

# Základy filozofie

filozofie pseudo-vědy

**Tomáš Ondráček**

**[ondracek.t@mail.muni.cz](mailto:ondracek.t@mail.muni.cz)**

Faculty of Economics and Administration, Masaryk University

2021

# konspirační teorie

## VÍRA VE SPIKLENECKÉ TEORIE OPĚT ROSTE. STAČÍ PÁR KLIKnutí



Chemtrails? • Autor: REUTERS

**Tomáš Lindner**  
6. 3. 2017 13:16

Spiklenecké teorie

Týdeník Der Spiegel přinesl rozhovor s Michaelem Butterem, který se specializuje na výzkum konspiračních teorií. "Umožňují jedinci vystoupit z masy a myslet si o sobě, že objevil jádro pudla. Pokud jsem někým, kdo na rozdíl od ostatních pochopil, kdo vládne světu a co stojí za kondenzačními stopami letadel na obloze, jsem přece výjimečný," říká o přitažlivosti spikleneckých teorií.

Cituje pak aktuální studie, podle nichž dnes každý druhý Američan věří aspoň jedné takové teorii. Růst jejich oblíbenosti ale není historickou anomálií. "V 18. století mizela víra v boží plán, který řídí veškeré dění na Zemi, s čímž slábla i víra v to, že všechno dává ve výsledku smysl. Musí to být tedy někdo jiný, kdo dění řídí. Na místo Boha nastoupili spiklenci," pokračuje Michael Butter s tím, že je spíše neobvyklé, že jsme v minulých několika desetiletích zažili fázi jejich ústupu: „Když se podíváte hlouběji do historie, uvidíte, že spiklenecké teorie byly pro politický vývoj Evropy a Ameriky zásadně důležité. Nejen v osmnáctém a devatenáctém, ale ještě dlouho v minulém století byly normální jim věřit.“ Původem amerikanista z univerzity v německém Tübingenu zmiňuje například George Washingtona, který věřil celosvětovému a systematickému britskému spiknutí s cílem zrušit svobodu.

Lindner (2017)

# otázky

- Co je to dobrá věda, špatná věda a pseudo-věda?
- Proč je problém špatná věda a pseudo-věda?
- Může se věda vyrovnat se špatnou vědou a pseudo-vědou?
- Jak lze obecně přistupovat k špatné vědě pseudo-vědě?

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)



# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)



# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	
admitted		

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	
admitted	1.97%	

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	other ques- tionable research prac- tices
admitted	1.97%	

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	other ques- tionable research prac- tices
admitted	1.97%	33.7%

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	other ques- tionable research prac- tices
admitted	1.97%	33.7%
know of		

# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

scientists	fabrication, falsification or modification of data or results	other ques- tionable research prac- tices
admitted	1.97%	33.7%
know of	14.12%	



# How Many Scientists Fabricate and Falsify Research?

Fanelli (2009)

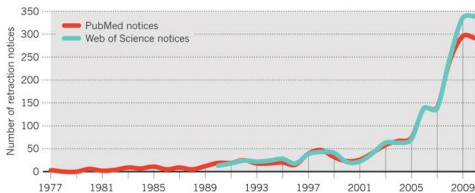
scientists	fabrication, falsification or modification of data or results	other ques- tionable research prac- tices
admitted	1.97%	33.7%
know of	14.12%	72%

# The trouble with retractions

Van Noorden (2011: 27)

## RISE OF THE RETRACTIONS

In the past decade, the number of retraction notices has shot up 10-fold (**top**), even as the literature has expanded by only 44%. It is likely that only about half of all retractions are for researcher misconduct (**middle**). Higher-impact journals have logged more retraction notices over the past decade, but much of the increase during 2006–10 came from lower-impact journals (**bottom**).



# Misbehaviours of Various Kinds

Fanelli (2011: 85)

Table 1

country	year	institution	fabrication and/or falsification and plagiarism	open definition	selective reporting	ghost-guest authorship	misuse of statistics	misrepresenting others' research	sabotaging others' research	baised interpretation of results	mismanaging conflicts of interest	duplicate publication	not following approved protocols	mismanaging/not preserving data	misrepresenting professional credentials	favouring misc./hampering investigations	abusing power as a peer reviewer	withholding information or materials	financial misconduct	personal abuse	bad membership	harming human or animal subjects	exploiting students or subordinates	other	source
AU	2007	NHMRC et al.	x	x		x					x		x			x			x						[29]
CN	2009	CAS	x	x		x			x			x						x	x					x	[30]
CR	2007	CESHE	x		x	x		x	x	x	x	x												x	[31]
DK	2009	DC SD	x	x	x		x																	x	[27]
FI	2002	TENK	x	x	x		x	x	x	x		x			x									x	[21]
FR	1999	INSERM	x			x					x				x					x				x	[32]
IN	2006	ICMR	x		x	x		x			x	x					x							x	[33]
NL	2001	KNAW et al.	x	x	x	x	x	x		x			x			x			x					x	[34]
NO	2007	NCISM	x	x																					[35]
SW	2004	EGISRM	x	x	x		x																	x	[36]
CH	2003	SAAS	x	x	x	x	x	x	x	x				x		x	x	x						x	[37]
UK	2009	UKRIO	x	x		x							x												[38]
US	2005	PHS	x		x																				[17]

## druhy a typy prohřešků

- Ethical Misconducts
  - Violations of ethical code.
- Research Misconducts
  - *Research misconduct* means fabrication, falsification, or plagiarism in proposing or performing research [...], reviewing research proposals [...], or in reporting research results [...]  
(National Science Foundation, 2002).

## National Science Foundation (2002)

- Plagiarism
  - means the appropriation of another person's ideas, processes, results or words without giving appropriate credit.
- Fabrication
  - means making up data or results and recording or reporting them.
- Falsification
  - means manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

## National Science Foundation (2002)

A finding of research misconduct requires that—

- I. There be a significant departure from accepted practices of the relevant research community; and
  - II. The research misconduct be committed intentionally, or knowingly, or recklessly; and
  - III. The allegation be proven by a preponderance of evidence.
- (b) Research misconduct does not include honest error or differences of opinion.

# základní charakteristiky

- metodologie nebo zásady
- intencionalita
- vědomost
- nezodpovědnost, zbrkllost, neohleduplnost
- dostatek důkazů

## problémy: otázky

- Jaký je vztah mezi etickými a vědeckými prohřešky?
- Jak rozlišit omyl a prohřešek?



