Time intervene cycles notes

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February 27, 2017

1 Experiment 1 results

1.1 Judgments: Normative inference or incremental construction?

- Judgment accuracy is lower for cyclic models while 'normatively' there is more information. This hints at cognitive constraints...

- No relationship between entropy/information/ideal-accuracy and actual accuracy!

- Interaction between number of effects, cyclicity and accuracy. Participants do better when they see more effects in acyclic systems and less effects in cyclic systems.

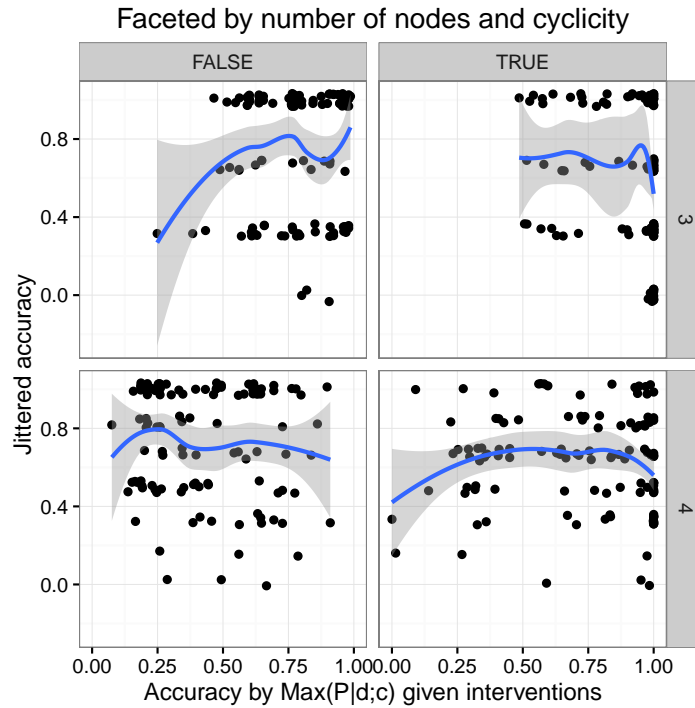- Satisfyingly, the *most recent* heuristic is terrible at forks
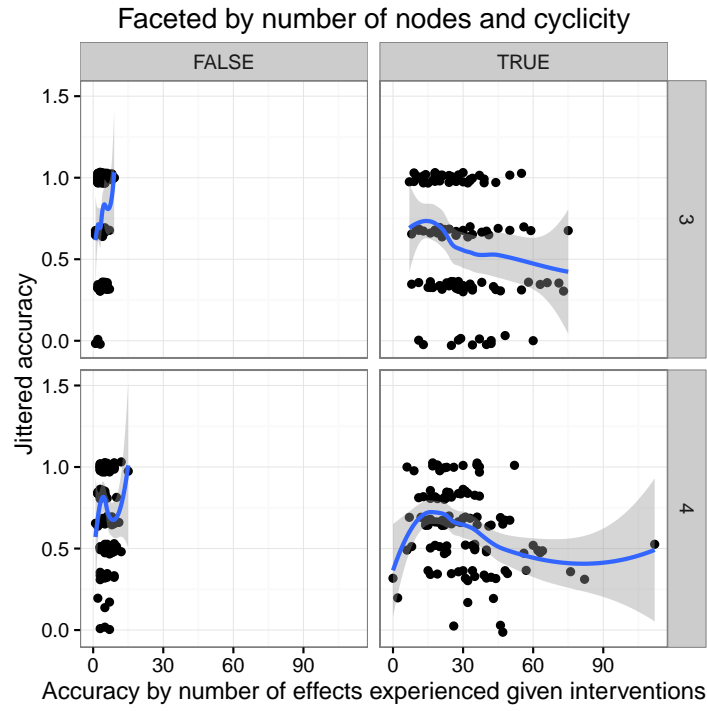

