

### 3. O'Connor and Weatherall 2019: Polarization and Trust

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#### I. Beliefs and Networks

**Our question:** Can we dismiss the other side as unreasonable?

O&W: argue that polarization (in politics and elsewhere) not necessarily caused by irrationality.

Starting point: scientists—and people generally!—figure out what to believe in part using evidence they gather themselves, and in part using *evidence from others*.

→ Social networks are important to epistemology.

How? Hard to study. Build *models*.

Hightower & mercury poisoning.  
Remember homophily!

#### II. Basic B&G model

Bala and Goyal 1998

Pieces:

- Two options, *A* vs. *B*.  
→ Wager your money on coin *A* or coin *B*?
- Beliefs represented with *degrees of confidence*, between 0–100%.  
→ “Bayesian” model, vs. Feldman’s “tripartite” model.
- Results of action are *probabilistic*.
- Social network: nodes (people) and links (communication).

Eat fish, or no? Vote Democrat, or no?

<https://www.kevindorst.com/whichcoin.html>.

Example: How will die land?

People choose action, share evidence, repeat.

In this model, they always (eventually) *converge in opinions*.

*Usually* they converge on the truth (*B* better). But not always!

Why? Causes of ulcers; Palmer study.

Misleading evidence can throw everyone off!

**Zollman effect:** There is a tradeoff between *speed* and *reliability* of convergence.

More communication → faster;  
Less communication → more reliable.

#### III. Modeling trust

Problem: in B&G model, people’s beliefs always converge.

*Not* true in real social networks!

**Polarization:** persistent, large disagreements in beliefs between two or more factions.

This is *one* kind of “polarization”.

- Politics, obviously
- “Lyme wars”

What drives polarization in Lyme wars?

- Not differences in values.
- Not “siloiing”—all sides know evidence on both sides

- O&W: *differential trust*

Introduce trust into B&G model: how much do you believe the evidence people share with you?

Clearly it's rational to pay attention to where evidence comes from.

Bill: "You have arthritis."

Q: Who's Bill??

O&C: if people radically disagree with you, don't trust the evidence they share.

**Result:** polarization.

Argument:

P1 The polarization in the Lyme wars is caused by differential trust.

P2 Differential trust is reasonable.

C1 The polarization in the Lyme wars has reasonable causes.

P3 The polarization in politics may well have the same causes.

C2 The polarization in politics may well have reasonable causes.