

# HS 312 – Introduction to Science and Technology Studies

Lecture 12  
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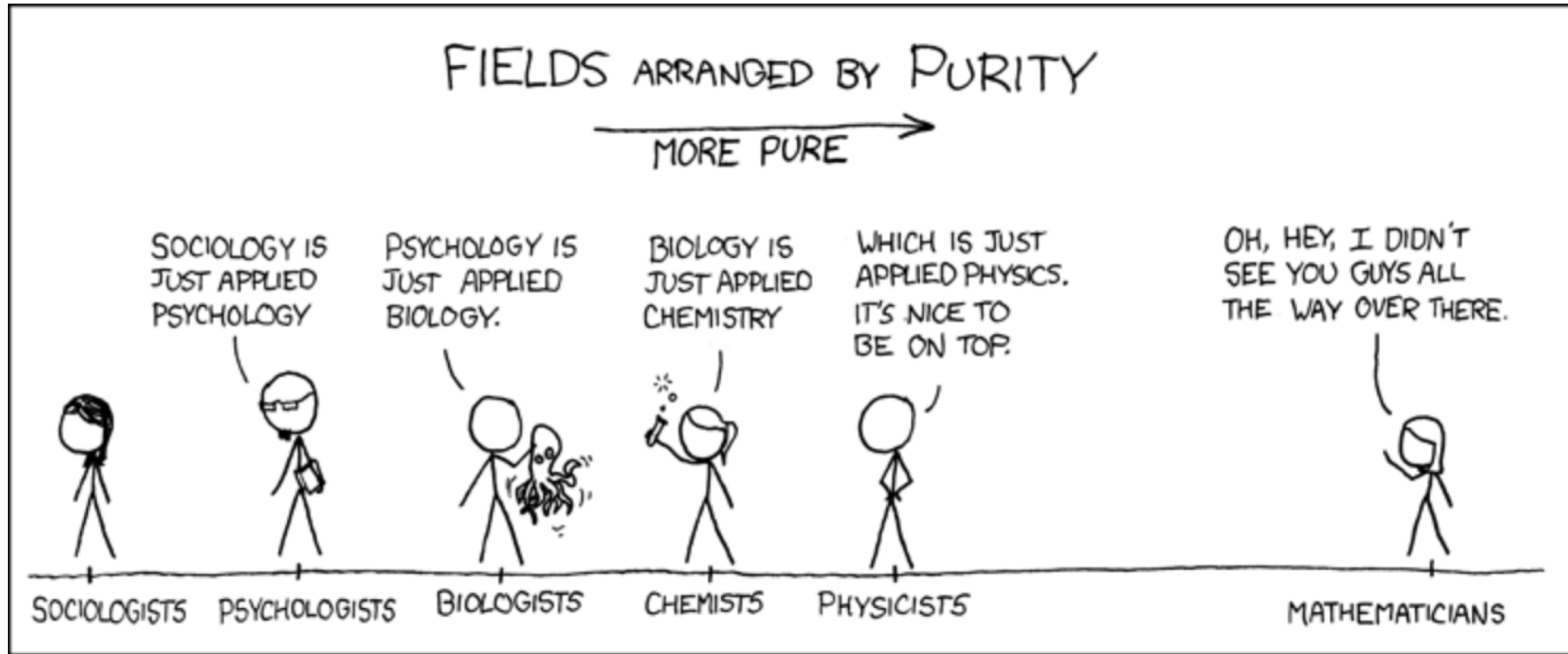


Image Source: <https://xkcd.com/435/>

# Controversies

- Scientific and technological discussions seem to end with claims to solid knowledge
- Kuhn - Science is less progressive than we take it to be, that there are losses in knowledge as well as gains
- **Black box** – a predictable input-output device, inner working of which need not be known for it to be used  
Artefacts are objects made or modified by humans, often of historical or cultural significance.
- **S&T produce black boxes, or facts and artefacts** that are taken for granted with an air of inevitability  
granted with an air of inevitability -> accepted without much questioning

Black Box – A smartphone's internal algorithms work efficiently, but most users don't question how they function.

Fact – Gravity is accepted as a natural force without daily reconsideration.


Artefact – The telescope revolutionized astronomy, but today it's just a tool scientists use without questioning its origins.<sup>3</sup>

# Opening the black box

Obscure: Something unclear, unknown, or difficult to understand.

Teleological Story: A narrative that explains events as if they were inevitably leading to a specific purpose or goal.

Example: Some histories of science present electricity's discovery as destined, ignoring alternative developments.

- Black box tends to obscure history behind a teleological story
- For example, If we ask how the consensus developed that vitamin C has no power to cure cancer? Linus Pauling - Nobel Prize-winning chemist?
- The truth has no causal power that draws scientific beliefs toward it 
- STS takes a **symmetrical** approach to studying debates
- Pays attention to controversial stage of history e.g. GM food, non-lethal weapons, definition of moment of death

Scientific beliefs do not automatically move toward the truth just because something is true. Instead, beliefs change based on evidence, experiments, and human interpretation, which can be flawed or influenced by other factors.

5	22B0384	Ayush Sharma	Additional Read Nishtha		15	22B0074	Pavagada Narendra Babu Pranav Yadav
	22B1206	Ayush Timan	Political Prescriptions: Three Pandemic Stories	14-Feb		22B1263	Pawar Sanskriti Vijay
	22B1048	Banoth Mithila				22B1062	Pediredla Sahil Sriram
	23B3031	Banoth Mythili				22B0938	Puppala Revak Sai

# Sources

- Sismondo Sergio (2010). Controversies. Chapter 11, in *An Introduction to Science and Technology Studies*; second edition: Blackwell Publishing, Oxford UK.
- Bharti N. & Sismondo S. (2024). Political Prescriptions: Three Pandemic Stories. *Science, Technology, & Human Values*. Vol. 49(2), 371-402.

Thank you