The effect of social influence on collective judgement

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Are the many wiser than the few?
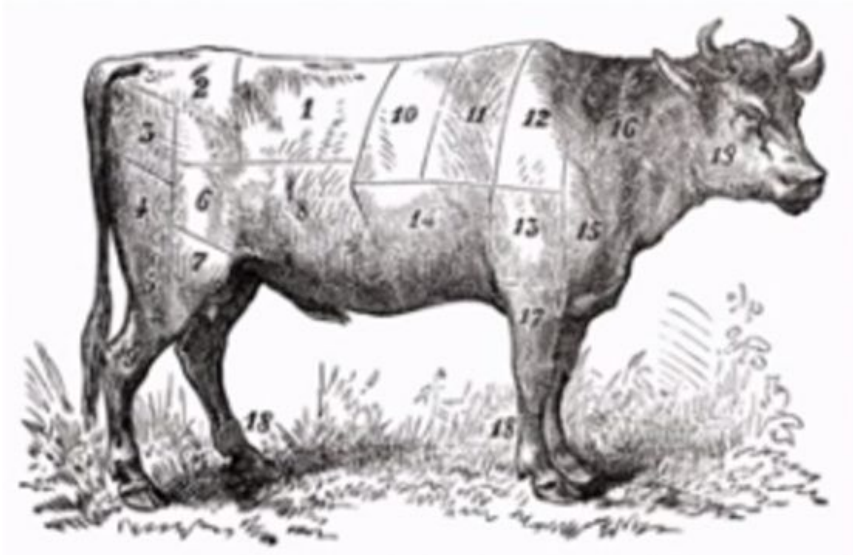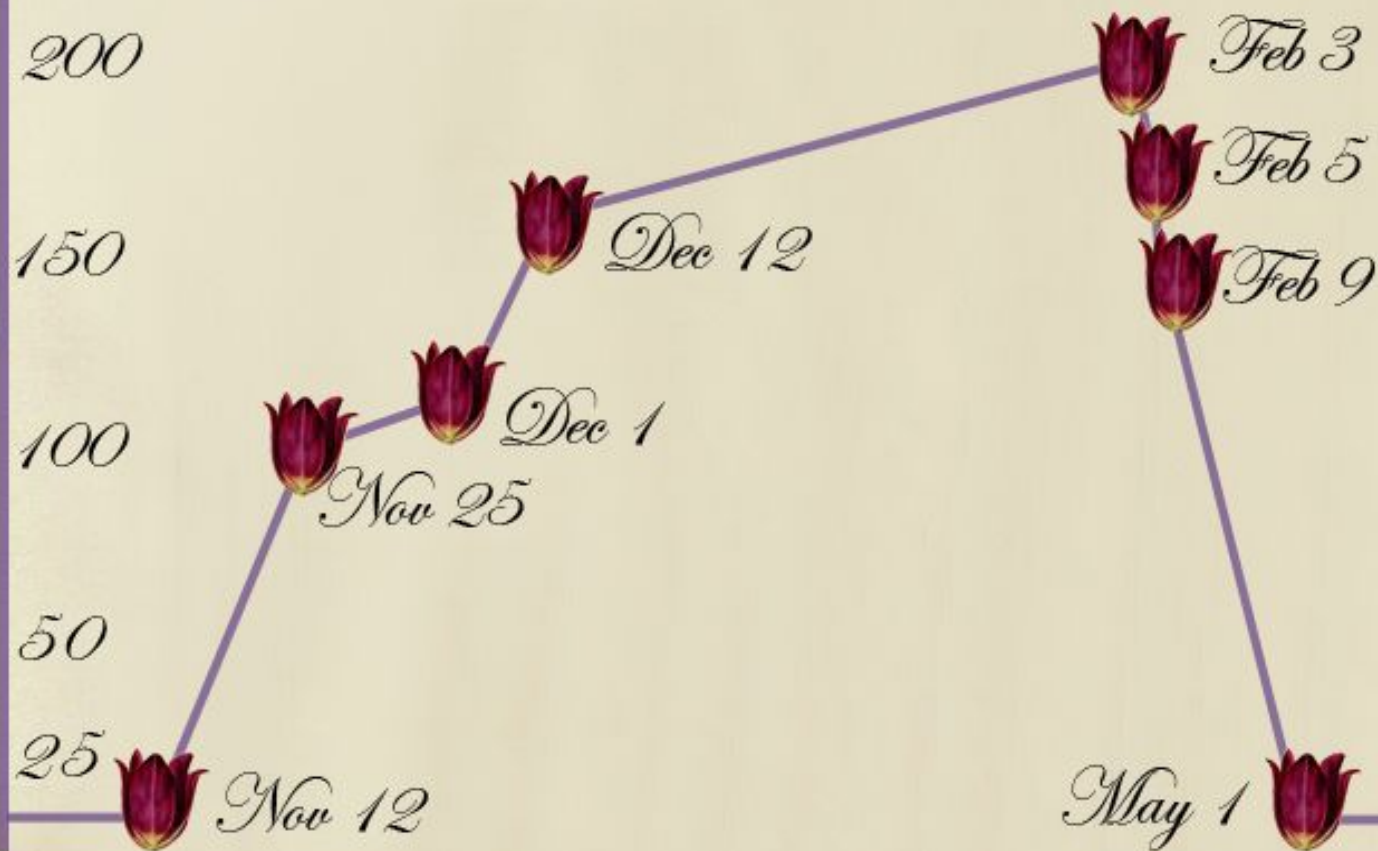
The first "wise" crowd

