

Module 10: Explanation and explanability

Gert Meyers (TILT, Tilburg University)

This week

- Explanation and explainability
- Third debating session!

- The blogpost

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Explainability: What?

Word cloud containing terms related to explainability and AI ethics, including: Transparency, mutual understanding, examples, Auditability, Easily understood, Clarification, Simplicity, Clearness, Interpretability, counterfactual, accountability, Local/global explanations, Different for everybody, Post hoc explanations, and ethical reasoning.

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Explainability: Why?

Tijd om te stemmen!

30

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antwoorden gekregen

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Explainability: how?

xai course examples Explainable models
partial dependence plots SHAP LIME Ask Martijn Simplicity
logical reasoning Transforming metrics ELI5
Comparison Understanding

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MODULE 8: TRUST AND TRUSTWORTHINESS



MODULE 9: AUTONOMY



MODULE 10: EXPLANATION AND EXPLAINABILITY

- Explanation
- Transparency
- Accountability
- Justification

why?

what happens when people
give reasons...and why

CHARLES TILLY



Normative ethics

Utilitarianism

Virtue Ethics

Kantian Ethics

Descriptive ethics

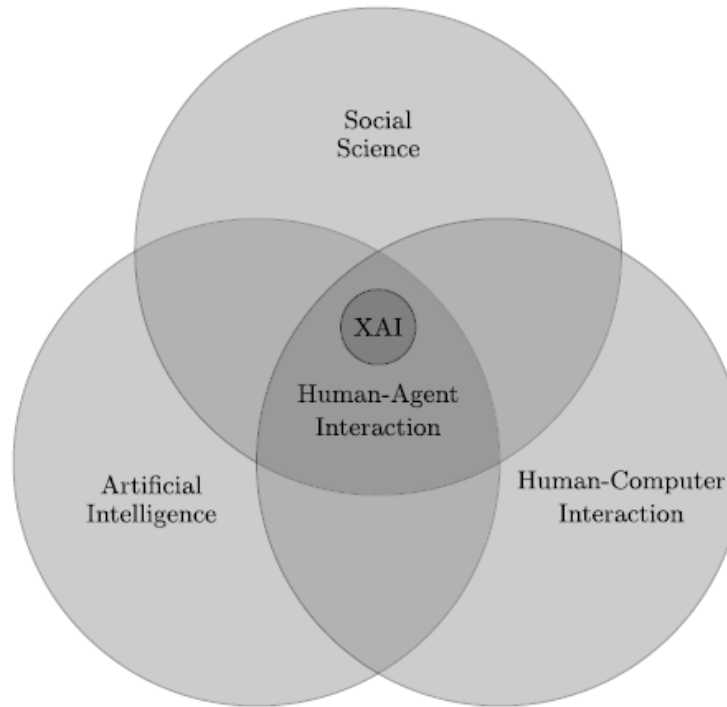


Fig. 1. Scope of explainable artificial intelligence.

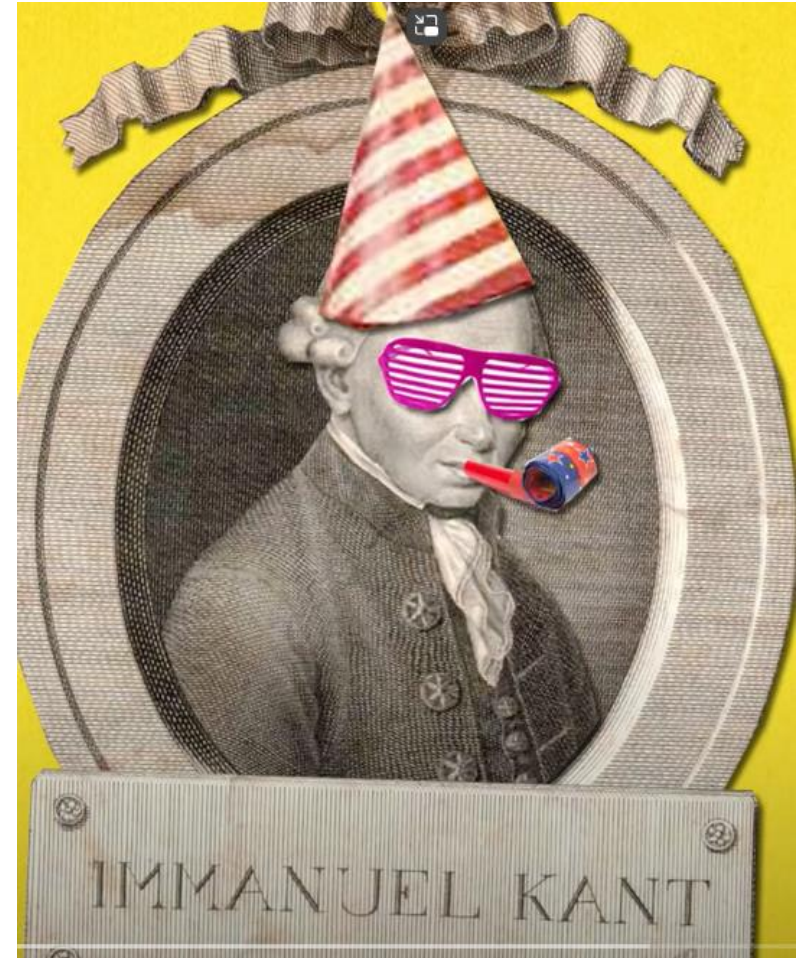
Note: 'Everyday explanation'
vs 'general explanation'

