Bridging in Attention-Allocation Systems

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Background

- Divisiveness is increasing.
- Division impacts cooperation and conflict.
- The systems that allocate our attention can impact division.
- Systems that directly reward attention can lead to increased division.

Aims

- A framework and set of open problems that help adapt our existing systems for allocating attention to incentivise “bridging”.

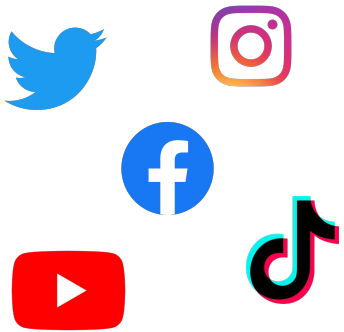
- **Bridging** refers to activities and relationships that lead to increased mutual understanding and trust across divides, and that create space for deliberation and cooperation

- Goal is **conflict transformation**—not to eliminate conflict, create homogeneity or interfere with the substance of civic debates, but to “[make] conflict better in some way.”

  Jonathan Stray, *Designing Recommender Systems to Depolarize* (2021)

We use three recurring examples.

Recommender Systems



** Not ads.*

We use three recurring examples.

Recommender Systems

* *Not ads.*

Civic Forums

Polis

YourView

remesh

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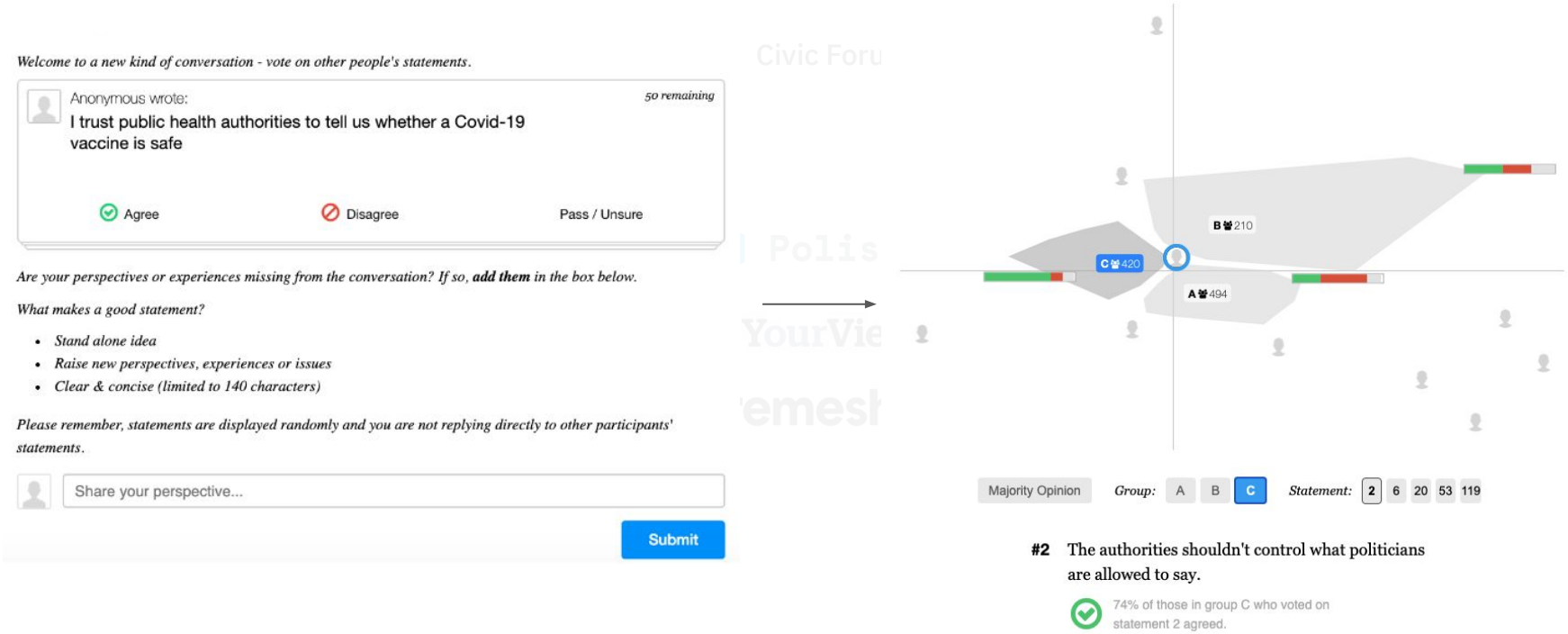

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Human Facilitation

Participants in the Allegheny Forum Deliberative Poll on September 25, 2010 in Pittsburgh, PA. Image from the Program for Deliberative Democracy, University of Buffalo.