# porušení metodologie

- The Tuskegee Syphilis Study
- The Monster Study
- Unit 731
  
- introspekce
  
- Dr. Roger Poisson

# intencionalita

- Schön scandal

# znalost následků

- Little Albert experiment
- Milgram Experiment
- Stanford Prison Experiment

# The Myth of Self-Correction in Science

Stroebe, Postmes, and Spears (2012)

Fraud Detectors	Reducing the Risks
peer reviews	rewards
replications	cost
whistleblowing	chance of discovery

## nová definice vědeckých prohřešků

Fanelli (2013): scientific misconduct as distorted reporting:  
any omission or misrepresentation of the information necessary and sufficient to evaluate the validity and significance of research, at the level appropriate to the context in which the research is communicated

- mizí rozdíl mezi omylem a prohřeškem

# několik problémů

- snižující se důvěryhodnost
  - příliš vědy
- predátoři
  - vydavatelé
  - konference

## pop-věda

- zvyšující se počet pop-vědeckých tvrzení, pořadů, časopisů, ...
  - Dr. Oz
- zavádějící a chybné informování ...

# pop-věda

- zvyšující se počet pop-vědeckých tvrzení, pořadů, časopisů, ...
  - Dr. Oz
- zavádějící a chybné informování ...
  - Could sniffing flatulence be GOOD for you?  
Potent gas can help prevent cancer, strokes and heart attacks,  
claim scientists  
(Mail Online 2014-07-11)



# pop-věda

- zvyšující se počet pop-vědeckých tvrzení, pořadů, časopisů, ...
  - Dr. Oz
- zavádějící a chybné informování ...
  - Could sniffing flatulence be GOOD for you?  
Potent gas can help prevent cancer, strokes and heart attacks,  
claim scientists  
(Mail Online 2014-07-11)
  - Study: Smelling farts may be good for your health  
(The Week 2014-07-11)

# pop-věda

- zvyšující se počet pop-vědeckých tvrzení, pořadů, časopisů, ...
  - Dr. Oz
- zavádějící a chybné informování ...
  - Could sniffing flatulence be GOOD for you?  
Potent gas can help prevent cancer, strokes and heart attacks,  
claim scientists  
(Mail Online 2014-07-11)
  - Study: Smelling farts may be good for your health  
(The Week 2014-07-11)
  - Silent, not deadly; how farts cure diseases  
(The Guardian 2014-07-11)

# pop-věda

- zvyšující se počet pop-vědeckých tvrzení, pořadů, časopisů, ...
  - Dr. Oz
- zavádějící a chybné informování ...
  - Could sniffing flatulence be GOOD for you?  
Potent gas can help prevent cancer, strokes and heart attacks, claim scientists  
(Mail Online 2014-07-11)
  - Study: Smelling farts may be good for your health  
(The Week 2014-07-11)
  - Silent, not deadly; how farts cure diseases  
(The Guardian 2014-07-11)
  - Farts can fight strokes, heart attacks and dementia, scientists claim  
(The Mirror 2015-11-08)

# pop-věda

- zvyšující se počet pop-vědeckých tvrzení, pořadů, časopisů, ...

- Dr. Oz

- zavádějící a chybné informování ...

- Could sniffing flatulence be GOOD for you?  
Potent gas can help prevent cancer, strokes and heart attacks,  
claim scientists  
(Mail Online 2014-07-11)
- Study: Smelling farts may be good for your health  
(The Week 2014-07-11)
- Silent, not deadly; how farts cure diseases  
(The Guardian 2014-07-11)
- Farts can fight strokes, heart attacks and dementia, scientists claim  
(The Mirror 2015-11-08)
- původní výzkum (Le Trionnaire et al., 2014):

The synthesis and functional evaluation of a mitochondria-targeted hydrogen sulfide donor,

(10-oxo-10-(4-(3-thioxo-3H-1,2-dithiol-5-

yl)phenoxy)decyl)triphenylphosphonium bromide (AP39)

# zaujatý výzkum

- financování
- udržitelnost
- ...

## špatná orientace & zaujatá znalost

- Rosling (2016): The Ignorance Project
- Project Implicit (2016): Project Implicit
- Moralistic Fallacy
  - Gould (1996):  
The mismeasure of man
  - Rushton and Jensen (2005):  
Wanted: More race realism, less moralistic fallacy
- ...

# Beallův seznam

List of potential, possible, or probable predatory scholarly open-access publishers.

Criteria (Beall, 2015):

- Editor and Staff
- Business management
- Integrity
- Other
- Poor journal standards / practice

## Beall (2016)

Publishers	
Year	Number of publishers
2011	18
2012	23
2013	225
2014	477
2015	693
2016	923



## testování

- absurdní, nesmyslné, ... texty, prezentace, ...

- Sokal (1996):

Transgressing the Boundaries:

Towards a Transformative Hermeneutics of Quantum Gravity

The content and methodology of postmodern science thus provide powerful intellectual support for the progressive political project, understood in its broadest sense: the transgressing of boundaries, the breaking down of barriers, the radical democratization of all aspects of social, economic, political and cultural life. Conversely, one part of this project must involve the construction of a new and truly progressive science that can serve the needs of such a democratized society-to-be.

- automatically generated texts

- PDOS research group (2016):

An Automatic CS Paper Generator

(Sokal, 1996: 11)



# Characteristics of Pseudo-Scientists and Pseudo-Sciences

(Gardner, 1957)

- Gardner
  - isolation from colleagues
  - tendency toward paranoia
    - I. considers himself a genius
    - II. regards his colleagues as ignorant blockheads  
insults and accusations
    - III. believe of unjustly persecution and discrimination
    - IV. compulsions to attacking the greatest scientists and  
the best established theories
    - V. tendencies to write in a complex jargon

## Lugg: pseudo-science and fallacies

(Lugg, 1987: 226)

If these observations are correct, there is an important analogy to be drawn between pseudoscientific theories and fallacious arguments. In both cases, it may indeed be necessary to engage in empirical analysis to determine what is being claimed. A pseudoscientific theory, like a fallacious argument, may be obscurely presented and even when clearly presented it may misrepresent what its proponents intend. Beyond this, however, empirical analysis is neither required nor appropriate. We no more need to know anything about the world to say that theories are pseudoscientific than we need to know anything about it to say that arguments are invalid. Judgements about scientificity, like judgements of validity, have nothing to do with empirical well-foundedness and truth.