Note: decisions

Happy Birthday!

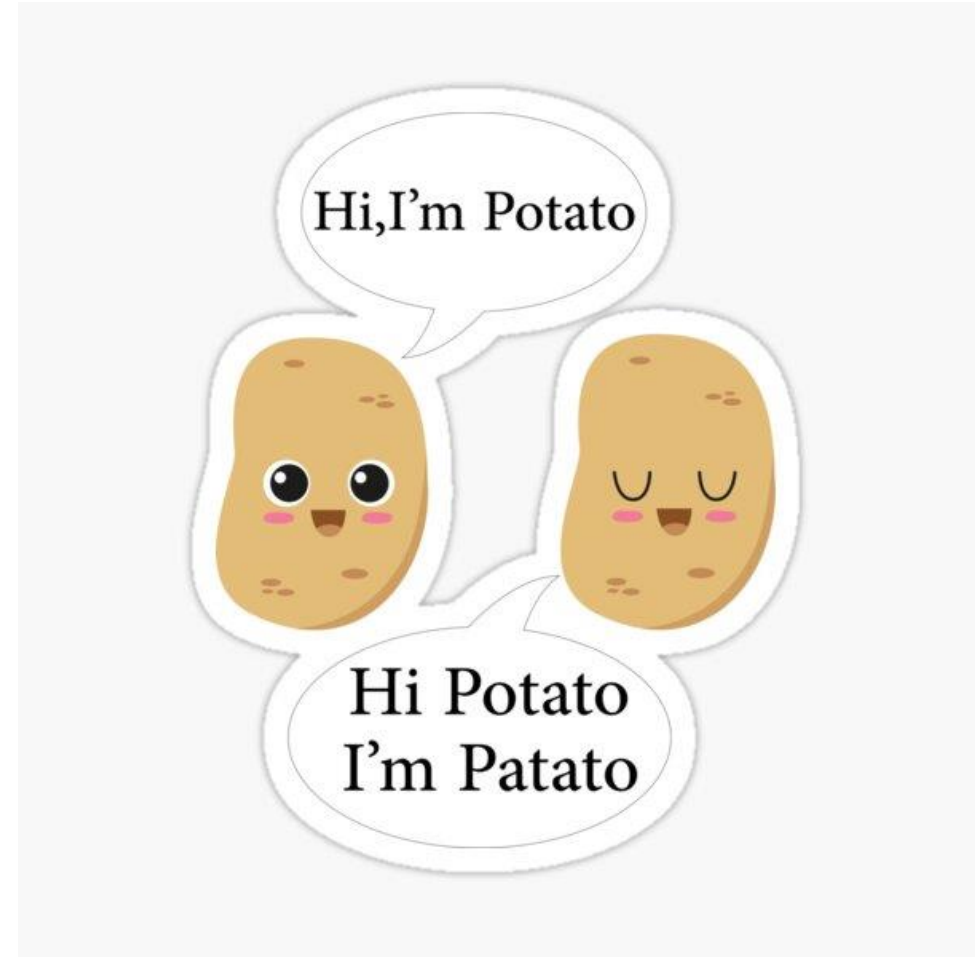


Immanuel Kant: born on 22 april 1724



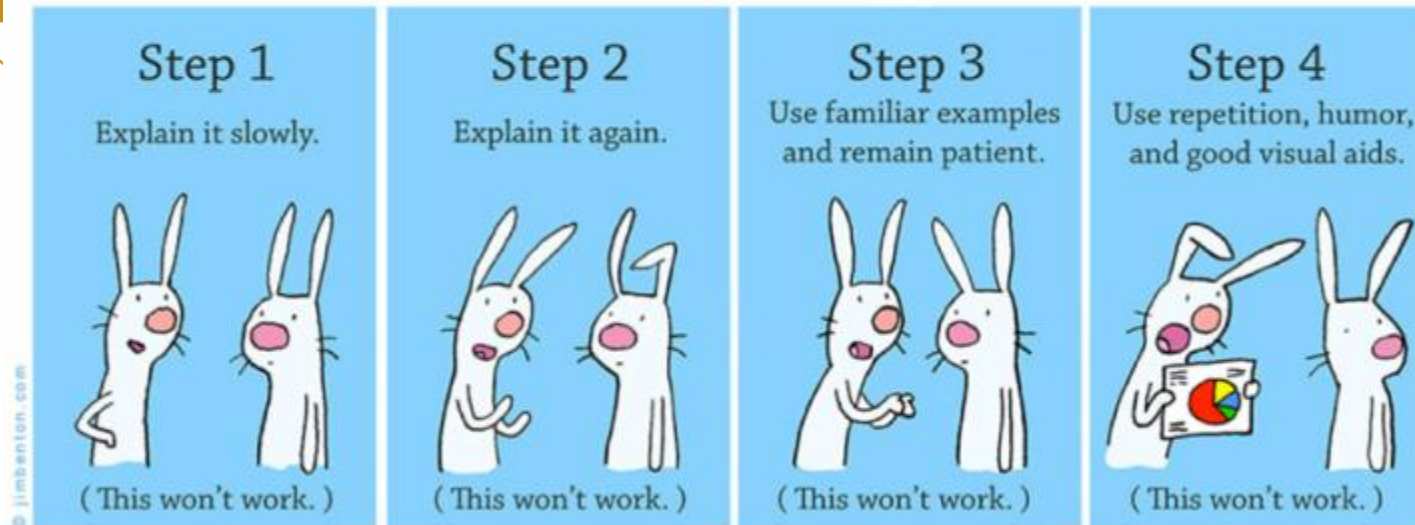
Explanation as product and process (twice)