We use three recurring examples.

	Recommender System	Civic Forum	Human Facilitation
`people`	users	participants	participants
`items`	posts / content	comments	claims / positions
`relations`	revealed preferences	agree, disagree, or pass	qualitative opinions

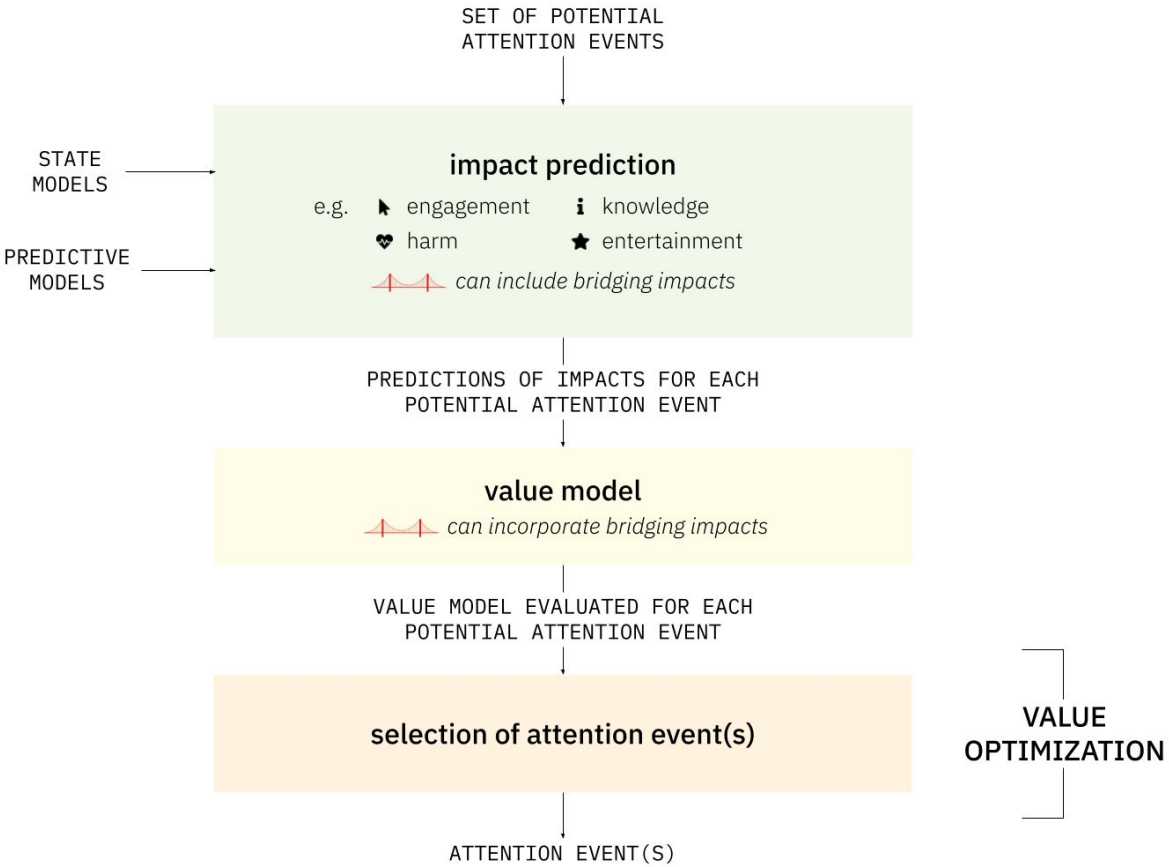
~~Information distribution~~ Attention-allocation

- Perhaps more common to talk about such systems (particularly recommenders) as “information distribution”.
- We think attention-allocation is a better frame.
  - Focuses on whether content is actually seen, and the way in which it is attended to.
- (Assumes an instrumental, finite view of attention.)

What is an **attention event**?

