

# KNOWLEDGE RESISTANCE

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- Last session we looked at **science** vs. **pseudoscience**.
- **Question:** Do we know that we'll go for the **good stuff**?
- In a Lakatosian framework, is it **naive** to think that degenerating research programmes will be **abandoned** and **progressive** programmes taken up?
- To what extent do we naturally **conform** to good scientific practice (and epistemic practice more generally)?

- **Observation.** We are taken in by **bad** information, theories, and systems **very often**.
- It can take **effort** and **time** to break free.
- **Confession:** Between the ages of 13 and 16, I believed that telekinesis was **real**.
- Integrating evidence well is **hard** for us.

## TODAY'S QUESTIONS

What is this **resistance** to knowledge/facts? What might **explain** it? What are some **common pitfalls**?

INTRODUCTION

DANGERS OF KNOWLEDGE/FACT RESISTANCE

WHAT IS KNOWLEDGE?

COGNITIVE DISTORTIONS

SUMMING UP

- Again, we can either **address** this cluster of questions or **dismiss** them (on good grounds obviously).
- So, is this an **interesting** question?
- **Observation.** Our beliefs and (apparent) knowledge **guide action**.
- **Example.** My getting into the lecture theatre today depended upon a **whole lot of knowledge**.
- **Less trivial example.** We often make **important decisions** about our (and others) **well-being** on the basis of our beliefs.

# Letting them die: parents refuse medical help for children in the name of Christ

The Followers of Christ is a religious sect that preaches faith healing in states such as Idaho, which offers a faith-based shield for felony crimes - despite alarming child mortality rates among these groups

—*The Guardian*, 2016.

- **Individual** action is one thing, but **collective** action is also important.
- We may behave, as a **group** in ways that go substantially **beyond** what we enact as **individuals**.

## The impact of misinformation on the COVID-19 pandemic

[Maria Mercedes Ferreira Caceres](#),<sup>1</sup> [Juan Pablo Sosa](#),<sup>1,\*</sup> [Jannel A Lawrence](#),<sup>1</sup> [Cristina Sestacovski](#),<sup>1</sup>  
[Atiyah Tidd-Johnson](#),<sup>1,2</sup> [Muhammad Haseeb Ul Rasool](#),<sup>1</sup> [Vinay Kumar Gadamidi](#),<sup>1</sup> [Saleha Ozair](#),<sup>1</sup> [Krunal Panday](#),<sup>1</sup>  
[Claudia Cuevas-Lou](#),<sup>3</sup> [Matthew Parrish](#),<sup>3</sup> [Ivan Rodriguez](#),<sup>1,4</sup> and [Javier Perez Fernandez](#)<sup>1,5</sup>

“[Misinformation] has perpetuated **beliefs** that led to vaccine avoidance, mask refusal, and utilization of medications with insignificant scientific data, ultimately contributing to increased morbidity. **Undoubtedly, misinformation has become a challenge and a burden** to individual health, public health, and governments globally.”

- This is especially problematic in **democratic** societies.
- There the activities of **voting**, **elections**, and **referendums** can be viewed as enormous **collective action** activities.

## Final Say: The misinformation that was told about Brexit during and after the referendum

- 1 'The money saved from leaving the EU will result in the NHS getting £350m a week'
- 2 'A free-trade deal with the EU will be 'the easiest thing in human history'
- 3 'Two thirds of British jobs in manufacturing are dependent on demand from Europe'
- 4 'Turkey is going to join the EU and millions of people will flock to the UK'
- 5 'Brexit will lead to Scotland renewing calls for independence'
- 6 'Brexit does not mean the UK will leave the single market'

—*The Independent*, 2018.

- In just a second we'll talk about characterisations of **knowledge**.
- First, some things that knowledge/fact resistance is **not**.

- **1. Non-interest in uninteresting facts.** I am **not** interested in the colour of Erna Solberg's socks on 4. February 1976.
- **2. Inability to know things that are too hard.** I do **not** know **exactly** how many stars there are in the observable universe (somewhere in the region of  $10^{22}$  and  $10^{24}$ ). Nor could I **reasonably come to know** this.
- **3. Inability to know things that we lack the concepts for.** Hypatia (born c. 350-370; died 415 CE) was not resistant to facts about nature of **leptons** (a particular kind of elementary particle). She **did not have the concept** of a lepton.
- **Rather:** We are concerned with resistance to facts/knowledge that I **can** know and have an **interest** in.