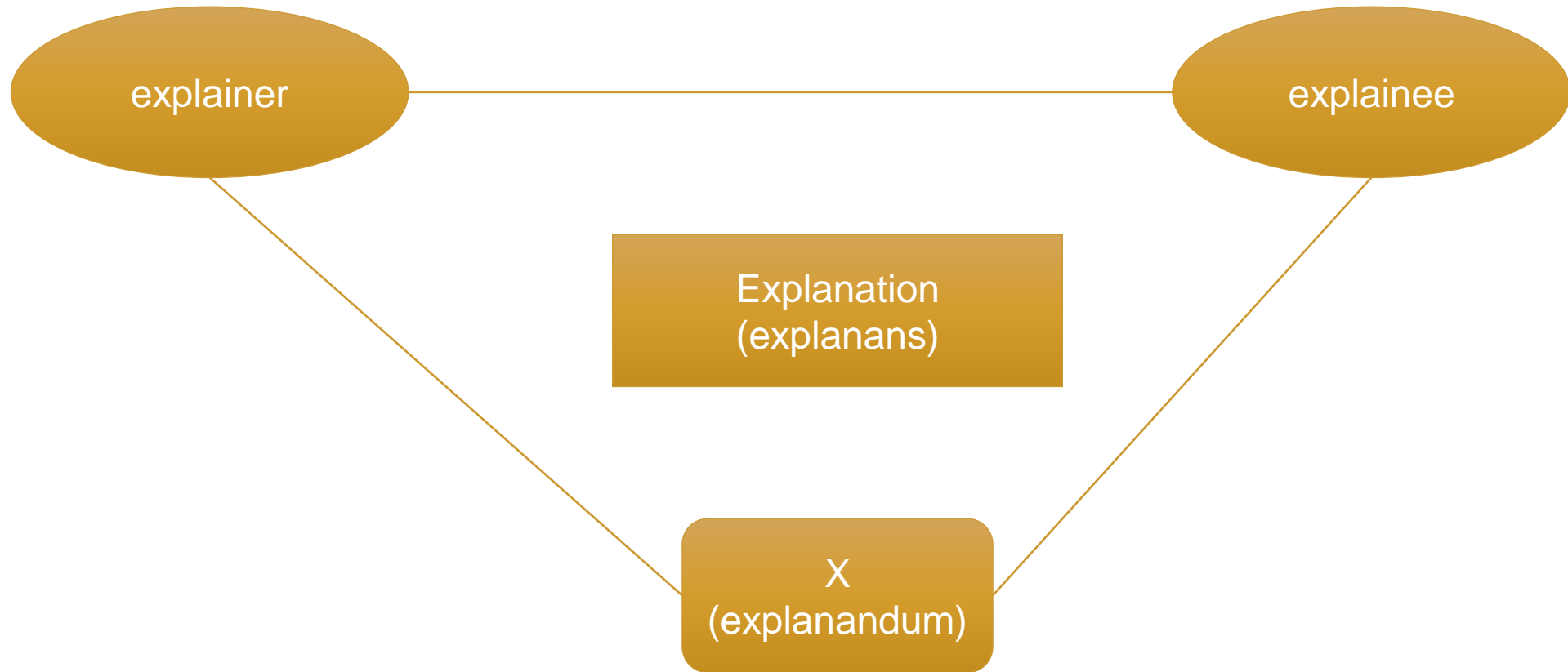
- Cognitive process: identifying the causes of a particular phenomenon
- Product: the explanation
- Social process: transferring knowledge between explainer and explainee



explain

How to explain things ..to the disengaged?