Figure 1: example caption
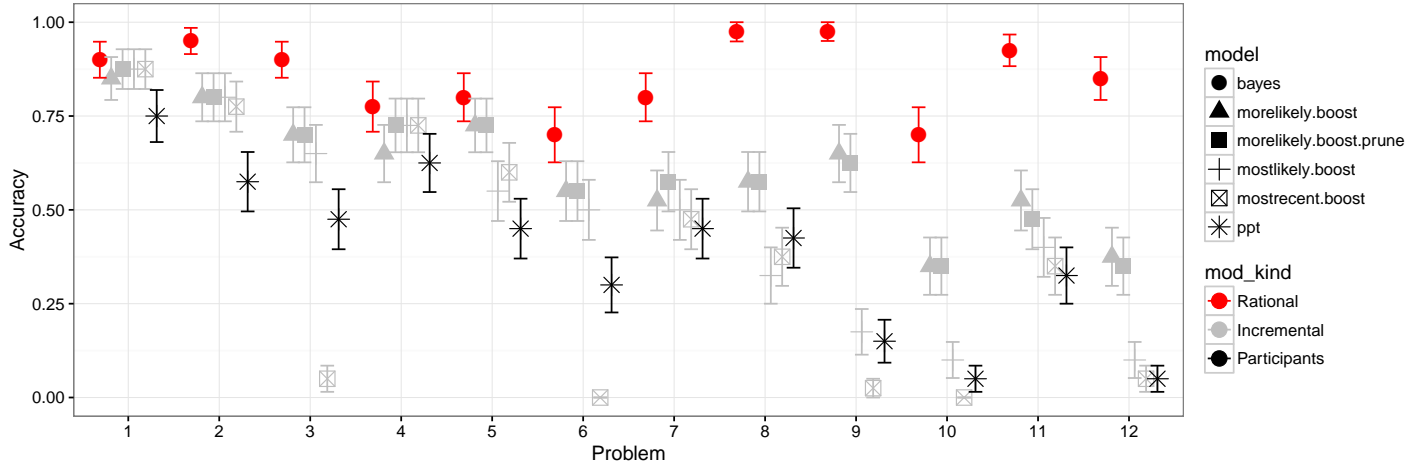
Figure 2: example caption

Figure 3: Participants' proportion correct compared to Rational responding and Incremental heuristics

Table 1: Model comparison

Model	Accuracy (%)		Accordance (%)		N best (/60)	
	All	Final	All	Final	All	Final
Random	25	25	25	25	0	0
Most recent	66.2	64.7	67.2	64.9	16	17
Most likely	79.7	78.9	67.3	65.5	4	5
More likely	87.9	90.9	69.3	69.2	13	12
More likely + Pruning	87.6	90.5	69.5	69.4	3	2
Rational	91.0	95.3	66.1	68.9	4	4

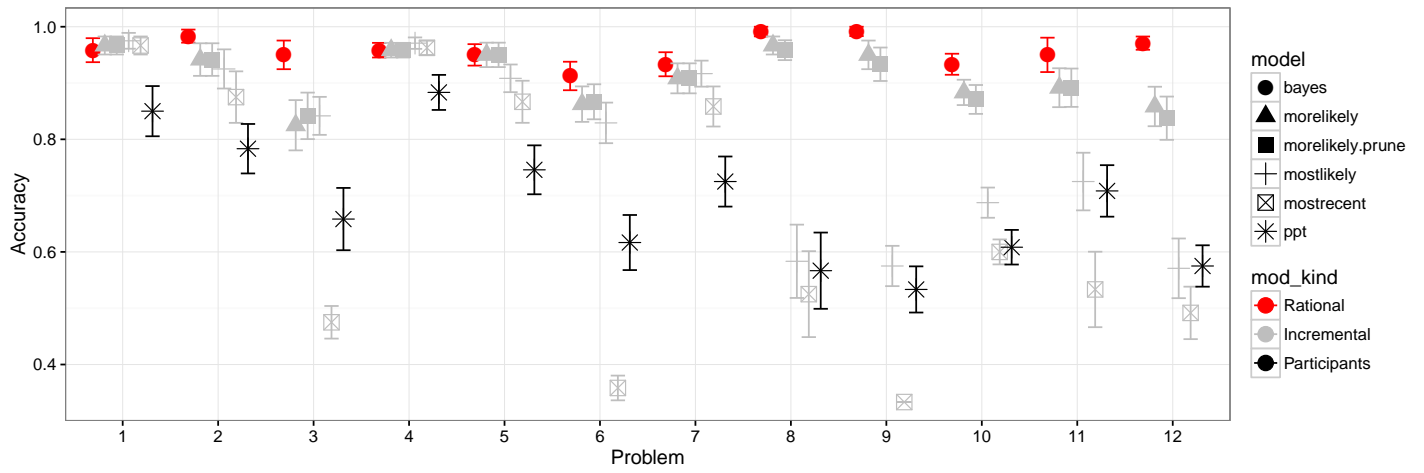*Note:* "Best" determined by the greatest proportion matching connections across judgments).