At a 1906 country fair, 800 people participated in a contest to estimate the weight of an ox.

Francis Galton observed the median guess, 1,207 pounds, was accurate within 1% of the true weight.

Tulip price index 1636-37

200 — Feb 3

150 — Dec 12

Feb 5

Feb 9

Dec 1

100 — Nov 25

50 —

25 — Nov 12

May 1

Are crowds wise or mad?

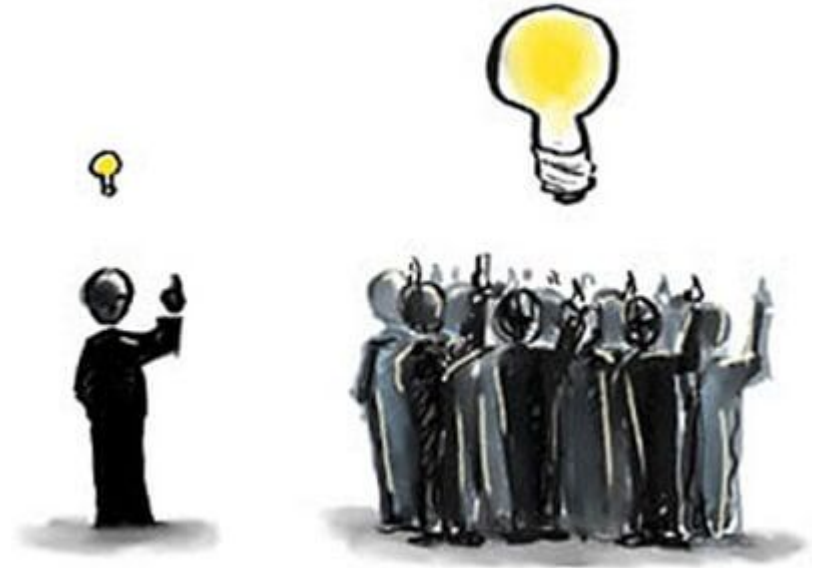1. Systematic, large-scale study of the "wisdom of the crowds" phenomenon.

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   Disclosing the consensus (e.g., **most popular) answer undermines collective judgement.**
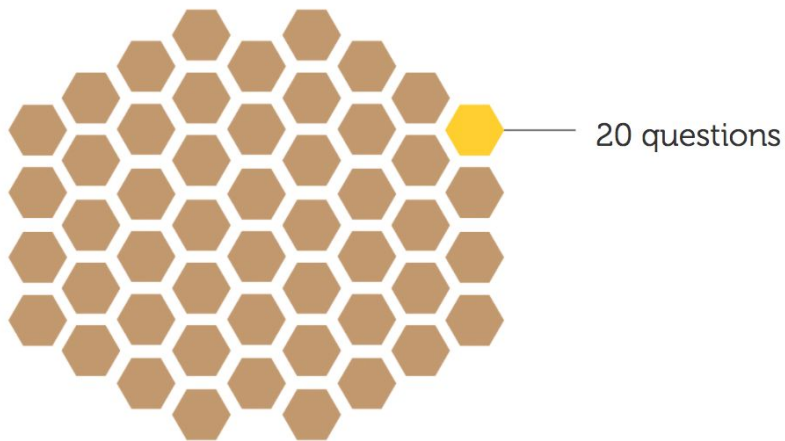
Experiment Design

