

# Wisdom of crowds

Recap of last week:

- Shared intentionality / Shared models of the world.
- Sociality as alignment and defined by type of informational exchange
- Mutual alignment / bidirectional reciprocity

Taxonomy of interaction types.  
Continuum, see slide / model i tekst  
for Kg3.

---

## Bayesian framework

- a school / way of thinking
- Prediction  $\rightarrow$  empiri  $\rightarrow$  New prediction  
 $\rightarrow$  New empiri
- Predictive coding framework
- \* - Priors = Information we already have
- Evidence = Ny / fremtidig information

Wisdom of Crowds (WOC)  
Can we benefit from WOC?  
Under what circumstances?

Galton (1822-1911)

The Average of all guesses was better than the single best guess

WOC blev populært med bogen af samme navn af Surowiecki (2004)

Signal averaging:  
Pooling information = normalt udregnet gennemsnit. Individuelle fejl udligner hinanden.

Se slide 11 for modeller over biased v. unbiased sampling

Majority rule is most 'fair' but the result is highly influenced by each participant's reliability →

Solution: weighted majority rule  
= Stemmer vøgtes ift. en  
"reliability marker".

Eg.: Status, Confidence, Competence  
Seniority, Rank, ...

The role of language:



- Can be used to recalibrate  
reliability markers. Eg. by listening  
to their arguments.

Calibration = how <sup>accurately/</sup> precisely the  
reliability marker matches a  
participant's competence/chance of  
being right.

"Recalibration can reduce the  
probability of undue weight" Slide 14

"People tend to listen more to other people who are 'well-argued' "

Problems can arise in defining what a good arguments are

En diskussion om et emne i en gruppe kan have en 'spill-over'-effekt og forbedre individuelle overvejelser efterfølgende.

Key premise of WOC is that peoples guesses are independent

# The dark side of group-decision-making

Group-think = we think as one  
⇒ less independence & more conformity.  
Birds of a feather flock together

We can have same past experiences  
or we can search for evidence  
the same places ⇒ less independence

The more we interact with  
other people the more similar we  
become

## Biases

- we want to fit in.
- We overestimate other's knowledge  
and underestimate our own.

Solomon Asch - Line experiment. <sup>(majority)</sup>  
40% of time, participant conforms to

Strategic Copying can be a good way to learn, if used selectively.

Shared information bias:

Too much focus on information that EVERYONE knows instead of better information known by a minority of participants.

Group polarization:

Too much attention to the initial guess leading to amplification over and above what individuals might have guessed.

# Løsninger:

Diversity (D) Slide ca. 23

- Identity D
- Functional D

God løsning, men hvor meget?

For meget eller for lidt er dårligt

Nemmere at vægte 'reliability' hos mennesker der minder om en selv.

Derfor kan stor 'diversity' give usikre 'reliability' vægtninger.

Implicit shortcuts = Hidden biases

Limits to D

High complexity

Lower levels of comfort

Biases are good most of the time, because they reduce complexity.

Biases can be changed, if they are pointed out / made explicit.

★ Se Slides 35 ff. for gennemgang af tekst til i dag