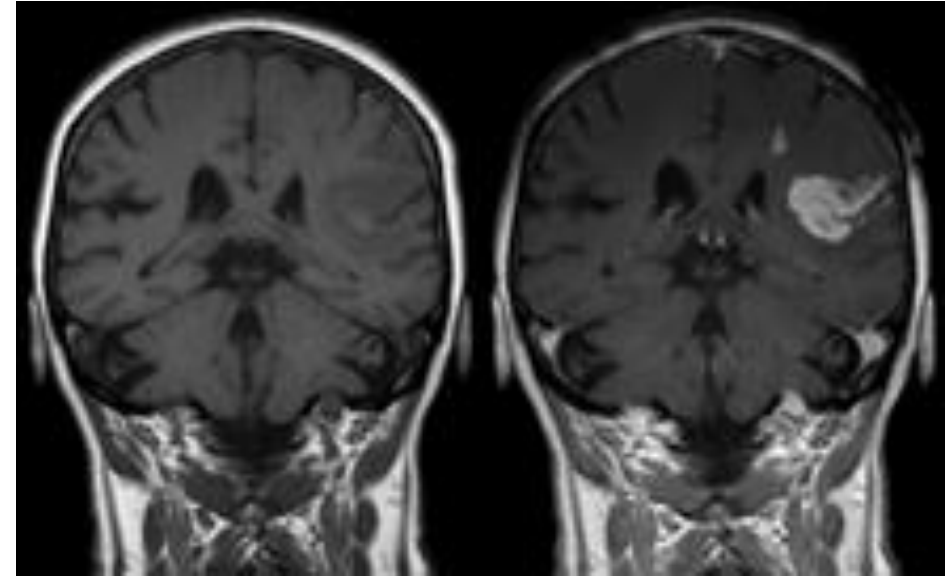


trustee

trustor

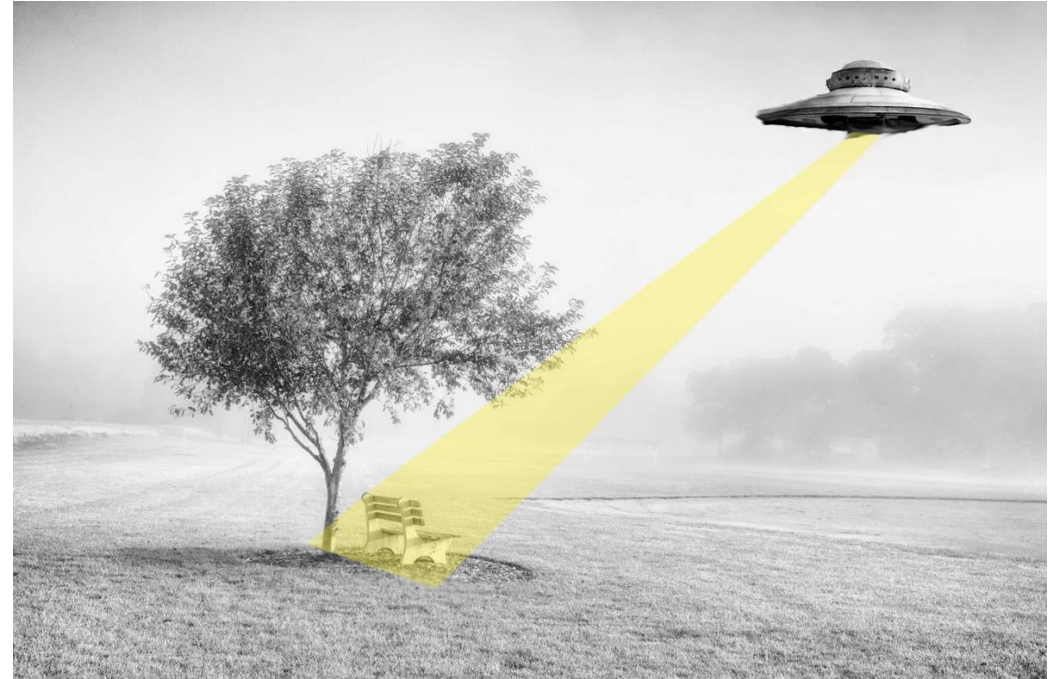
Explanations are contrastive

- Counterfactual cases
- Why this instead of that?
- Layperson will find contrastive explanations more intuitive and more valuable