Figure 4: Participants' (edgewise) accuracy compared to Rational and incremental responding

1.2 Comparison with simulated interventions

NB: New stuff

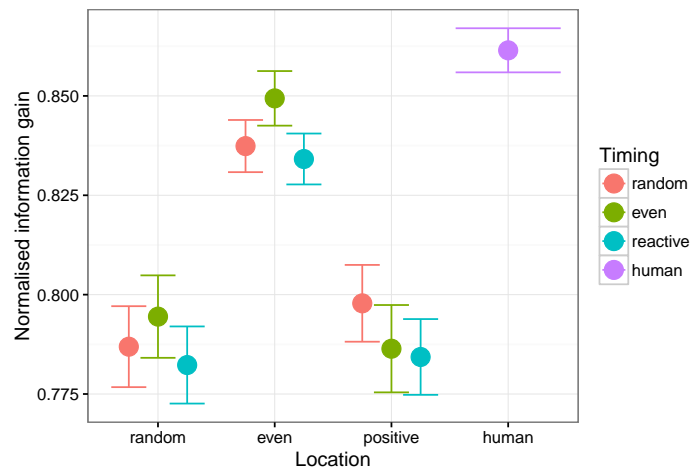- Participants interventions are great, they are better than the simulations'

Figure 5: Performance of intervention heuristics compared to participants' choices
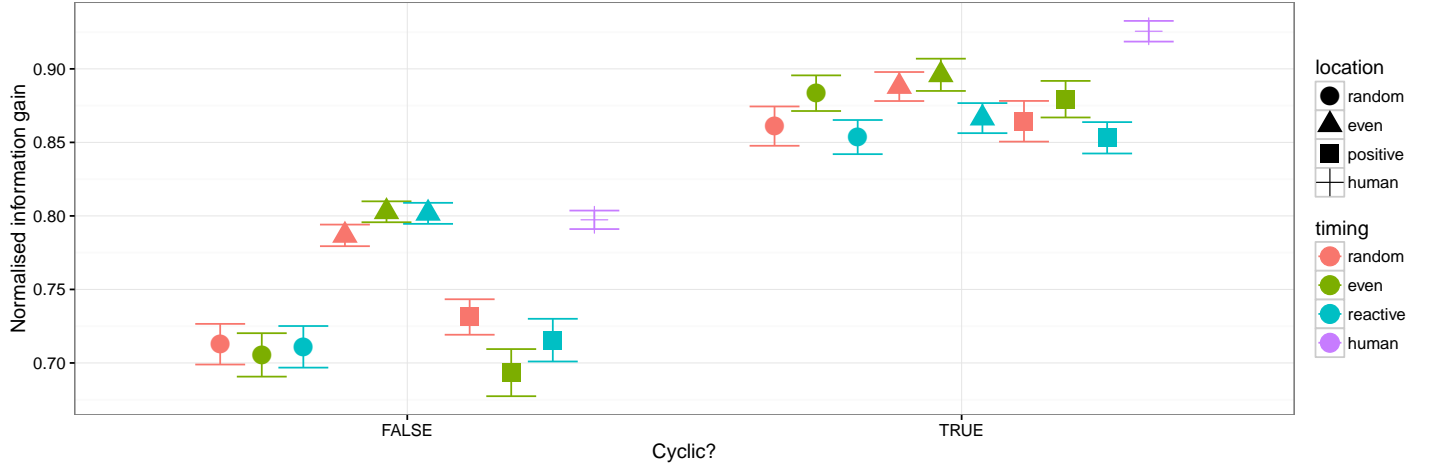
Figure 6: Performance of intervention heuristics compared to participants' choices, split by acyclic/cyclic.
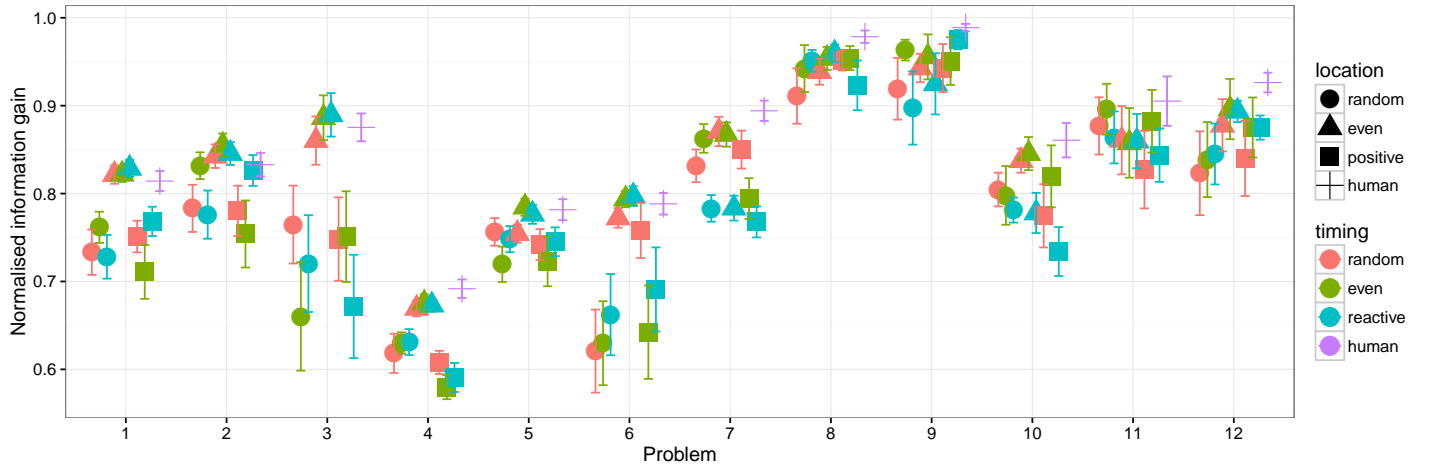