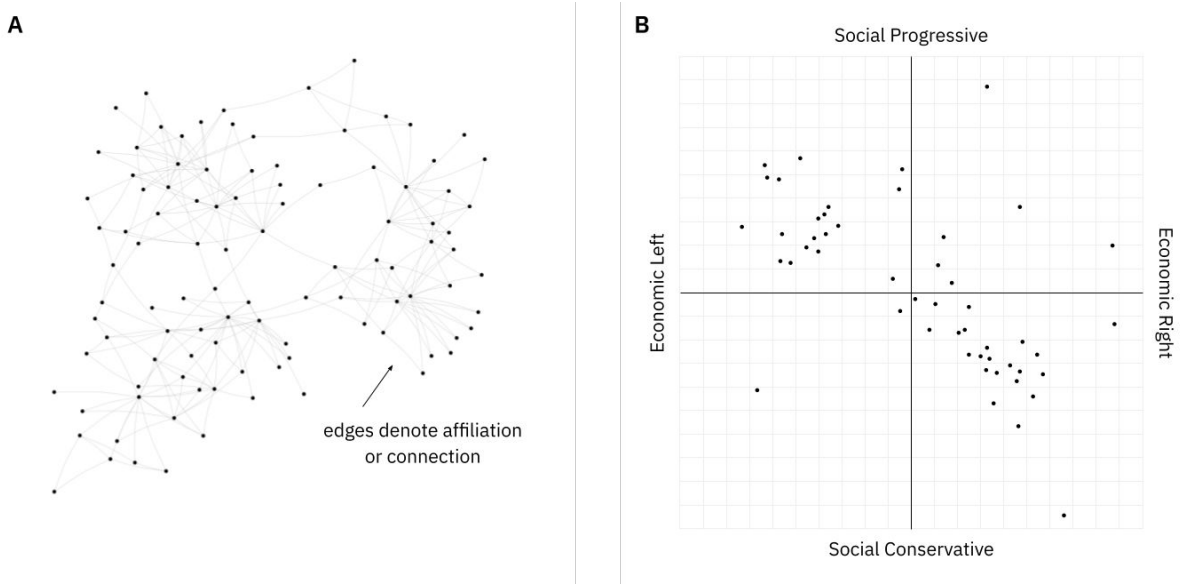
(person, item, properties)

What is an **attention-allocation system**?



What does it mean to be **bridging**?

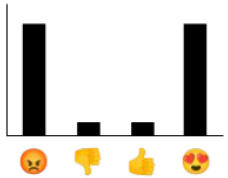
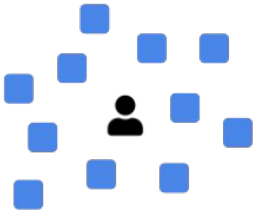
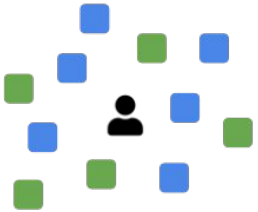
A **relation model** describes the state of relations (in a population, at a given point in time).



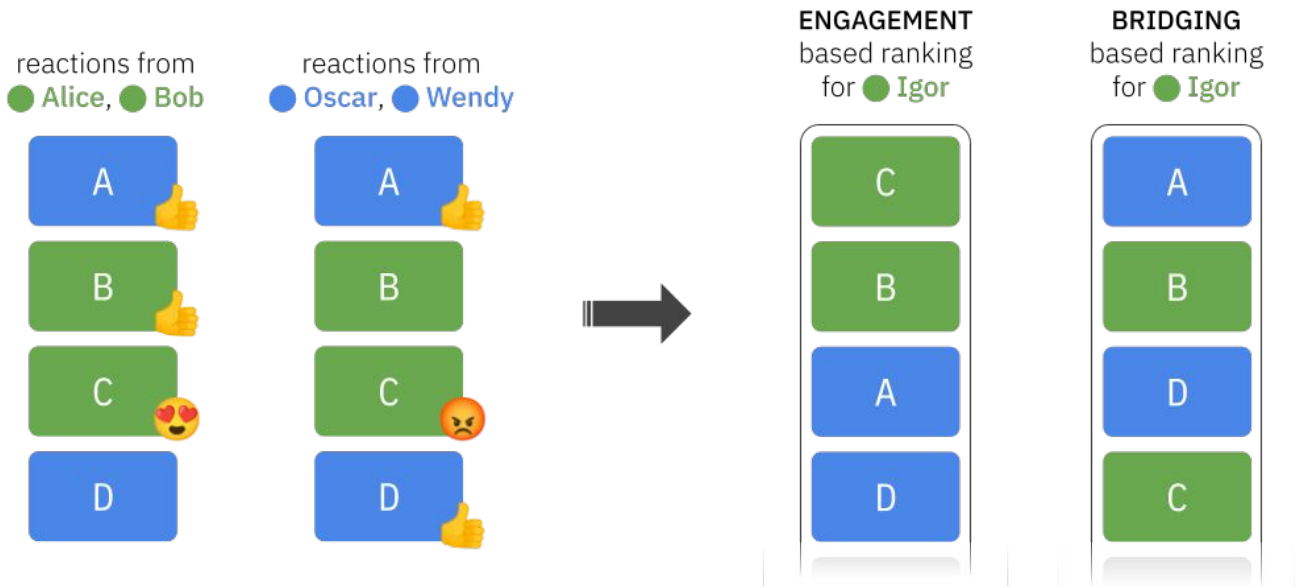
A **relation metric** characterizes the degree to which relations are good or bad.

