Research questions and methodologies: why science is always political

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Preamble

During my journey, I became aware that a research question, method or instrument is *always* influenced (or biased) by factors I am not aware of.

For example, $1+1=2$ may be true in mathematics, but not in social relations: two people who cooperate can achieve much more ($1+1=3$) than the sum of their individual contribution, but can also result in poorer outcomes ($1+1=0.5$).

Hence, defining $1+1=2$ as the *prevailing universal truth* is a political choice that put forwards a mathematical understanding of reality. What then are the *social consequences* of such a choice, when economists and epidemiologists rely on a biased calculation?

My aim is to fuel a reflection on implicit beliefs, and to invite researchers to dedicate more time to critically reflect on the impact of research designs.

Repair bill
– Tapping with hammer $10
– Knowing where to tap $990

Can 'health' be imposed to someone without their consent?

"autonomy [...] promotes better mental and physical health."

Ng, Ntoumanis, Thøgersen-Ntoumani, Deci, Ryan, Duda, Williams 2012

Today's challenges in society

"Autocratization turns viral"

"The level of democracy enjoyed by the average global citizen in 2020 is down to levels last found around 1990. [...] Ruling governments [...] polarize societies by disrespecting opponents."

V-Dem Institute 2021

"Trust in government declined"

"Switzerland [...] saw similar declines in scores for the functioning of government and civil liberties categories owing to nationwide lockdowns imposed."

The Economist Intelligence Unit 2021

"Deaths from hunger are outpacing the virus"

"This year, 20 million more people have been pushed to extreme levels of food insecurity [...] Since the pandemic began, the number of people living in famine-like conditions has increased sixfold."

Oxfam 2021

"The pandemic exacerbates pre-existing tensions and vulnerabilities"

"The general population is showing signs of fatigue; the 'passive hold-out mode' of the crisis has taken its toll. [...] Child psychiatry experts also observe a clear increase in treatment needs for suicidal thoughts and attempts."

Swiss Federal Office of Public Health 2021

Is today's medical research empowering people?

"Method, then, unavoidably produces not only truths and non-truths, […] but also arrangements with political implications."

John Law 2004

Different perspectives
embedded in medical research

Self-management

– Patient follows a self-management plan
– Medical professional is a trainer
– Success: **compliance** to treatment

Coping with illness

– Patient builds a coherent self
– Medical professional is a supporter
– Success: **living well** with illness

Whole system approach

– Patient achieves holistic care, supported by community
– Medical professional is a guide
– Success: **new opportunities** for healthy living

Critical public health

– Patient challenges structural barriers to health
– Medical professional as potential oppressor or radical ally
– Success: **change in social and political structures**

Adapted from Trish Greenhalgh 2009

Does the scientific culture help us ask (sound) questions?

"In modern research, false findings may be the majority
 or even the vast majority of published research claims."

John Ioannidis 2005

Some perspectives embedded in research questions

Social contract
– universal rules by experts (Westphalian constitutions)
– collectively lived, local customs (Indigenous oral tradition)

Rule of law
– Civil code → excluding property, academic competition
– local customs → shared use rights, knowledge commons

Paradigm
– universal, single truth (positivism, mechanism)
– contextual, subjective realities (socio-constructivist)

Theoretical angle
– self-management (mainstream)
– critical public health (emancipatory)

Research methodology
– epidemiology (expert-based)
– participatory action research (community-driven)

Research process
– collect → analyze → interpret → publish (waterfall)
– iterative gathering and sharing (creation-as-research)

Collection method
– historical data on diseases (quanti)
– co-creation + surveys (quali, quanti)

Analysis method
– regression analysis (quanti)
– meta-narrative + stats (quali, quanti)

Interpretation method
– mathematical model (quanti)
– legislative theater (mixed)

An exercise

Imagine you want to know your stress level by checking your heart rate. You:
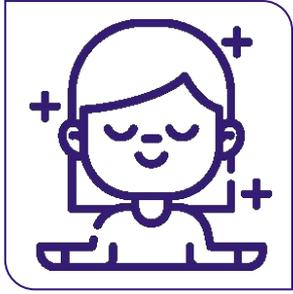
close your eyes
and observe
your **sensations**
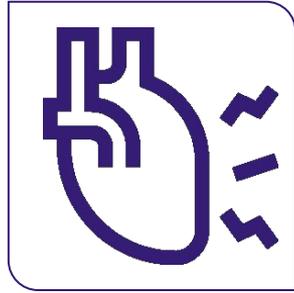
count the beats
you feel on your
wrist over a
period of time

use an **app** that
measures your
pulse
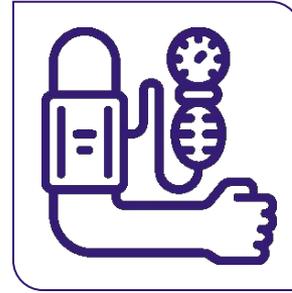
use a blood
pressure
monitor at the
pharmacy
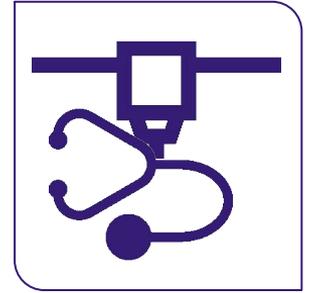
3d-print an
open-source
stethoscope
and use it

→ which options provides you with the *minimal* required information?
→ which option enables you to *significantly* develop your skills?
→ what are the *implicit beliefs* embedded in each option?

# Next steps?

What about taking time to improve how we cooperate?

"public policy should [...] facilitate the development
of institutions that bring out the best in humans."

Elinor Ostrom 2009
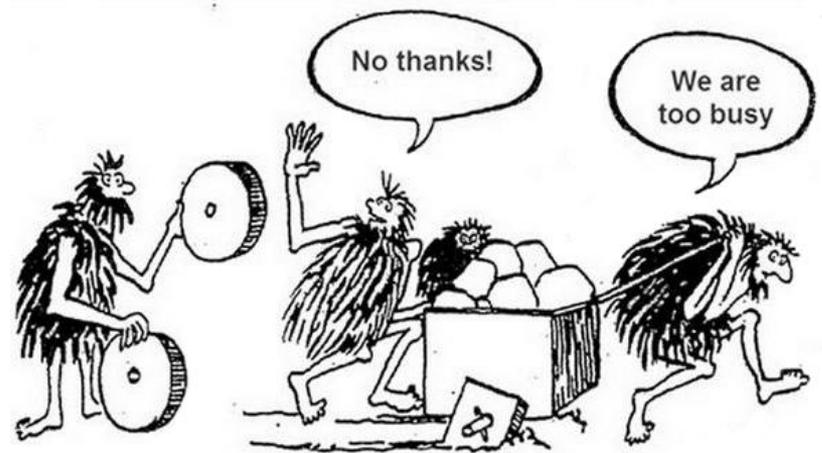
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Additional resources

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Thank you