- Science girl op X: 'Explain this! <https://t.co/7izH4Hbivz>' / X (twitter.com)



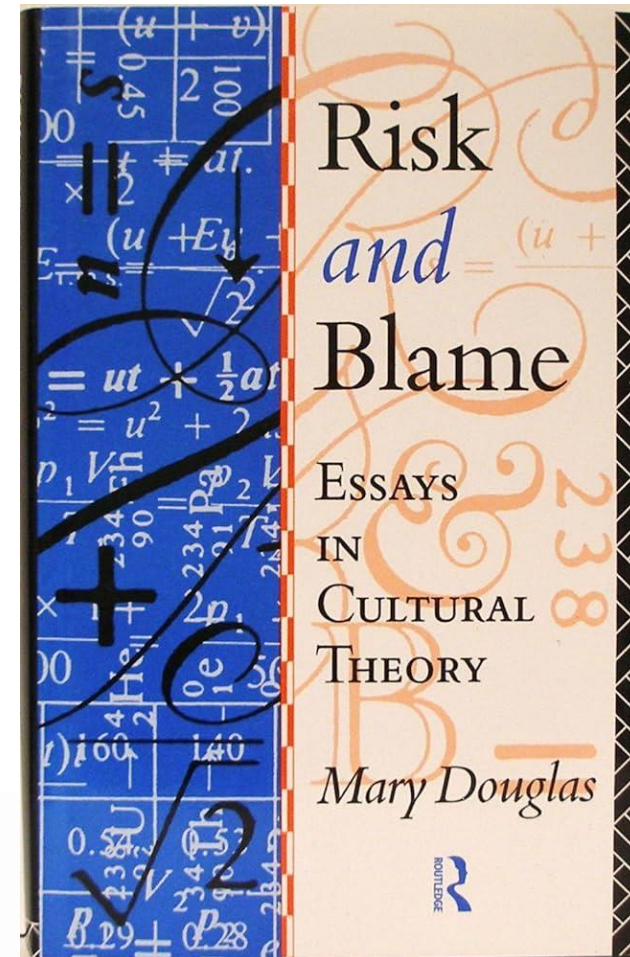
Explanations are selected

- Humans are adept at selecting one or two causes from a sometimes infinite number of causes to be *the* explanation
- Cognitive burden of complete explanations is too great