# The Face



Voyager 2 (2018)

# příklady I

- 2012 Doomsday Scare
- Ancient Aliens
- Apollo Moon Landing Hoax
- Astrology
- Crop Circles
- Face on Mars
- Bermuda Triangle
- Cryptozoology
- Flat Earth Theory
- Hollow Earth Theory
- Megalithic or 366 Geometry
- Mythical Creatures

## příklady II

- Channeling
- Dowsing
- Electronic Voice Phenomenon (EVP)
- Extrasensory Perception (ESP)
- Levitation
- Numerology
- Conversion Therapy
- Hypnosis
- Primal Therapy
- Polygraph
- Psychoanalysis
- Subliminal Advertising

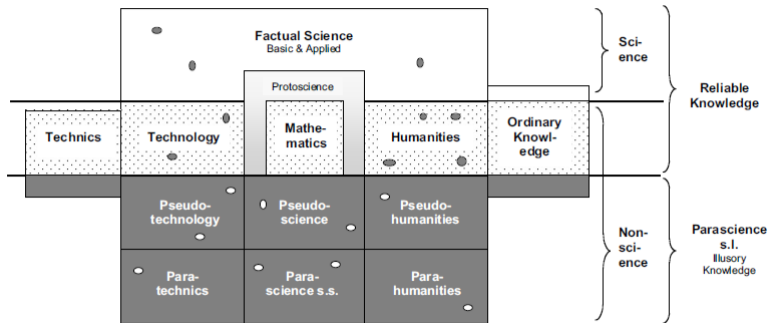
# příklady III

- Body Language
- Dianetics
- Feng Shui
- Handwriting Analysis



# Structure of Epistemic Fields

(Mahner, 2007: 549)



# pseudo-vědci

Derksen (1993, 2001)

profile of the pseudo-sciences can be gained from the scientific pretensions of the pseudo-scientist

Derksen (1993)

# The Seven Sins

(cf. Derksen, 1993, 2001))

- Dearth of Decent Evidence
  - pretence to producing reliable knowledge, obtained via trustworthy methods
- Unfounded Immunizations
  - accepting only particular interpretations of the data
- Ur-Tenptations
  - uncritically assigning a deeper significance to prima facie spectacular coincidences
- Magic Methods
- Insights of Innatates
  - Only the initiate has the right perspective on the truth.
- All-Explaining Theories
- Uncritical and Excessive Pretensions

## **Boudry and Braeckman (2011: 146): Immunizing Strategies and Epistemic Defense Mechanisms**

“We define an ‘immunizing strategy’ as an argument brought forward in support of a belief system, though independent from that belief system, which makes it more or less invulnerable to rational argumentation and/or empirical evidence. By contrast, an epistemic ‘defense mechanism’ is defined as an internal structural feature of a belief system, which has the same effect of deflecting rational arguments and empirical refutations.”

# Boudry and Braeckman (2011): Immunizing Strategies and Epistemic Defense Mechanisms

- Conceptual Equivocations & Moving Targets
  - Multiple Endpoints
  - Deflationary Revisions
- Postdiction and Feedback Loops
- Conspiracy Thinking
  - Turning the Evidence on its Head
  - Explaining the Motives for Disbelief
- Changing the Rules of Play
- Invisible Escape Clauses
  - Tailoring Around the Phenomena

# Derksen: The Seven Sins

(Derksen, 1993, 2001)

- Dearth of Decent Evidence
  - pretense to producing reliable knowledge, obtained via trustworthy methods
- Unfounded Immunizations
  - accepting only particular interpretations of the data
- Ur-Temptations
  - uncritically assigning a deeper significance to prima facie spectacular coincidences
- Magic Methods
- Insights of Innates
  - Only the initiate has the right perspective on the truth.
- All-Explaining Theories
- Uncritical and Excessive Pretensions

# Minimum of the Demarcation

(Ondráček, 2020)

Any scientific discussion has to aspire to critical discussion and has to be done in a scientific context (has to be labeled by protagonists as scientific).

## Popper: Conventionalism

(Popper, 2005b: 15); (Popper, 2005a: 58, 61)

I very soon found that every theory can be “immunized” (this excellent term is due to Hans Albert) against criticism. If we allow such immunization, then every theory becomes unfalsifiable. Thus we must exclude at least some immunizations.

Only the ‘laws of nature’ are simple; and these, the conventionalist holds, are our own free creations; our inventions; our arbitrary decisions and conventions.

The only way to avoid conventionalism is by taking a decision: the decision not to apply its methods.



# Immunizing Strategies and Epistemic Defense Mechanisms

**Boudry and Braeckman (2011: 146)**

We define an ‘immunizing strategy’ as an argument brought forward in support of a belief system, though independent from that belief system, which makes it more or less invulnerable to rational argumentation and/or empirical evidence. By contrast, an epistemic ‘defense mechanism’ is defined as an internal structural feature of a belief system, which has the same effect of deflecting rational arguments and empirical refutations.

# Popper: Types of Immunizations

(Popper, 2005a: 62)

Types
<b>introduction</b> of ad hoc hypotheses
<b>modification</b> of ostensive (or explicit) definition
<b>adoption</b> of sceptical attitude as to the reliability of the experimenter justifications or the experimenter herself
<b>cast doubts</b> on the acumen of the theoretician

# Popper: Types of Immunizations

(Popper, 2005a: 62)

The list makes no claim to completeness: it must be left to the investigator, especially in the fields of sociology and psychology (the physicist may hardly need the warning) to guard constantly against the temptation to employ new conventionalist stratagems—a temptation to which psychoanalysts, for example, often succumb.

# Immunizing Strategies and Epistemic Defense Mechanisms

(Boudry & Braeckman, 2011: 146)

- Conceptual Equivocations & Moving Targets
  - Multiple Endpoints
  - Deflationary Revisions
- Postdiction and Feedback Loops
- Conspiracy Thinking
  - Turning the Evidence on its Head
  - Explaining the Motives for Disbelief
- Changing the Rules of Play
- Invisible Escape Clauses
  - Tailoring Around the Phenomena

# problémy

- zdroje a náklady
- bezpečnost
- rozhodování
- ...

# feng shui

## Hong Kong government spends millions on feng shui

Hong Kong has admitted to spending millions of pounds in order to rebalance the feng shui of its construction projects.



Photo: GETTY IMAGES



By Malcolm Moore, Shanghai

1:03PM GMT 16 Dec 2010

[Follow](#) 188K followers

### Hong Kong

[News »](#) [World News »](#)  
[Asia »](#)  
[Malcolm Moore »](#)

### Related Partners

[The best way to transfer money overseas](#)

### In Hong Kong



[Hong Kong final clearance](#)



Henry (2019)

# vakcinace I/II

## Rodiče věří mýtům o očkování, roste výskyt spalniček. V Praze už je epidemie

10. 4. 2018

Hygienici v Česku letos evidují už téměř sedmdesát případů nakažlivých spalniček. Za první tři měsíce loňského roku jich přitom napočítali jen osmatřicet. A nemocní budou v příštích dnech pravděpodobně přibývat. Epidemie je od března v Praze, kde se objevily víc než dvě třetiny všech případů. Jednou z příčin je podle lékařů to, že řada rodičů odmítá nechat své děti naočkovat. V nemocnici v Motole zjišťují, jestli má zdravotnický personál dostatek protilátek.



ilustrační foto

Zdroj: CTR/PICTURE ALLIANCE/CONTRASTORANGE Autor: Hans-Jürgen Schum

Volfová (2018)

# vakcinace II/II

- Common good (společné dobro)?