A **bridging metric** characterizes whether an attention event or attention-allocation system causes relations to improve or deteriorate.

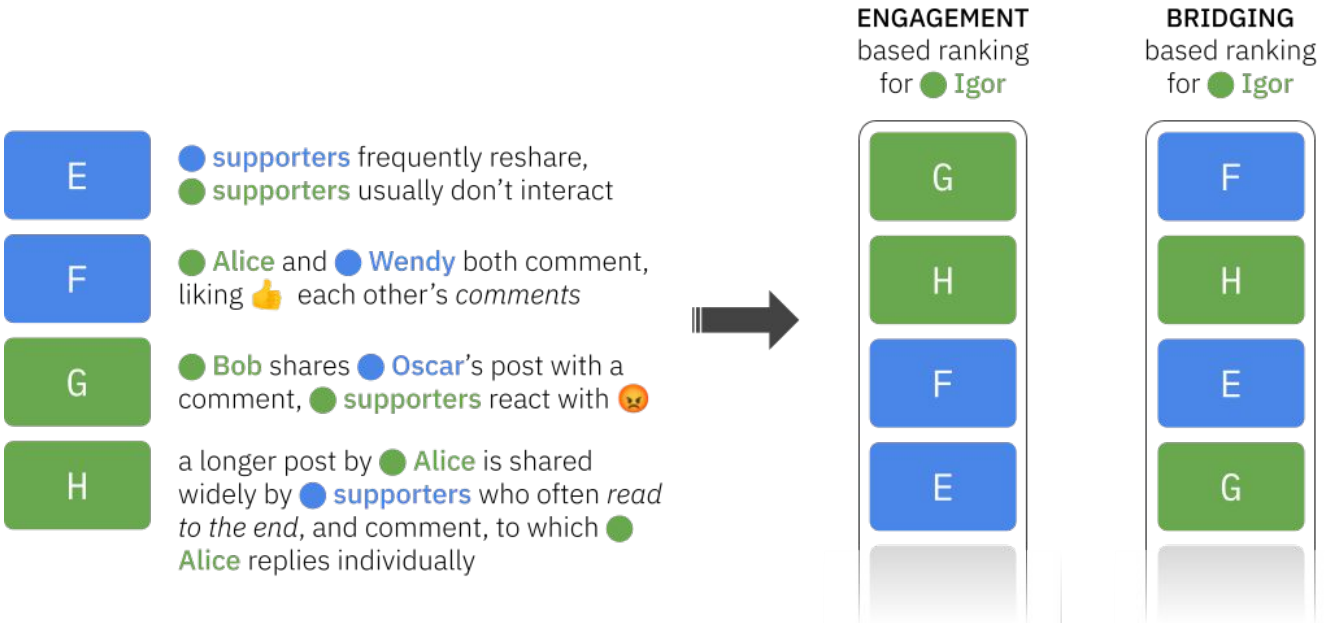
Can also use **bridging heuristics**.

	diverse approval	feeling thermometer	response bimodality	exposure diversity
“dividing”				
“bridging”				

