

Knowledge and Reality, Lecture 04

Brian Weatherson

2022-09-12

- Review
- Reductionism
- Rationality Wars
- Cultural Evolution
- Back to Testimony, and Fraud

Review ○○●○○	Reductionism ○○○○○○○	Rationality Wars ○○○○○○○○○	Cultural Evolution ○○○○○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○
-----------------	-------------------------	-------------------------------	---------------------------------	---

Is Testimony a Basic Knowledge Source

Lots of reasons to think it might not be.

1. People deceive us, either intentionally or unintentionally.
2. Sources differ.
3. Testimony isn't independent of other sources.

Review ○○●○○	Reductionism ○○○○○○○	Rationality Wars ○○○○○○○○○	Cultural Evolution ○○○○○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○
-----------------	-------------------------	-------------------------------	---------------------------------	---

Is Testimony a Basic Knowledge Source

None of these are conclusive, since they all overgenerate.

1. Looks can be deceiving.
2. Things look different from different angles.
3. Inference isn't independent.

Review ○○○●○	Reductionism ○○○○○○○	Rationality Wars ○○○○○○○○○	Cultural Evolution ○○○○○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○
-----------------	-------------------------	-------------------------------	---------------------------------	---

Why Might Testimony be Basic

1. In practice we act like it is.
2. It would be impossible to not act like it is (perhaps especially in childhood).
3. Language must be mostly correct in order to work.

Review ○○○○●	Reductionism ○○○○○○○	Rationality Wars ○○○○○○○○○	Cultural Evolution ○○○○○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○
-----------------	-------------------------	-------------------------------	---------------------------------	---

Plan for Today

1. Happy to answer any questions about the reading.
2. But my priority is explaining background, because this intersects a lot of debates inside and outside philosophy.

Review

Reductionism

Rationality Wars

Cultural Evolution

Back to Testimony, and Fraud

Two Approaches to Testimony

1. Reductionism

2. Anti-Reductionism

Anti-Reductionism

This is basically the testimony is a pramana position.

Anti-Reductionism

Two aspects, that don't need to go together.

- Evaluative: People can do well by taking speakers at their word.

• Psychological: People in fact take speakers at their word.

Motivations for Anti-Reductionism

- Mostly carried over (well, belatedly rediscovered) from Indian traditions.

• But one new motivation, a focus on infants and toddlers.

• They couldn't learn if reductionism were true.

Reductionism

Testimony is not a pramana.

- It reduces fundamentally to perception + inference.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Standard form of testimonial inference

1. Speaker said that p.
2. This speaker is generally reliable (perhaps known, perhaps reasoned from background).
3. This speaker has no reason to deceive.
4. So, probably, p.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Two Distinct Claims

- Good hearers go through something like this inference.
- Real hearers (typically) go through something like this inference.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Sperber et al

Both those claims are true.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

- Review
- Reductionism
- Rationality Wars
- Cultural Evolution
- Back to Testimony, and Fraud

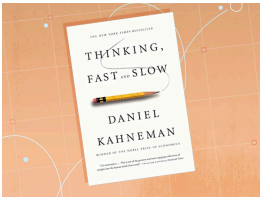
Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

A Very Brief History

- Late C20 psychology included included big trend of arguing that people are much less rational than they seem.
- Early C21 has featured some pushback to this.
- This paper is (a kind of important) part of the pushback.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Heuristics and Biases



Thinking Fast and Slow, by Daniel Kahneman

- Work Kahneman did with Amos Tversky.
- What looks like intelligent behavior is mostly a set of heuristics, i.e., short-cuts.

19/50

- Kahneman's own view is that there is a core of something like traditional rationality.
- This is system 2, the slow of "Thinking Fast and Slow".
- But most of what we do, and everything we do fast, is basically automatic.

20/50

- Drop, or minimise, the existence of system 2.
- It's all just automatic heuristics that have evolved to be useful.

21/50



Daniel Gilbert

22/50

Show people a bunch of sentences for short amount of time each.

- Tell them the ones in black will be true, and the ones in red false.
- Make the content of each (black and red) plausible, but not something they know about.

23/50

Show them the sentences again, and ask whether they are true or false.

- They tend to say yes to both the ones in black and the ones in red.

24/50

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

What is Going On?

Why do **you** think that we might see these results.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

What is Going On?

- Gilbert’s hypothesis (which he attributes to Spinoza):
- Understanding language involves first taking something to be true, then (perhaps) questioning whether it is.
 - This is a really strong form of (psychological) anti-reductionism.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Pushback

- We'll get to this in more detail, but the very short version is that the ‘automatic’ behavior might be sensible allocation of scarce cognitive resources. More on this to follow.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

- Review
- Reductionism
- Rationality Wars
- Cultural Evolution
- Back to Testimony, and Fraud

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Two Theories of Cultural Evolution

1. Copying
2. Rational adoption

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Two Theories of Cultural Evolution

- These aren’t exhaustive, plenty of other stories too.
- The Australian philosopher of biology Kim Sterelny calls the schools that center these ideas the “California school” and the “Paris School”.
- This paper is an important text in the Paris school approach.