# plochá Země

100+1

ATLAS SVĚTA HISTORIE PRŮMYSL REVUE VĚDMÍ VÁLKA VĚDA ZAJÍMAVOSTI PŘEDPLATNĚ



## Propagátor teorie o placaté Zemi „vzlétl do kosmu“: Tvrdé přistání ale přežil

17.04.2018 - Vilém Koubek

Aby potvrdil teorii o ploché Zemi, zamířil nadšený Američan k nebi ve vlastnoručně vyrobené raketě – a překvapivě přežil



Američan Mike Hughes ve vlastnoručně vyrobené raketě odstartoval do kosmu, aby dokázal, že Země je placatá

Koubek (2018)

# zdravotní péče

## Nevyléčitelně nemocný britský chlapec Alfie Evans zemřel. Převoz a léčbu zakázal soud

Nevyléčitelně nemocný britský chlapec Alfie Evans, který byl po vleklé soudní bitvě odpojen od přístrojů, v sobotu brzy ráno zemřel. Informovala o tom britská média s odvoláním na chlapcovy rodiče.

— Londýn 11:44 28. dubna 2018



Liše protestují proti odpojení od přístrojů nevyléčitelně nemocného 13advacetiměsíčního Alfoho Evanse | Zdroj: Fotobanka Profimedia

### ZPRÁVY, KTERÉ JSTE NEČETLI



V reálu neříkám vyšetřovatelům 'volé' a neplácám je po ramenu, říká k filmu Metanol skutečný žalobce



U Liberce už třetí den duní Czarotek Free Party. Stížnosti na hluk z technoparty přibývá



Babiš by v případě demise ministrů za ČSSD odstoupil, řekl Vondráček. Mění názory, prohlásil Štách



K tělu se chováme macešsky, jako by už nemělo nastat žádné zitra, varuje fyzioterapeut Kolář

## Z čeho má Kim Čong-un strach, proč má soukromý záchod? A umí plavat? Zkuste si, co víte o KLDK

pred 18 hodinami

Kim Čong-un v pátek slíbil přepsat historii a uzavřít s Jižní Koreou mírovou dohodu. Severokorejský vůdce se sice pomalu otevírá světu, o jeho životě i běžných Severokorejích ale stále kolují mýty. Zjistěte, jak na tom jste se znalostmi o nejzavářejší zemi světa a jejím vůdci.



Spustit kvíz



Nad rodnou šikových se nezmíme pohoršovat. Jinak prohráváme



Svezte se do historie pražského metra. Unikátní fotky, plány a tramvaj, která nerazila



Pišková rozbrečela nejdrsnější hráčku na okruhu. Důvodů k nadšení je mnohem víc



Foto: 10 prověřených pravidel ze zahraničí, která by české dopravě i řidičům prospěla

# konspirační myšlení

- Věříte v konspirace?
- Jaký je problém konspirací?

# Conceptual Equivocations & Moving Targets

- Multiple Endpoints
  - predictions in horoscopes (Gilovich (1991: 58–59))
  - Nostradamus (Hines (2003); Marks (2000: 262–266))
- Deflationary Revisions
  - Jehovah's witnesses (Zygmunt (1970: 931, 934))
  - Freud's theory of the libido (Cioffi (1998: 16))
  - postmodernisms and social constructivism (Kukla (2000: x))
  - “switcheroos” and “reverse-switcheroos” (Kukla (2000: x))
  - “Motte and Bailey Doctrines”  
(Shackel (2005: 298); Fusfield (1993))
  - Intelligent Design, Creationists (Behe) (Behe (1996: 39))
  - Intelligent Design, Creationists (Demski) (Perakh (2004: 64–75))

# Conceptual Equivocations & Moving Targets

## Multiple Endpoints

(van Eemeren, Grootendorst, & Eemeren, 2004; Ward, 2007: 206)

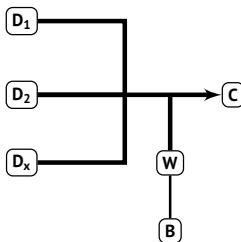
Un Empereur naistra pres d'Italie,  
Qui a l'Empire sera vendu bien cher;  
Diront avec quelz gens il se ralie,  
Qu'on trouvera moins prince que boucher.

An Emperor shall be born near Italy,  
Bought by the Empire at a bankrupt rate;  
You'd say the herd, he gathers to himself,  
Denote him butcher rather than a prince.

- P-D 10 Language Use Rule
  - Discussants may not use any formulations that are insufficiently clear or confusingly ambiguous, and they may not deliberately misinterpret the other party's formulations.

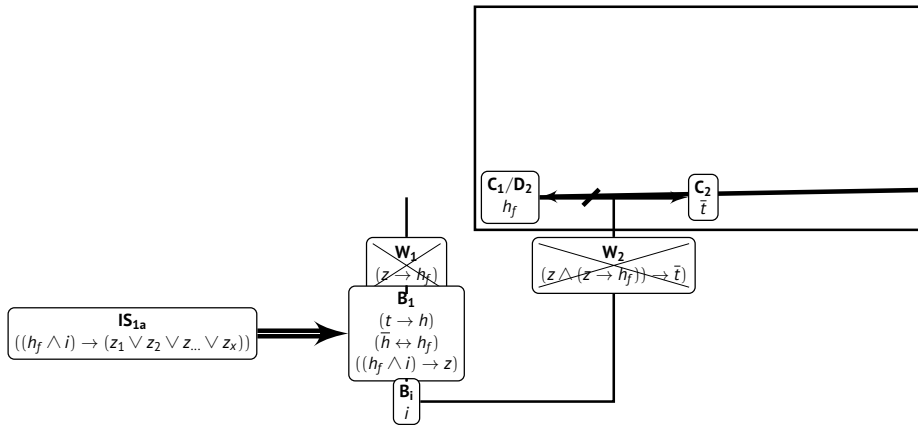
# Multiple Endpoints

(Ondráček, 2020)



# Multiple Endpoints

(Ondráček, 2020)





# Deflationary Revisions Intelligent Design, Creationists (Behe) Switcheroos

(Behe, 1996; Kukla, 2000: 39)

By irreducibly complex I mean a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning.

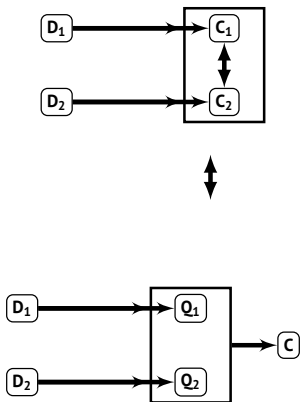
An irreducibly complex system cannot be produced directly (that is, by continuously improving the initial function, which continues to work by the same mechanism) by slight, successive modifications of a precursor system, because any precursor to an irreducibly complex system that is missing a part is by definition nonfunctional.