Figure 7: Performance of intervention heuristics in terms of normalised information gain compared to participants' choices, split by device
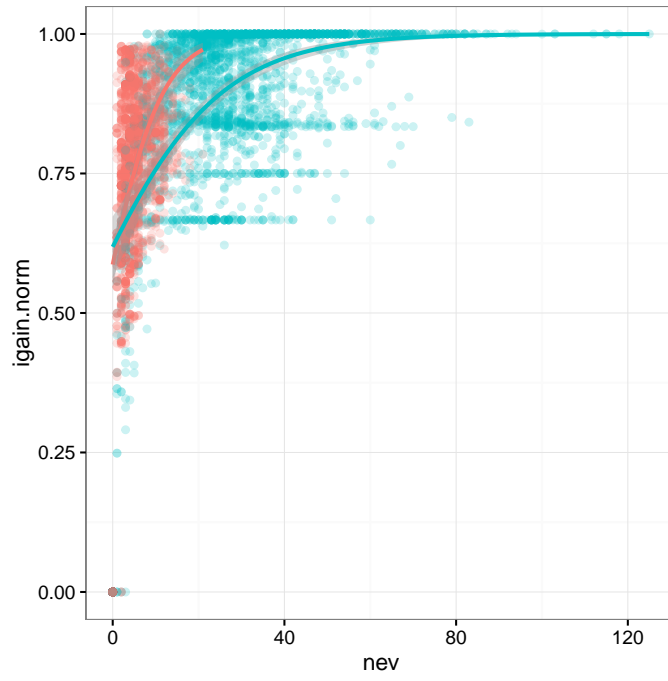
Figure 8: Relationship between the number of events and the information obtained (measured by the $\max P(M|\mathbf{d}; \mathbf{c})$)

