Influencing action responses to moral dilemmas in virtual reality.

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Aims

1. Investigate peoples responses to moral dilemmas and ascertain how (social) influence can impact this decision.
2. Discover results that further our understanding about how people respond to such situations.
3. Produce knowledge that could help the creation of training tools.

Morality

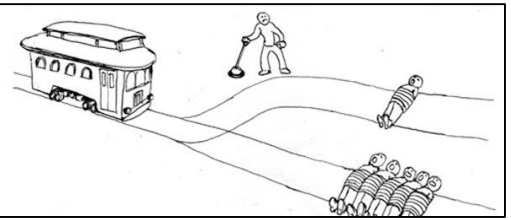
Product of society.

A man in the woods has no need for morals.

What is acceptable here might unacceptable somewhere else.

A set of rules implicitly followed by a society. Non-followers are typically ostracised.

Moral Dilemmas



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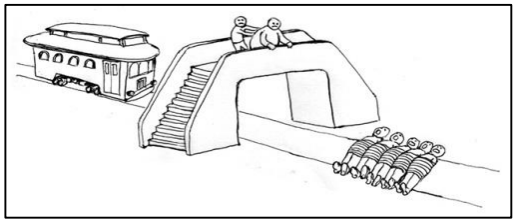
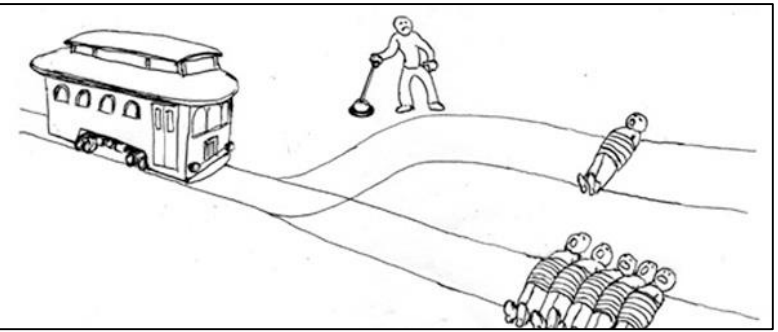


Thomson (1985) responded with the Fat man problem and asked why it was okay to push the switch, but not the man?

Originally discussed philosophically in terms of deontology and utilitarianism, why did utilitarianism win in the case of the Trolley problem, but not the Fat man problem? The differences are:

1. Double effect **2. Physicality** **3. Distributive exemption**

Trolley problem



There is a trolley heading towards 5 people. You can pull a switch which will divert the trolley onto a side-track that has only one person on it. Do you pull the switch?

Yes: **Save the 5** , but **Kill the 1**.

No: **Let the 5 die** , but **Spare the 1**.

Where's the dilemma?

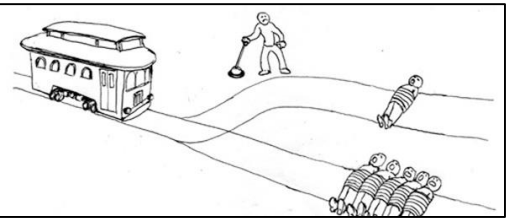
There are two normative ethical theories proposed by philosophers that encapsulate our moral desires:

Deontology: Don't do bad things.

Utilitarianism: Don't let bad things happen.

Bonus fact: Jeremy Bentham was the original utilitarian.

Moral Dilemmas



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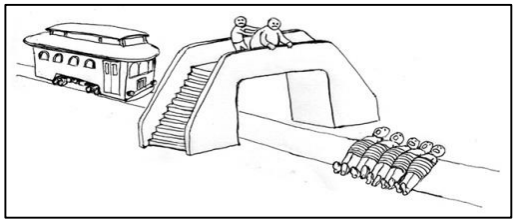

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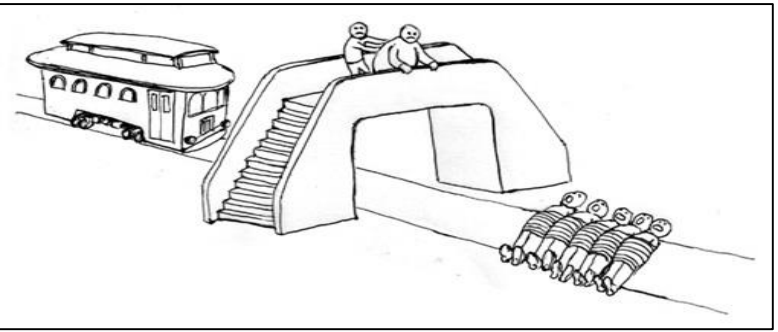
Fat man problem



There is a trolley heading towards 5 people. You can push a fat man onto the tracks which will stop the trolley. Do you push the fat man?