# Deflationary Revisions

## Intelligent Design, Creationists (Behe)

### Switcheroos

(Ondráček, 2020)

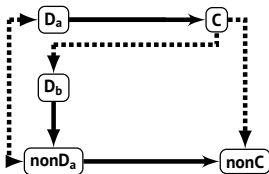


## Postdiction and Feedback Loops

- the belief in the efficacy of rituals and magic (Boyer (1994: 144, 207); Evans-Pritchard (1937))
- the belief in the therapeutic power of healing crystals, chakra stimulation, and homeopathy
- parapsychology (Wiseman (2010: 38); Gilovich (1991: 21); Randi (1981: 13))
- water divining (Randi (1981: 13))
- Freudian psychoanalysis: the etiology of psychological illness (Freud (1924: 119))

# Postdiction and Feedback Loops

(Ondráček, 2020)

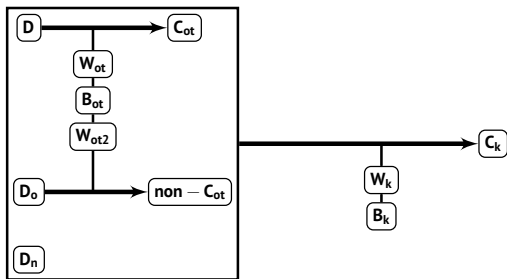


# Conspiracy Thinking

- Turning the Evidence on its Head
  - “errant data” (Keeley (1999: 118))
- Explaining the Motives for Disbelief
  - Freud’s Psychoanalysis  
(Crews (1986: 14); Gellner (1985); Freud (1957: 39))
  - Defenders of Marxism
  - Young Earth Creationism (Morris (1963: 93))
  - UFOs and alien abductions (Jacobs (1998: 112, 117, 258))
  - Scientology (Foster (1971: 134))

# Turning Evidence on its Head errant data

(Ondráček, 2020)



# Changing the Rules of Play

- postmodernist philosophers and radical social constructivists (Shackel (2005: 311–319))
- alternative medicine (Gordon (1996); Williams (1980))
- homeopathy (Guttentag (1940))
- psychoanalysts

# Changing Rules of Play

(Shackel, 2005: 312)

Firstly, the metaphilosophical claim is made that philosophy cannot properly be done except negatively: that to occupy a position is already to be mistaken. I am going to refer to this position as the No-Position Position. Secondly, alogosia is asserted: true normative theories of objective rationality are not available; whatever we take to be the canons of rationality are constructions, so could have been constructed differently, and although there may be some ways in which they could not be constructed, among those ways in which they can be constructed there are no better or worse ways of constructing them.“

- P-D 2 Obligation to Defend Rule
  - Discussants who advance a standpoint may not refuse to defend this standpoint when requested to do so.



# Invisible Escape Clauses

- Tailoring Around the Phenomena
  - Omphalos hypothesis by Philip Gosse (1857) (Gosse (1857))
  - the idea of negative psi (“catapsi”) (Wiseman (2010); Sheldrake (1995); Bonewitz (1989: 55))
  - Franz Anton Mesmer and magnetizers (Mackay (1974 (1841): 290))
  - Parapsychologists and “error phenomenon” (or “decline effect”) (Kennedy (2003: 67); Kennedy (2001); Humphrey (1996: 152); Beloff (1994: 7, 11))
- Imponderabilia
  - the astrologer’s belated invocation of the formation of stars (at the moment of conception)
  - Bigfoot and UFO (Zuefle (1999: 27); Mack (1995))
  - Freudian psychoanalysis and quantitative factor (Cioffi (1998: 119); Esterson (1993))

## Tailoring Around the Phenomena

### Franz Anton Mesmer and magnetizers

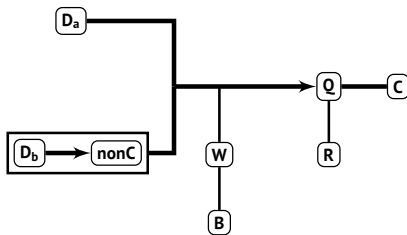
(Mackay, 1974 (1841): 294)

And it should be especially remarked that the magnetisers do not lay claim to a universal efficacy for their fluid; the strong and the healthy cannot be magnetised; the incredulous cannot be magnetised; those who reason upon it cannot be magnetised; those who firmly believe in it can be magnetised; the weak in body can be magnetised, and the weak in mind can be magnetised. And lest, from some cause or other, individuals of the latter classes should resist the magnetic charm, the apostles of the science declare that there are times when even they cannot be acted upon; the presence of one scorner or unbeliever may weaken the potency of the fluid and destroy its efficacy. In M. Deleuze's instructions to a magnetiser, he expressly says, 'Never magnetise before inquisitive persons!'

# Tailoring Around the Phenomena

## Franz Anton Mesmer and magnetizers

(Ondráček, 2020)



# diskuze



Česká televize (n.d.)

# zneužití

(Kingsbury & Dare, 2017)

- Cherry-Picking
- Using Contentious Scientific Results Without Appropriate Reservation
- Arguing Illegitimately from Scientific Authority
- Applying Scientific Theories or Data Too Far from Their Domain: Stump, Mirror Neurons, and the Paradox of Fiction
- Drawing Philosophical Conclusions Too Quickly from Scientific Theories or Data:  
Harman on Character Traits

# možnosti

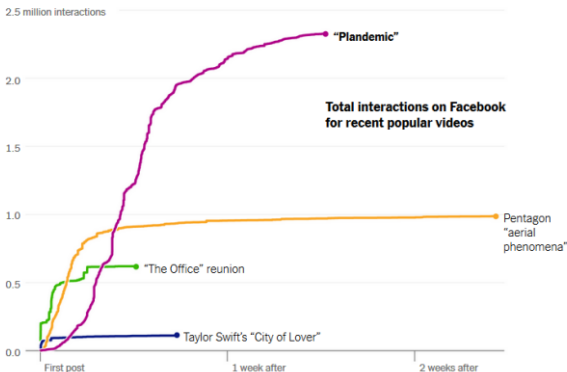
(Kingsbury & Dare, 2017)

- Being Explicit About the Role the Scientific Theory or Empirical Data Are Playing in a Philosophical Argument
- Explicitly Addressing the Credibility of the Scientific Data or Theory
- Using Review Articles and Metastudies
- Collaborating with Scientists
- Experimental Philosophy?
- Rigorous and Informed Peer Review

# Plandemic

- *Plandemic: The Hidden Agenda Behind Covid-19* (2020)
- *Plandemic: Indoctrination* (2020)
  
- režisér/producent: Mikki Willis
- hlavní postavy: Judy Anne Mikovits

# Plandemic: Frenkel, Decker, and Alba (2020)



Interactions include reactions, likes, shares and comments. Posts for each video are counted from the first one that contained the video through May 15 on public groups and pages on Facebook. - Source: CrowdTangle - By The New York Times