1.2.1 Distributions of delays between interventions and preceding events/interventions
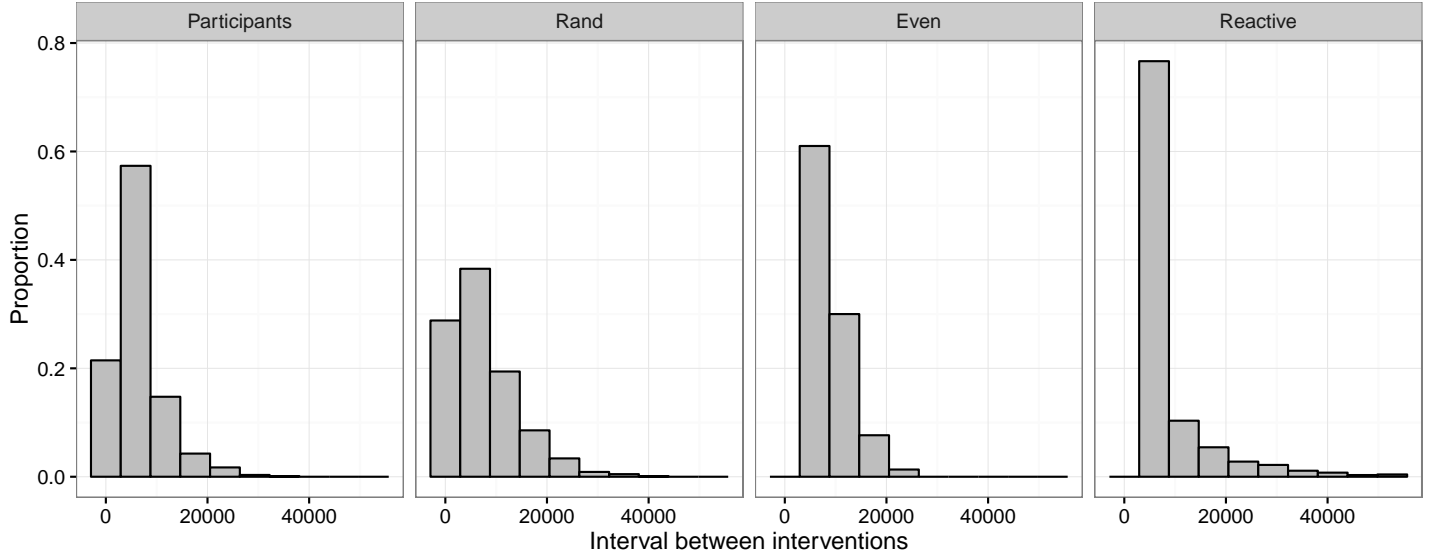

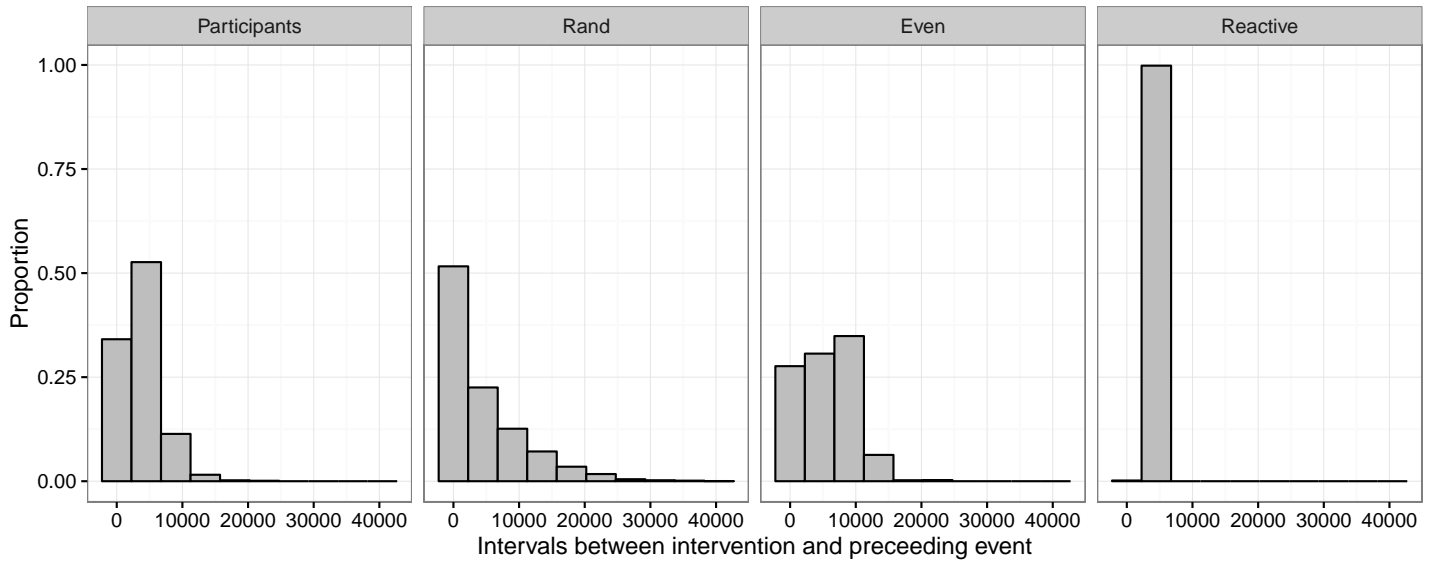Figure 9: Intervals between interventions for participants and simulations

Figure 10: Intervals between interventions and the most-recently-preceeding events for participants and simulations