- **Epistemology** is the branch of philosophy that concerns itself with **knowledge** and **belief**.
- First, an important distinction between **knowledge how** and **knowledge that**.
- **Knowledge how** (standardly conceived) concerns my **abilities**.
- e.g. I know how to **ride a bike**, how to **boil an egg** etc.
- **Knowledge that** concerns my attitudes regarding **propositions**.
- e.g. I know that  $2 + 2 = 4$ , that **some spiders are harmless**, that **nuclear fusion happens in the sun**, that **Harald Hardråde didn't own a Ferrari**.
- **Huge** debate (especially in the 20th century) about the relationship between the two.

A standard characterisation of knowledge that (going way back—something like it appears in Plato's *Theaetetus*) holds that agent  $S$  **knows** a proposition  $P$  when:

- $P$  is **true**
- $S$  **believes**  $P$
- $S$  has **justification/evidence** for  $P$ .

- There's **lots** of accounts of **truth**.
- One **popular** and **natural** account is the **correspondence theory**.
- "*P*" is **true** iff the world **corresponds** to *P*.
- e.g. "Neil is in the lecture hall" is **true** iff Neil (this person right here) is in the lecture hall (this thing we see around us).
- We'll **stick with** the correspondence theory.
- **Note:** The correspondence theory may seem obvious (why even say anything?). There are certain accounts of truth (e.g. verificationism) that include a component coming from the **epistemic agent**.

- Beliefs are often taken to be kinds of **propositional attitude**.
- **Popular idea:**  $S$  **believes**  $P$  when  $S$  thinks that  $P$  is true.
- Distinguish the **sentences** “Snow is white”, “Schnee ist weiß”, “Snøen er hvit” from the relevant proposition.
- Often beliefs are linked to **dispositions** (the ways we are likely to behave in a given circumstance). Some even **characterise** beliefs this way.
- If this is the case, then we can manifest what we believe through **action**.
- e.g. Trump can **say** he respects women, but his actions reveal his beliefs.

- **Justification** is the **reason** an agent holds a particular belief.
- Again **lots** of different accounts here.
- Often, as in the case that Wikforss concentrates on, we can look at this through the lens of **evidence** (where evidence is what you'd point to in support of a given belief).
- **Note:** Philosophers (e.g. Alvin Plantinga) use the notion of **warrant** to refer to whatever it is that distinguishes knowledge from belief, but I'll stick with just considering **justification** from now on.



- Let's consider the idea of a **Gettier case**.
- You look into the lecture hall.
- You think you see me.
- You form the belief that I'm in the lecture hall.
- As it turns out, it was just someone who looked like me.
- But I am hiding under a table in the lecture hall.
- You have a **justified, true, belief**, but you're **lucky**.
- Intuitively speaking you don't **know**.
- A **huge** amount of philosophy has concerned how to modify the JTB account to handle Gettier cases, with long back-and-forth debates
- **Tidbit:** Edmund Gettier's two-and-a-half page (!) Gettier cases paper has been cited at least 5'800 times!

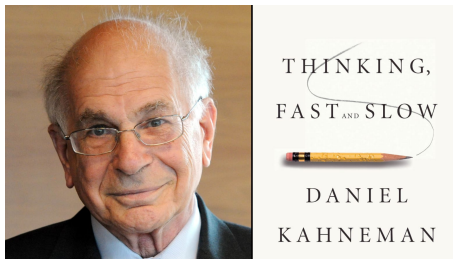
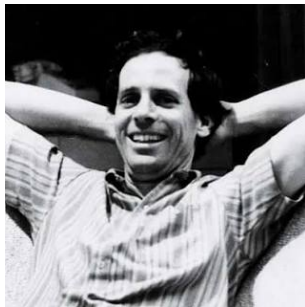


- It's common to think that we want justification to be **fallible** (i.e. we might be justified in a **false** belief).
- As Wikforss puts it “the requirement for proofs leads to a sceptical **meltdown**”.
- This leads to the **inescapability** of Gettier problems.
- Wonderful template by Linda Zagzebski: (1.) Take a **false** belief, (2.) Make it true by **epistemic luck**, (3.) You have a **Gettier case**!
- **Note:** There are some people in philosophy who hold **infallibilist** conceptions of justification, we'll put these to one side.