# konspirační teorie: van Mulukom et al. (2020)

1 **Table 1**

2 Overview of examples of main COVID conspiracy theory types, with projected antecedents and consequences.

3

Label	Description	Antecedents	Consequences
<i>Conspiracy theories questioning the severity of the virus and pandemic</i>			
Hoax theory	The pandemic is a hoax, i.e., there is no virus at all	Low scientific/governmental trust; motivational (e.g. rejection of guidelines)	Rejection of guidelines
Flu theory	COVID-19 is not worse than the flu		
<i>Conspiracy theories assuming a purposeful origin/spread of the virus, thus evaluating it as dangerous</i>			
Artificial origin theory	The virus is artificially created rather than naturally occurring	Suspicion/distrust against group (the powerful, government, Big Pharma, other cultures)	Used to denounce outgroup (the powerful, government, Big Pharma, other cultures); not necessarily a rejection of guidelines (as this would help to protect oneself against danger)
Bioweapon theory	For countries to use as bioweapon, aimed at killing people		
Political control theory	For governments/countries/powerful people to gain political control		
Military experiment theory	As a secret military experiment (mostly United States)		
World order theory	To establish a new world order		
Financial gain theory	For (pharmaceutical) companies or powerful people to gain money, e.g., through vaccines		
<i>Conspiracy theories as variations of existing theories</i>			
5G theory	The virus is spread via, or exacerbated by, 5G	Belief in other, non-COVID conspiracy theories	Adherence to alternative guidelines; violence against 5G
Bill Gates theory	For Bill Gates to gain control over people via microchips		

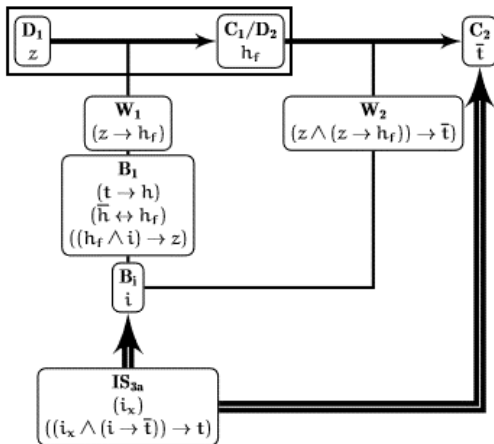
4 Note. Listed are only those antecedents and consequences deemed characteristic for the specific conspiracy theories.

5

# kosnpirační myšlení

- dvě základní verze (Boudry and Braeckman (2011)):
  - postavení důkazu na hlavu
  - vysvětlení motivů pro nedůvěru
- útok na podporu (backing, Toulmin (2003))
- motivované usuzování

# Plandemic: Frenkel et al. (2020)



# práce s konspiračním myšlením

- hledání společné podpory (backingu)
  - metadiskuze a subdiskuze
  - společné hodnoty
- nevědecká diskuze
- sporná účinnost diskuze o faktech (datech)
- časová náročnost

# Plandemic: další rétorické prvky

- narativ výzkumu (dobro vs. zlo)
- populismus (Eberl, Huber, and Greussing (2021))
- srozumitelnost, práce s pravděpodobností a jistota
- ...

# Kuhn and Lakatos: criticism

(Lakatos, 1978: 5–4)

Scientists have thick skins. They do not abandon a theory merely because facts contradict it. They normally either invent some rescue hypothesis to explain what they then call a mere anomaly or, if they cannot explain the anomaly, they ignore it, and direct their attention to other problems. Note that scientists talk about anomalies, recalcitrant instances, not refutations.

## Popper: Reevaluation

(Popper, 2005b: 43)

On the other hand, I also realized that we must not exclude all immunizations, not even all which introduced ad hoc auxiliary hypotheses. For example the observed motion of Uranus might have been regarded as a falsification of Newton's theory. Instead the auxiliary hypothesis of an outer planet was introduced ad hoc, thus immunizing the theory. This turned out to be fortunate; for the auxiliary hypothesis was a testable one, even if difficult to test, and it stood up to tests successfully.

All this shows not only that some degree of dogmatism is fruitful, even in science, but also that logically speaking falsifiability, or testability, cannot be regarded as a very sharp criterion.

# Popper: admissibility of immunizations

- empirical content
- new theory
- reasonableness
- ...



## Derksen: reprehensibility of immunizations

(Derksen, 1993: 24)

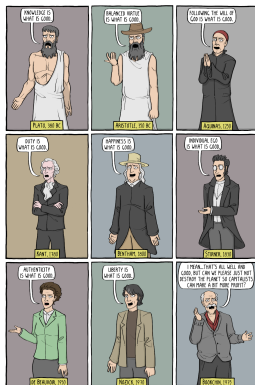
Yet, immunizing is not always reprehensible. In fact, as far as the argumentation is concerned there is nothing wrong with immunization. Immunization is nothing but arguing on the assumed truth of one's theory. There is nothing against this, as long as the theory is well-confirmed. Immunization becomes reprehensible only when it is unfounded.

## science as a tool

(Sagan, 2006)

My deeply held belief is that if a god of anything like the traditional sort exists, then our curiosity and intelligence are provided by such a god. We would be unappreciative of those gifts if we suppressed our passion to explore the universe and ourselves. On the other hand, if such a traditional god does not exist, then our curiosity and our intelligence are the essential tools for managing our survival in an extremely dangerous time. In either case the enterprise of knowledge is consistent surely with science; it should be with religion, and it is essential for the welfare of the human species.

## ethics



## A Brief History of Philosophical Skepticism (2019)

## Co si odnést?

Teorie potřebuje praxi.

# důležité pojmy a koncepty I

## POJMY A KONCEPTY

- dělení vědy
- problém indukce
- povaha tvrzení
  - existenciální, non-existenciální
  - singulární, universální
- empirická báze
- Friesovo trilema
- verifikace
- falsifikace
  - naivní, metodologická
- asymetrie verifikace a falsifikace
- ad-hoc hypotézy

## důležité pojmy a koncepty II

- paradigma / disciplinární matice
- vědecká období
  - předparadigmatické období
  - období normální vědy
  - období ne-normální vědy
- výzkumný program
  - degenerativní a progresivní
  - tvrdé jádro, ochranný pás, heuristiky
- demarkace vědy
  - falsifikovatelnost
  - řešení hádanek
  - výzkumné programy

# důležité pojmy a koncepty III

## PROBLÉMY

- Jak lze rozlišit vědu a ne-vědu?
- Proč potřebujeme vědu?
- K čemu vede asymetrie mezi verifikací a falsifikací?

## Frauds in Philosophy?

“Saul Kripke resigned yesterday from his position [...] a team of philosophers from Oxford University [...] were systematically unable to reproduce the results of thought experiments reported by Kripke in his groundbreaking Naming and Necessity. The team, led by Timothy Williamson, first became suspicious of Naming and Necessity after preliminary results raised questions about related work by Hilary Putnam. While the group was initially unable to confirm that water is H<sub>2</sub>O on Twin Earth, the results turned out to be due to contaminated research materials—one of the researchers’ minds had been contaminated by Chomskyan internalist semantics.”