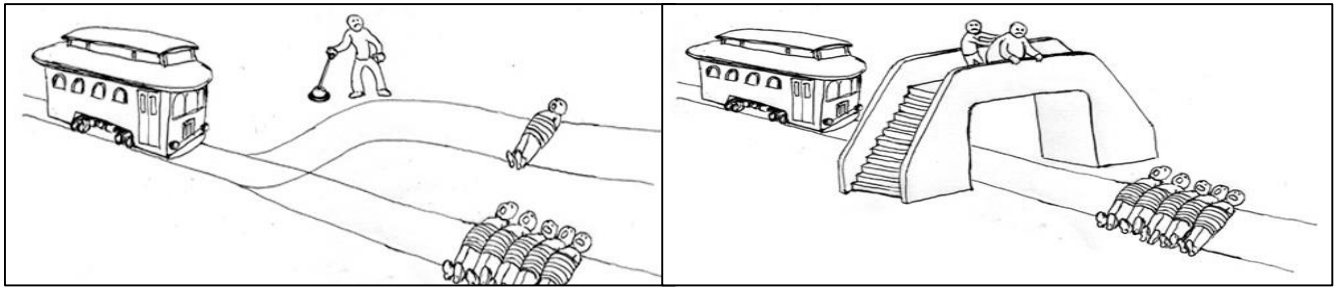
Yes:	**Save the 5**	, but	**Kill the 1**.
No:	**Let the 5 die**	, but	**Spare the 1**.

Conclusion

~90% will pull the switch in the trolley problem.

~10% will push the fat man in the fat man problem.

-Hauser et al (2007)



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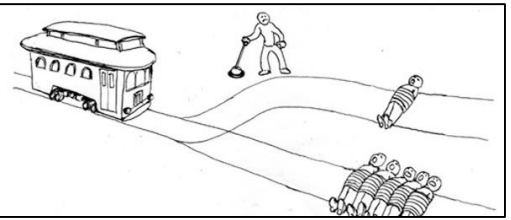

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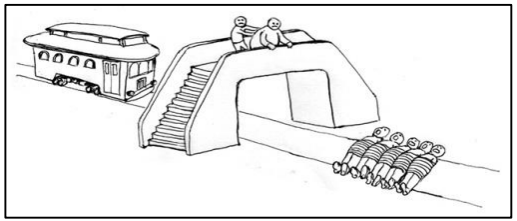

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Moral principles

1. **Double effect**

   Using somebody as a means

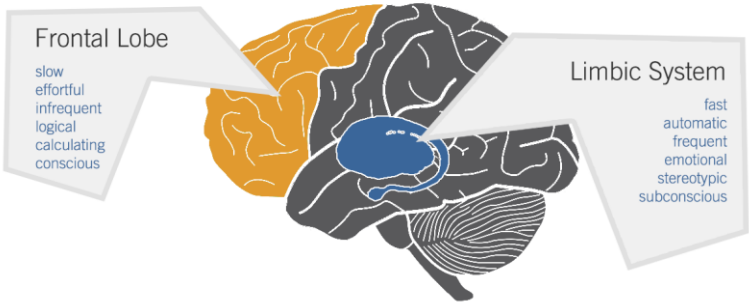
2. **Physicality**

   Assault

3. **Distributive exemption**

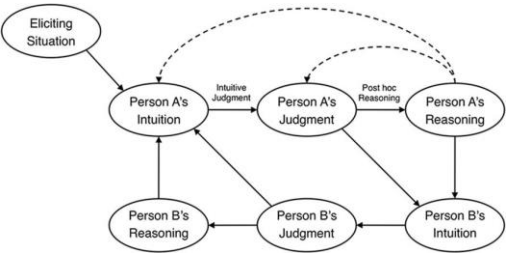
   Redirecting a threat versus creating a new one

Decision Making



We have two cognitive systems.