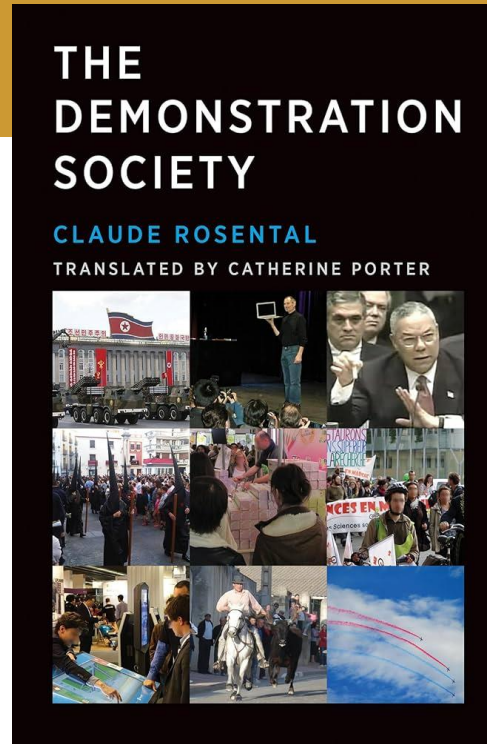
Probabilities probably don't matter

- Referring to probabilities vs referring to causes
- The most likely explanation is not always the best explanation for a person
- Example: collapse of the soviet union



Explanations are social

- Transfer of knowledge
- Part of an interaction
- Erving Goffman: 'definition of the situation'



why?

what happens when people
give reasons...and why

CHARLES TILLY

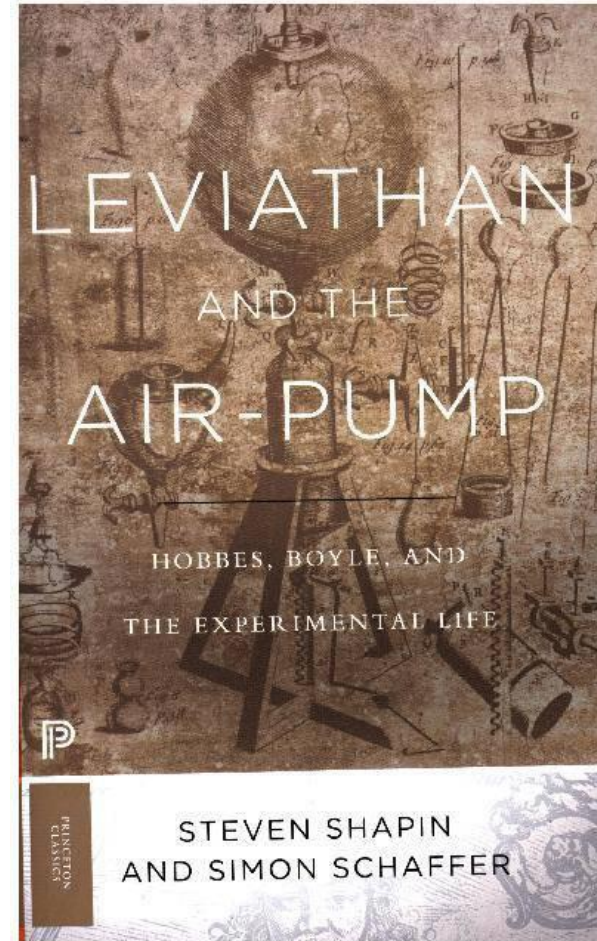


Erving Goffman
Asylums
Essays on the Social
Situation of Mental Patients
and Other Inmates



Explanation

- Contrastive
- Selected
- Propabilities probably don't matter
- Social
- CONTEXTUAL
 - An explanation is not a (mathematical) proof
 - 'the best' explanation does not always work



