# The Myth of Rationality

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#### Views on rationality

- Plato: reason gives us all the answers
- Kant: only reason can tell us the morally right choice

- Plato: only rational people should govern
- Kant: reason is in a world beyond the natural world
- Russell: "It has been said that man is a rational animal. All my life I have been searching for evidence which could support this"

#### The plan

rational thinking often is not at all rational

1. What we think is 2. When it is, that is not a description of what goes on in the mind, but of the outcome

#### A must-read book

Daniel Kahneman

Thinking, Fast and Slow

System 1 and System 2

# System 1: cognitive biases

Ideas accepted if . . .

- Familiar
- Presented nicely
- Fit what we believe

And we ...

- Jump to conclusions (WYSIATI)
- Are influenced by irrelevant 'nudges'
- Can't handle statistics for toffee

#### The data

"Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations."

### The possibilities

- a) Linda is a teacher in elementary school
- b) Linda works in a bookstore and takes yoga classes
- c) Linda is active in the feminist movement
- d) Linda is a psychiatric social worker
- e) Linda is a member of the League of Women Voters
- f) Linda is a bank teller
- g) Linda is an insurance salesperson
- h) Linda is a bank teller and is active in the feminist movement

#### I, ME, MYSELF

- Just one of me
- The product of all my life to date
- The subject of all my thinking and other experiencing

#### More biases

- Inherited beliefs and attitudes
- Loyalty to our existing beliefs
- Loyalty to the beliefs of our family and culture
- Wishful thinking
- Laziness
  - 'Reasoning' = rationalising

#### From intuition to reasoning

•Kahneman:

System 1 v System 2

•Bayne:

Associative v systematic

## 'Systematic' thinking

• A huge variety of things are going on in different people's minds: no single description applies to all reasoners'

 What they all have in common is that they come up with the right answer, and can explain it

It's not the *process* but the *result* that counts

#### It's the result that counts . . .





#### <u>Deductive Problems</u>

- •7 x 2
- •7 x 15
- •The 1-in-a million medical condition: what is the probability of a positive diagnosis being correct if given by a 99% reliable test?

### The Case of the Misbehaving Padlock





#### The process

- The method occurred to HIM but not to ME (he's perhaps done this before, or he's just cleverer)
- It occurred to him that it would not take long to see if it worked
- He followed the method until it worked
- Had it not worked, some other method might have occurred to him, or even to me

#### Memories and ideas

You can't bring one to mind deliberately: it has to be prompted by

- either an idea already in the mind
- *or* some stimulus from the environment

 You can't avoid a memory/idea that is triggered



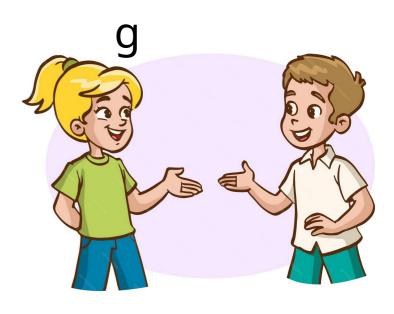
# Intelligent thinking can be done unconsciously



walking



talkin



drivin

#### Summary

- 1. System 1 thinking is prone to hundreds of cognitive biases
- 2. System 2 thinking ('rational', 'systematic') consists of

Anything at all! including maybe . . .

- Automatic responses to stimuli
- Methods of working out that we've learnt, if we remember them and they occur to us

# It's rational IF AND ONLY IF it produces a rational result