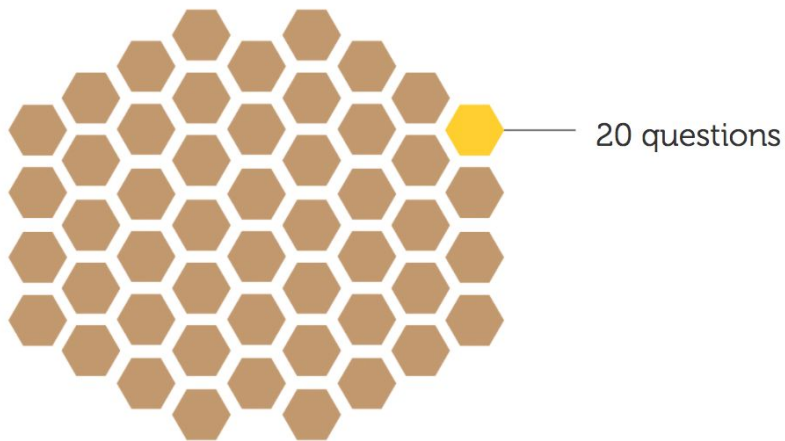# Large scale experiment of wisdom of crowds

1,000 questions
- 50 domains
- 20 questions per domain

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4 social conditions

Over 100 responses
per question & condition

Approximately 400,000
responses in total

The Wisdom of Crowds Challenge

Let's start, Worker Bee!

wisdomofcrowds.stanford.edu

wisdomofcrowds.stanford.edu

Social conditions

1. Most recent

2. Most confident

3. Consensus
   a. Most popular (discrete)
   b. Median (continuous)

4. Control

Assessing crowd performance

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Rank the **crowd accuracy** against the accuracy of subjects in the control group.

vs.

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vs.

	Crowd answer
Continuous	Median answer
Discrete	Modal answer

Assessing crowd performance

Rank the **crowd accuracy** against the accuracy of subjects in the control group.

vs.

	Crowd answer	Number of questions	Crowd percentile rank (question-level)
Continuous	Median answer	400	67
Discrete	Modal answer	600	60

Assessing crowd performance

Rank the **crowd accuracy** against the accuracy of subjects in the control group.
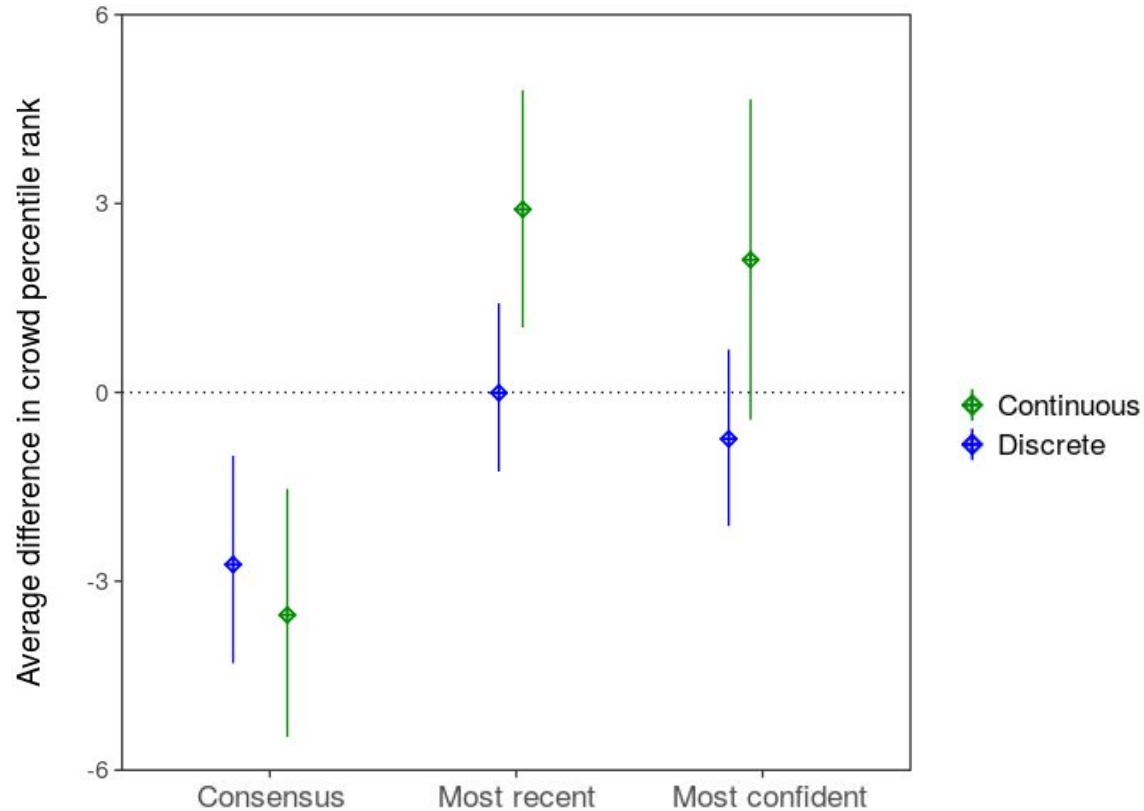