(fauxphilnews, 2012)



# OVERVIEW

## ÚVOD

## VĚDECKÉ PROHŘEŠKY

- druhy & typy

- praktické provedení

- problémy

## VĚDECKÉ PUBLIKOVÁNÍ

- problémy

- snižující se důvěryhodnost

- predátoři

- co?

- Derksen

- immunizations

- imunizace

- proč?

  - zdroje a náklady

  - bezpečnost

  - rozhodování

- příklady

# bibliography I

- Aktuálně.cz. (2018). Z čeho má Kim Čong-un strach, proč má soukromý záchod? A umí plavat? Zkuste si, co víte o KLDŘ. <https://zpravy.aktualne.cz/zahranici/kviz-korea-kl-dr-summit-kim/r-8bcf26484a0c11e8aca5ac1f6b220ee8/>.
- Beall, J. (2015). Criteria for determining predatory open-access publishers. Scholarly Open Access. Retrieved from <https://scholarlyoa.files.wordpress.com/2015/01/criteria-2015.pdf>, (accessed 2015-02-14)
- Beall, J. (2016). Beall's list: Potential, possible, or probable predatory scholarly open-access publishers. Scholarly Open Access. Retrieved from <https://scholarlyoa.com/publishers/>
- Behe, M. J. (1996). Darwin's black box: The biochemical challenge to evolution. Simon and Schuster.
- Beloff, J. (1994). Lessons of history. The Journal of the American Society for Psychical Research, 88(7), 7–22.
- Bonewitz, I. (1989). Real magic. Samuel Weiser.
- Boudry, M., & Braeckman, J. (2011). Immunizing strategies and epistemic defense mechanisms. *Philosophia*, 39(1), 145–161.
- Boyer, P. (1994). The naturalness of religious ideas: A cognitive theory of religion. University of California press.
- A Brief History of Philosophical Skepticism. (2019, October). Existential Comics. Retrieved from <http://existentialcomics.com/comic/310>
- Cioffi, F. (1998). Freud and the question of pseudoscience. Open Court.
- Crews, F. C. (1986). *Skeptical engagements*. Oxford University Press.
- Derksen, A. A. (1993). The seven sins of pseudo-science. *Journal for General Philosophy of Science*, 24(1), 17–42.
- Derksen, A. A. (2001). The Seven Strategies of the Sophisticated Pseudo-Scientist: a look into Freud's rhetorical tool box. *Journal for general philosophy of science*, 32(2), 329–350.
- Eberl, J.-M., Huber, R. A., & Greussing, E. (2021). From populism to the "pandemic": why populists believe in covid-19 conspiracies. *Journal of Elections, Public Opinion and Parties*, 31(sup1), 272–284.
- Česká televize. (n.d.). Máte slovo s m. jílkovou. Retrieved from <https://www.ceskatelevize.cz/porady/10175540660-mate-slovo-s-m-jilkovou/215411030520035>
- Esterson, A. (1993). *Seductive mirage: An exploration of the work of Sigmund Freud*. Open Court.
- Evans-Pritchard, E. E. (1937). *Witchcraft, oracles and magic among the Azande (Vol. 12)*. Oxford London.

# bibliography II

- Fanelli, D. (2009). How many scientists fabricate and falsify research? a systematic review and meta-analysis of survey data. *PLoS one*, 4(5), 5738.
- Fanelli, D. (2011). The black, the white and the grey areas: Towards an international and interdisciplinary definition of scientific misconduct. In T. Mayer & N. Steneck (Eds.), *Promoting research integrity in a global environment* (pp. 79–90). World Scientific Publishing Company.
- Fanelli, D. (2013). Redefine misconduct as distorted reporting. *Nature*, 494(7436), 149–149.
- fauxphilnews. (2012). Kripke resigns as report alleges he faked results of thought experiments. Retrieved from <https://fauxphilnews.wordpress.com/2012/02/22/kripke-resigns-after-allegations-of-academic-fraud/>
- Foster, J. G. (1971). *Enquiry into the practice and effects of scientology*. Her Majesty's Stationery Office.
- Frenkel, S., Decker, B., & Alba, D. (2020). How the 'pandemic' movie and its falsehoods spread widely online. *The New York Times*, 20.
- Freud, S. (1924). *Collected papers*, vol. 2. The Hogarth Press.
- Freud, S. (1957). *The standard edition of the complete psychological works of Sigmund Freud*, 11.
- Fusfield, W. D. (1993). Some pseudoscientific features of transcendental-pragmatic grounding projects. *Mensch und Gesellschaft aus der Sicht des kritischen Rationalismus*.
- Gardner, M. (1957). *Fads and Fallacies in the Name of Science*. Courier Corporation.
- Gellner, E. (1985). *The psychoanalytic movement: The cunning of unreason*. Paladin.
- Gilovich, T. (1991). *How we know what isn't so: The fallibility of human reason in everyday life*. Free Press.
- Gordon, J. S. (1996). *Manifesto for a new medicine*. Addison-Wesley.
- Gosse, P. H. (1857). *Omphalos: An attempt to untie the geological knot*. J. Van Voorst.
- Gould, S. J. (1996). *The Mismeasure of Man*. WW Norton & Company.
- Guttentag, O. E. (1940). Trends toward homeopathy: Present and past. *Bulletin of the History of Medicine*, 8, 1172–1193.
- Henry, J. S. (2019, May). How corruption in forensic science is harming the criminal justice system. Retrieved from <https://theconversation.com/how-corruption-in-forensic-science-is-harming-the-criminal-justice-system-108975>
- Hines, T. (2003). *Pseudoscience and the paranormal* (2nd ed.). Amherst: Prometheus Books.

