
Man kann also sehen, dass ich keine Interessenkonflikte habe“**

Zitat nach D.Streich, Vortrag DNEbM Tagung 2011, Berlin

Mehr Informationen: www.wodarg.de