Review ○○○○○	Reductionism ○○○○○○○○○	Rationality Wars ○○○○○○○○○○○	Cultural Evolution ○○○○●○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○○○
-----------------	---------------------------	---------------------------------	----------------------------------	---

Paris School

- The key moves in cultural evolution are rational.
- But they aren't always conscious.

31/50

Review ○○○○○	Reductionism ○○○○○○○○○	Rationality Wars ○○○○○○○○○○○	Cultural Evolution ○○○○●○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○○○
-----------------	---------------------------	---------------------------------	----------------------------------	---

Why Replication

- We see someone doing X and succeeding in a certain way.
- We want to succeed in that same way.
- We infer, fallibly, sub-consciously, that they are succeeding because of X.
- So we do X as well.

32/50

Review ○○○○○	Reductionism ○○○○○○○○○	Rationality Wars ○○○○○○○○○○○	Cultural Evolution ○○○○●○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○○○
-----------------	---------------------------	---------------------------------	----------------------------------	---

Distinctive Features of Paris

- We won't always make that inference.
- We will tinker if we have reason to believe that we can improve.
- We will reject if we have reason to believe that X won't work for us.

33/50

Review ○○○○○	Reductionism ○○○○○○○○○	Rationality Wars ○○○○○○○○○○○	Cultural Evolution ○○○○●○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○○○
-----------------	---------------------------	---------------------------------	----------------------------------	---

To be Sure

- The believers in replication know that people are not robots, and think for themselves.
- The believers in rational adoption know that we make mistakes.
- But there is a difference in emphasis, that is interesting.

34/50

Review ○○○○○	Reductionism ○○○○○○○○○	Rationality Wars ○○○○○○○○○○○	Cultural Evolution ○○○○●○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○○○
-----------------	---------------------------	---------------------------------	----------------------------------	---

Application to Misinformation

- The replication approach makes misinformation seem like a big political problem.
- And the evidence that people are bad at correcting misinformation might push you towards the replication approach.

35/50

Review ○○○○○	Reductionism ○○○○○○○○○	Rationality Wars ○○○○○○○○○○○	Cultural Evolution ○○○○●○○○○○	Back to Testimony, and Fraud ○○○○○○○○○○○○○
-----------------	---------------------------	---------------------------------	----------------------------------	---

Two Parisian Responses

1. People don't actually believe that much misinformation, but pretend to do so as a social/political signal. E.g., almost no one really believed 'Pizzagate'.
2. Misinformation is a demand side problem; people (rationally!) want rationalisations for things they want to be true.

36/50

The following bits of text link to the relevant papers.

- Sterelny on the two schools
- Mercier and colleagues on misinformation
- Williams on the marketplace of rationalisations

37/50

[Review](#)

[Reductionism](#)

[Rationality Wars](#)

[Cultural Evolution](#)

[Back to Testimony, and Fraud](#)

38/50

Credit card fraud is a multi-billion dollar problem, and the costs are largely borne by card issuers.

- If you were a credit card issuer, what would you do about this?

39/50

- Each genuine transaction makes you some money.
- Each fraudulent transaction costs you much more money.

40/50

- If fraud detection is too onerous, people will stop using your card.
- If there is a kind of fraud you never catch, people will keep carrying out that fraud.

41/50

- User based
- Purchase based
- Interaction of the two
- Random

42/50

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Optimal Amount of Fraud

Should you be aiming for zero fraud?

- No!

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Basic Idea of Fraud Detection System

- Really rough and ready check on each transaction.
- More careful check on things that get red flagged.
- But for trusted customers, even a few red flags can be ignored.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Vigilance

Humans should be, and to some extent are, just like that.

- Everything we hear gets a really rough check over.
- Red flagged assertions get checked more closely.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Vigilance

My favorite example: walking down a busy street or corridor.

- We somehow track everyone, while attending to almost no one.
- Really big question: How on earth do we do this, and can we invent a machine that does something similar?

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Vigilant Hearers

Sperber et al think that we are also vigilant in hearing.

- Everything gets a rough check, almost always subconsciously.
- Some things get more thorough check.

Review
Reductionism
Rationality Wars
Cultural Evolution
Back to Testimony, and Fraud

Red Flags

- New informants
- Surprising that info is either true or known
- Reason to deceive
- High stakes

Review
○○○○○

Reductionism
○○○○○○○○○

Rationality Wars
○○○○○○○○○○○

Cultural Evolution
○○○○○○○○○

Back to Testimony, and Fraud
○○○○○○○○○○●

Big Question

Is this plausible as a model of how human hearers operate?

Review
○○○○○

Reductionism
○○○○○○○○○

Rationality Wars
○○○○○○○○○○○

Cultural Evolution
○○○○○○○○○

Back to Testimony, and Fraud
○○○○○○○○○○●

For Next Time

- The debate between "internalism" and "externalism" in epistemology.