VS.

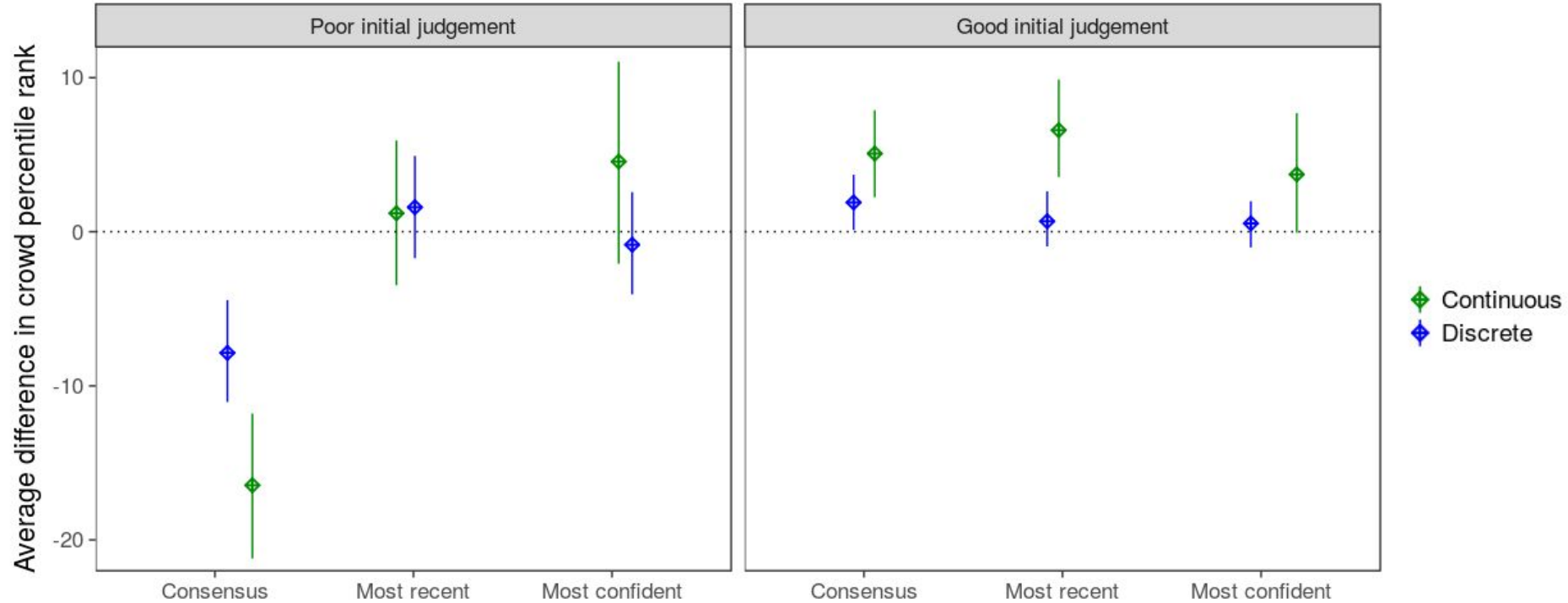|	Crowd answer	Number of questions	Crowd percentile rank (question-level)	Number of domains	Crowd percentile rank (domain-level)
Continuous	Median answer	400	67	20	90
Discrete	Modal answer	600	60	30	87

Effects of social influence

Consensus cues decrease crowd performance

Consensus crowd can't recover from poor initial judgement

Conclusions

Disclosing the **consensus (**e.g., **most popular)** answer undermines collective judgement.

Finding has important implications for the design of information aggregation mechanisms.

Thank you.

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