- We can can **always** sow doubt, and we **can't often** get full certainty.
- But this shouldn't lead us to **full sceptical meltdown**.
- **Note:** This strategy is often used by proponents of **bad** conspiracy theories.
- **Note 2:** I don't mean to beat up on people who hold conspiracy theories! There have been **true** conspiracies (e.g. Edward Snowden and the NSA revelations). But some systems of thought and ways of arguing **are** bad.
- We want to analyse **how** and **why** we fall into error, and what we can **do** about it.

Wikforss provides the following helpful taxonomy (we'll follow the formulation in the book). We can be resistant to facts because:

- **1a.** We fail completely to absorb **relevant** and **accessible** information. We are too lazy, or else reluctant, to read or to ask those who know more than we do.
- **1b.** We are **insufficiently thorough** when we check whether our reasons hold water. We are unwilling to test our suppositions.
- **2a.** We cling to erroneous suppositions even after we have **good reasons** for abandoning them. We are irrational.
- What can we do to **avoid** this as much as possible? Can we hope to be **perfect**?
- Of course **I'm** not biased, right?



- Here's the following example from *Thinking Fast and Slow*
- An individual (selected at random from the population of USA in the 1960s) has been described by a neighbor as follows: "Steve is very **shy** and **withdrawn**, invariably helpful but with little interest in people or in the world of reality. A **meek and tidy** soul, he has a need for **order** and **structure**, and a passion for **detail**."
- **Question.** Is Steve more likely to be a librarian or a farmer?
- Did it occur to you that (in the relevant sample) there are more than 20 male farmers for each male librarian [in the relevant time period] in the United States?
- Because there are so many more farmers, it is almost certain that more "meek and tidy" souls will be found on tractors than at library information desks.
- The **presentation** of the information **tricks us**.

- Another fun example: According to the Bible, how many animals of each kind did Moses take onto the ark?
- The answer is...
- **None!** Noah took animals onto the ark.
- The context leads us astray.
- **Note:** It's unclear whether you really **believe** the proposition here. But it's helpful to see how your cognitive apparatus can **distort** things.

- 2001–2003 study by the US *National Bureau of Economic Research* entitled ‘Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination’ found that CVs, **identical save for the name on the top**, got a 50 percent higher callback rate when the name was stereotypically ‘white’ rather than ‘black’.
- More generally, the empirical research suggests that **we all** have biases about people relative to various factors, and these can influence our decisions.
- It’s reasonable to think that these kinds of biases can have **profound** political and economic consequences.
- **Note:** This **doesn’t** mean that you are **overtly** prejudiced.
- **Note:** This doesn’t mean that life is all roses if you come from a group that tends to benefit from biases.

- The empirical literature suggests that bias is **part** of our psychology.
- Kahneman impressively charts **several** in *Thinking, Fast, and Slow*.
- Some **important** biases that have been discovered:

- **Halo effect.** We are more likely to find people who we find **impressive in one respect**, impressive in an **irrelevant** domain.
- **Confirmation Bias.** We are biased towards interpreting information in a way that **confirms our present beliefs**.
- **The Dunning-Kruger Effect.** When we have **limited competence** in a given domain, we tend to **overestimate** our abilities.
- **Note:** Often Dunning-Kruger is taken to include decreasing confidence with increasing competence.

- **Kahneman's proposal:** There are **two** 'systems' of thinking.
- **System 1.** Concerns quick 'snap' judgements we make on the fly.
- It is **fast**, **unconscious**, and **low resource**.
- **System 2.** Is how we puzzle out problems that require
- Detailed explanation of how **System 1** and **System 2** **interact**.
- **Important point.** We are products of **evolution**, and **System 1** is the one that primarily keeps us safe short-term and at low cost.
- But **System 1** is likely to also lead us astray concerning propositional matters, so it has to be **tempered** by **System 2**.

- This session we've seen:
- 1. Knowledge/fact resistance is **dangerous**.
- 2. In some sense though, a **degree** of knowledge resistance is pervasive.
- I will leave it up to you to think about possible ways of **fighting** knowledge resistance, both in yourself and others.
- Indeed how to do so is a **vibrant** area of research!
- **Important point.** Be **aware** of your own **biases**, and how these might affect your judgements and behaviour (in every sphere of life, from politics to science).
- **Personal anecdote.** Even when I'm working on the relatively abstract work I do on philosophy of mathematics and infinity, I have to work **hard** (and **not** always successfully) against my own confirmation bias especially.