## bibliography III

- Humphrey, N. (1996). *Soul searching: Human nature and supernatural belief*. Vintage.
- Jacobs, D. M. (1998). *The threat: The secret agenda: What the aliens really want ... and how they plan to get it*. Simon & Schuster.
- Keeley, B. L. (1999). Of conspiracy theories. *The Journal of Philosophy*, 96(3), 109–126.
- Kennedy, J. E. (2001). Why is psi so elusive? a review and proposed model. *The Journal of Parapsychology*, 65(3), 219–246.
- Kennedy, J. E. (2003). The capricious, actively evasive, unsustainable nature of psi: A summary and hypotheses. *The Journal of Parapsychology*, 67(1), 53–75.
- Kingsbury, J., & Dare, T. (2017). The philosophical use and misuse of science. *Metaphilosophy*, 48(4), 449–466.
- Koubek, V. (2018). Propagátor teorie o placaté Zemi „vzlétl do kosmu“: Tvrdé přistání ale přežil. <https://www.stoplusjednicka.cz/propagator-teorie-o-placate-zemi-vzletl-do-kosmu-tvrde-pristani-ale-prezil>.
- Kukla, A. (2000). *Social constructivism and the philosophy of science*. Routledge.
- Lakatos, I. (1978). *The methodology of scientific research programmes (Vol. 1; J. Worrall & G. Currie, Eds.)*. Cambridge university press.
- Le Trionnaire, S., Perry, A., Szczesny, B., Szabo, C., Winyard, P. G., Whatmore, J. L., ... Whiteman, M. (2014). The synthesis and functional evaluation of a mitochondria-targeted hydrogen sulfide donor, (10-oxo-10-(4-(3-thioxo-3-h-1, 2-dithiol-5-yl) phenoxy) decyl) triphenylphosphonium bromide (ap39). *MedChemComm*, 5(6), 728–736.
- Lindner, T. (2017). VÍRA VE SPIKLENECKÉ TEORIE OPĚT ROSTE. STAČÍ PÁR KLIKNUTÍ. <https://www.respekt.cz/denni-menu/vira-ve-spiklenecke-teorie-opet-rote-diky-internetu-jediny-lem-je-medialni-gramotnost>.
- Lugg, A. (1987). Bunkum, Flim-Flam and Quackery: Pseudoscience as a Philosophical Problem. *Dialectica*, 41(3), 221–230.
- Mack, J. E. (1995). *Abduction: Human encounters with aliens*. Simon and Schuster.
- Mackay, C. (1974 (1841)). *Extraordinary popular delusions and the madness of crowds*. Barnes & Noble Publishing.

# bibliography IV

- Mahner, M. (2007). Demarcating science from non-science. *General philosophy of science: Focal issues*, 515–575.
- Marks, D. (2000). *The psychology of the psychic*. Prometheus books.
- Morris, H. M. (1963). *Twilight of evolution*. Baker Pub Group.
- National Science Foundation. (2002). *Misconduct in Science and Engineering: Final Rule, 45 CFR Part 689 (10-1-2 ed.)*. Retrieved from [https://www.nsf.gov/oig/\\_pdf/cfr/45-CFR-689.pdf](https://www.nsf.gov/oig/_pdf/cfr/45-CFR-689.pdf) (NSF = National Science Foundation)
- Ondráček, T. (2020). *Co jsou to imunizační strategie? (Disertační práce, Masarykova univerzita, Filozofická fakulta, Brno)*. Retrieved from <https://is.muni.cz/th/q11v4/>
- PDOS research group. (2016). *SCIgen - An Automatic CS Paper Generator*. Retrieved from <https://pdos.csail.mit.edu/archive/scigen/#people>
- Perakh, M. (2004). *Unintelligent design*. Prometheus books.
- Plandemic: Indoctrination. (2020). Elevate Films.
- Plandemic: The hidden agenda behind covid-19. (2020). Elevate Films.
- Popper, K. R. (2005a). *The logic of scientific discovery*. Routledge.
- Popper, K. R. (2005b). *Unended Quest: An Intellectual Autobiography*. Routledge.
- Project Implicit. (2016). *Project implicit*. Retrieved from <https://implicit.harvard.edu/implicit/>
- Randi, J. (1981). Selective test selection. *Skeptical Inquirer*, 5, 12–13.
- Rosling, H. (2016). *The ignorance project*. GapMinder Foundation. Retrieved from <https://www.gapminder.org/ignorance/>
- Rushton, J. P., & Jensen, A. R. (2005). Wanted: More race realism, less moralistic fallacy. *Psychology, Public Policy, and Law*, 11(2), 328–336.
- Sagan, C. (2006). *The varieties of scientific experience: A personal view of the search for god*. Penguin.
- Shackel, N. (2005). The vacuity of postmodernist methodology. *Metaphilosophy*, 36(3), 295–320.
- Sheldrake, R. (1995). *Seven experiments that could change the world: A do-it-yourself guide to revolutionary science*. Putnam Publishing Group.
- Sokal, A. D. (1996). *Transgressing the boundaries: Toward a transformative hermeneutics of quantum gravity*. *Social text*(46/47), 217–252.

# bibliography V

- Stroebe, W., Postmes, T., & Spears, R. (2012). Scientific Misconduct and the Myth of Self-Correction in Science. *Perspectives on Psychological Science*, 7(6), 670–688.
- ČTK. (2018). Nevyléčitelně nemocný britský chlapec Alfie Evans zemřel. Převoz a léčbu zakázal soud. [https://www.irozhlas.cz/zivotni-styl/spolecnost/alfie-evans-smrt-velka-britanie-soud\\_1804281144\\_sam](https://www.irozhlas.cz/zivotni-styl/spolecnost/alfie-evans-smrt-velka-britanie-soud_1804281144_sam).
- Toulmin, S. E. (2003). *The uses of argument*. Cambridge university press.
- van Eemeren, F. H., Grootendorst, R., & Eemeren, F. H. (2004). *A systematic theory of argumentation: The pragma-dialectical approach (Vol. 14)*. Cambridge University Press.
- van Mulukom, V., Pummerer, L., Alper, S., Cavojava, V., Farias, J. E. M., Kay, C. S., ... others (2020). Antecedents and consequences of covid-19 conspiracy theories: a rapid review of the evidence. *PsyArXiv*.
- Van Noorden, R. (2011). The trouble with retractions. *Nature*, 478(7367), 26–28.
- Volfová, T. (2018). Rodiče věří mýtům o očkování, roste výskyt spalniček. V Praze už je epidemie. <http://www.ceskatelevize.cz/ct24/domaci/2445079-rodice-veri-mytum-o-ockovani-roste-vyskyt-spalnicek-v-praze-uz-je-epidemie>.
- Voyager 2. (2018, Aug). Face on mars illusion: Space amino. AminoApps. Retrieved from [https://aminoapps.com/c/space/page/blog/face-on-mars-illusion/3WYz\\_0xrcBuo5Y2p0G7w6Ex2adnakE7JnQ](https://aminoapps.com/c/space/page/blog/face-on-mars-illusion/3WYz_0xrcBuo5Y2p0G7w6Ex2adnakE7JnQ)
- Ward, C. A. (2007). *Oracles of nostradamus*. Cosimo, Inc.
- Williams, R. J. (1980). *Biochemical individuality*. University of Texas Press.
- Wiseman, R. (2010). Heads i win, tails you lose. how parapsychologists nullify null results. *Skeptical Inquirer*, 34(1), 36–39.
- Zuefle, D. M. (1999). Tracking bigfoot on the internet. *Skeptical Inquirer*, 23, 26–29.
- Zygmunt, J. F. (1970). Prophetic failure and chiliastic identity: The case of Jehovah's witnesses. *The American Journal of Sociology*, 75(6), 926–948.

**M A S A R Y K  
U N I V E R S I T Y**