Normative ethics

Utilitarianism

Virtue Ethics

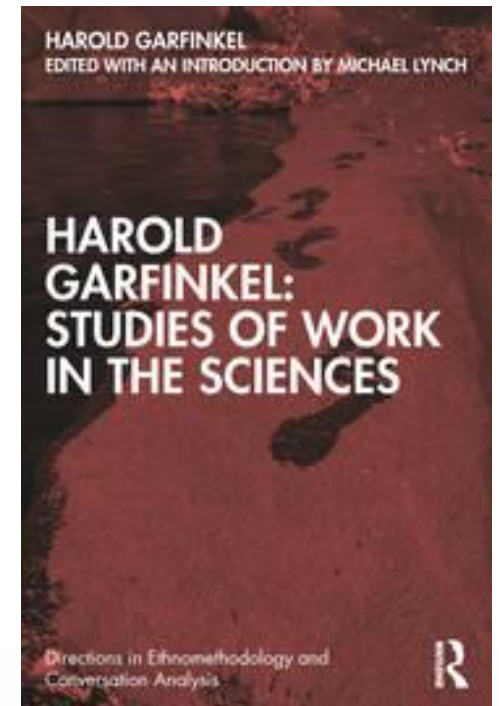
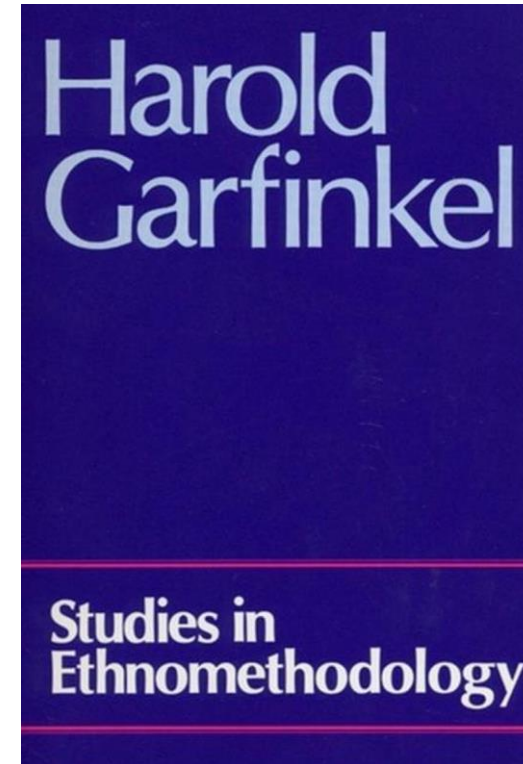
Kantian Ethics

Descriptive ethics


Providing (observable) accounts


Accountability

- Actors continuously provide observable accounts of what they are doing (ethnomethods)
- Often implicit
 - Et cetera clause
 - For ex. Skipping slides because lack of time
- ADM are decision that take place in social context, but opacity problem

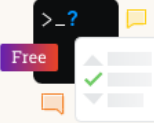


This slide is skipped because lack of time

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Is it good to have slides that may be skipped during a presentation?

Asked 4 years, 11 months ago · Modified 4 years, 11 months ago · Viewed 12k times

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▲

I am preparing a seminar talk. Currently the presentation contains some theorems and some proofs. Probably, I will not have time to explain all the proofs - I will have to skip some of them. My question is, which of the two options is better:

▼

1. Keep the slides with the proofs visible, and during the presentation, if I see that the time is tight, rush through them saying that "I skip the proof", or -

2. Keep the slides with the proofs hidden, and during the presentation, if I see that there is enough time, unhide and go through them?

🔖


🕒

The advantage of option 1 is that the audience sees that I have a proof and they can read it later if they want; also, if I have time it is easier to present the proof; the disadvantage is that it might look confusing or unprofessional to rush through slides. Are there other considerations?

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asked Sep 17, 2018 at 10:52

 [Erel Segal-Halevi](#)
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Accountability and public reason

- ‘obligation to provide justification’
- What type justifications are *good* justifications?
- ADM
 - Epistemic and normative assumptions
 - Reflected in justification
- No guarantee that explanation is acceptable to all (reasonable pluralism)
- ‘There is therefore likely to be a gap between merely providing reasons and explanations for an ADM system’s output, and providing adequate justification for them that will be acceptable to affected decision-subjects’

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what is a good/adequate justification of an ADM output?

At least Informative
specific contextual
counterfactual Good inputs
objective reasons Past performance

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Public reason

- ‘Public reason proposes that universal rules must be justifiable on grounds that are suitably public and shared by all reasonable people in the society, and without appeal to beliefs that are controversial.’

Next week:

- Bias, discrimination and data justice (Donovan)
- Last debating session



Questions on Module 10?

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