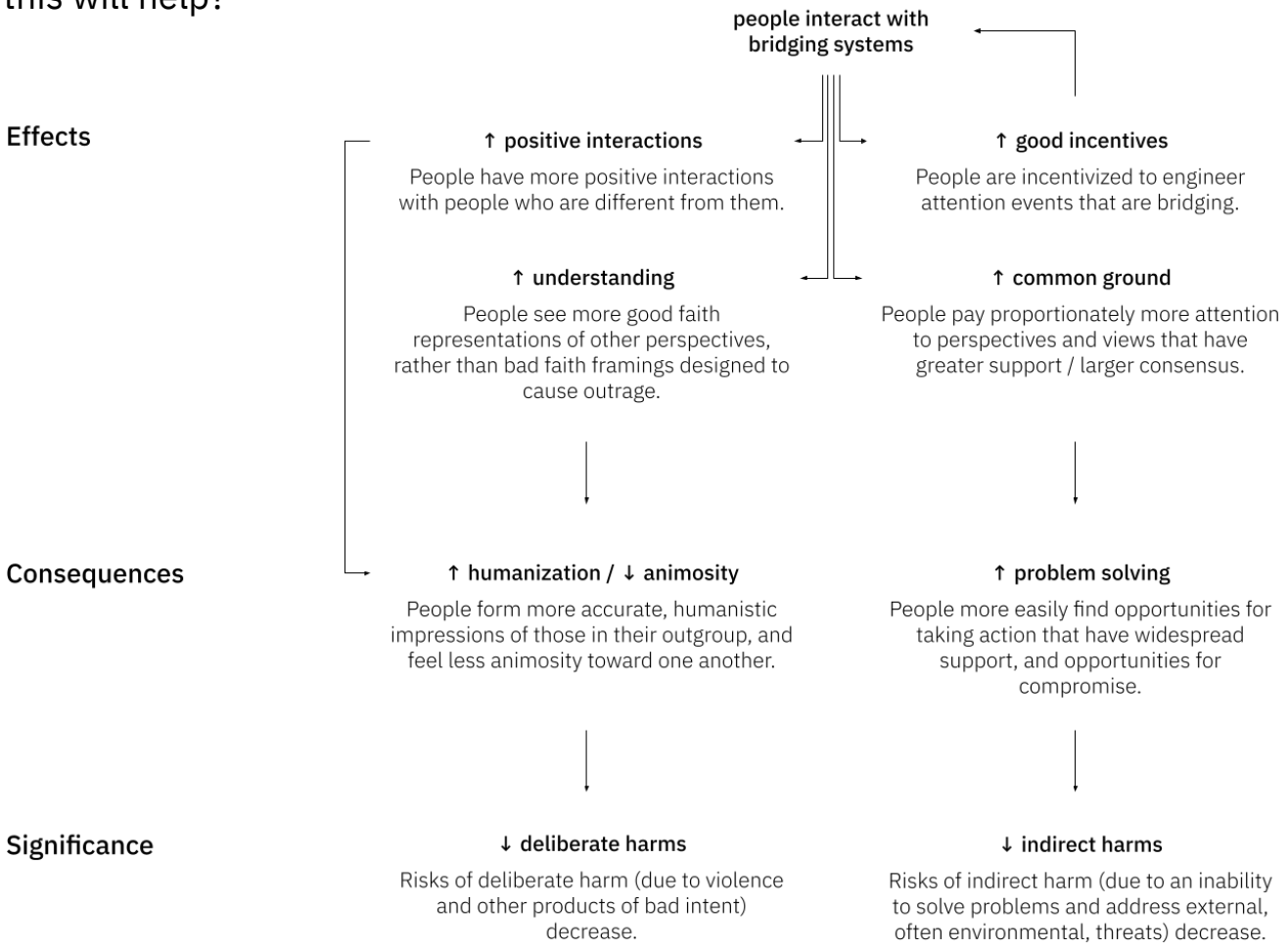
Simple example of **bridging-based ranking**.



More sophisticated example of **bridging-based ranking**.



Why do we think this will help?



Conclusion

Many open questions:

How common are bridging attention events in practice?

How good are these bridging heuristics?

What relation and bridging metrics should we use?

What perverse incentives might optimizing for bridging create?

How do we validate or evaluate the usefulness of relation metrics and bridging metrics?

How can the framework of an attention-allocation system be improved?

How should we think about the ethics of optimizing for bridging?

This is joint work with Aviv Ovadya.
Harvard→Cambridge

Builds on huge amount of prior work by others.

Link to paper: go.aviv.me/bridging-systems-paper
Please don't distribute just yet!