Greene et al (2001) found that emotional cognitive processes were used when answering the Fat man problem, but less so in the Trolley problem.



Haidt (2001) found that people often ummed when they were asked to justify a moral decision they had made.

Cushman et al (2006) and Hauser et al (2007) found people couldn't tell the difference between the Trolley and Fat man problems, despite having immediate answers for them.

Moral principles in the brain

Moral principles activate emotional parts of the brain to alert us when we are thinking of doing something bad (deontological thinking).

Personal moral dilemmas (like the fat man dilemma) trigger these emotional processes significantly more than impersonal moral dilemmas (like the trolley dilemma).

Utilitarian thinking works much the same as in non-moral dilemmas (Arithmetic).

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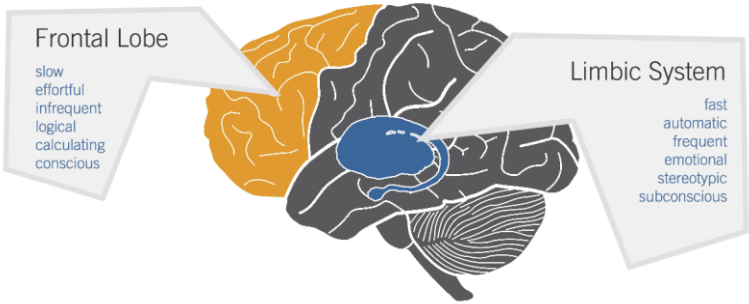

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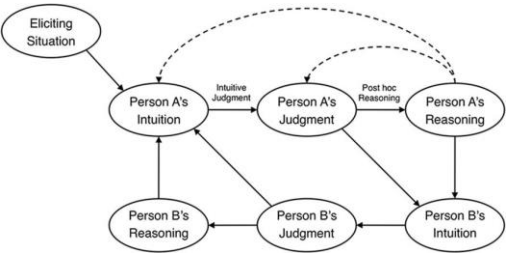

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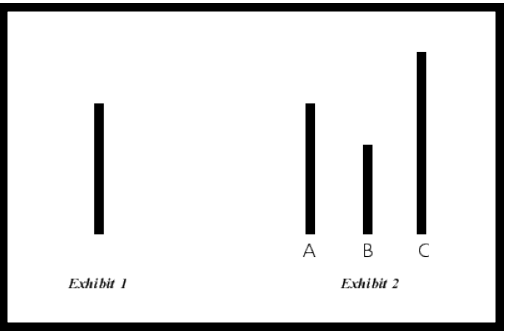
Judgments to Action

There is a difference between judgment and action. Following through with an action involves further emotional cognitive processes triggered by the realisation of judgment to action.

But, results are not what we expected. People are more likely to be a utilitarian in VR compared to questionnaires. Why? We don’t know… We might know.

Social Influence



Asch (1955) found that people tended towards the norm when answering questions in front of others.

Chen & Chaiken (1999) use the split brain theory to explain this behaviour. Our irrational brain uses heuristics to guess an answer when we can't reach the conclusion logically.

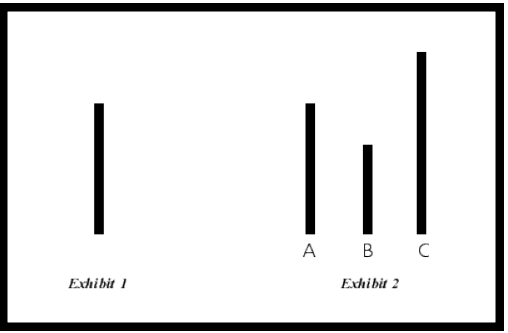
Cialdini & Goldstein (2004) think we have three different motivations that can be influenced by others: Accuracy, affiliation and defensive.

Social brain

Every brain is social. Brain size (compared to body size) can be estimated based on the maximum group size the animal tends to function in (The maximum for humans is around 150 (The biggest in the world)).

The human brain also uses the same neural networks for physical pain as it does for social exclusion. A study actually found that pain killers had a small effect on how people felt when being socially excluded from a group.

Social Influence



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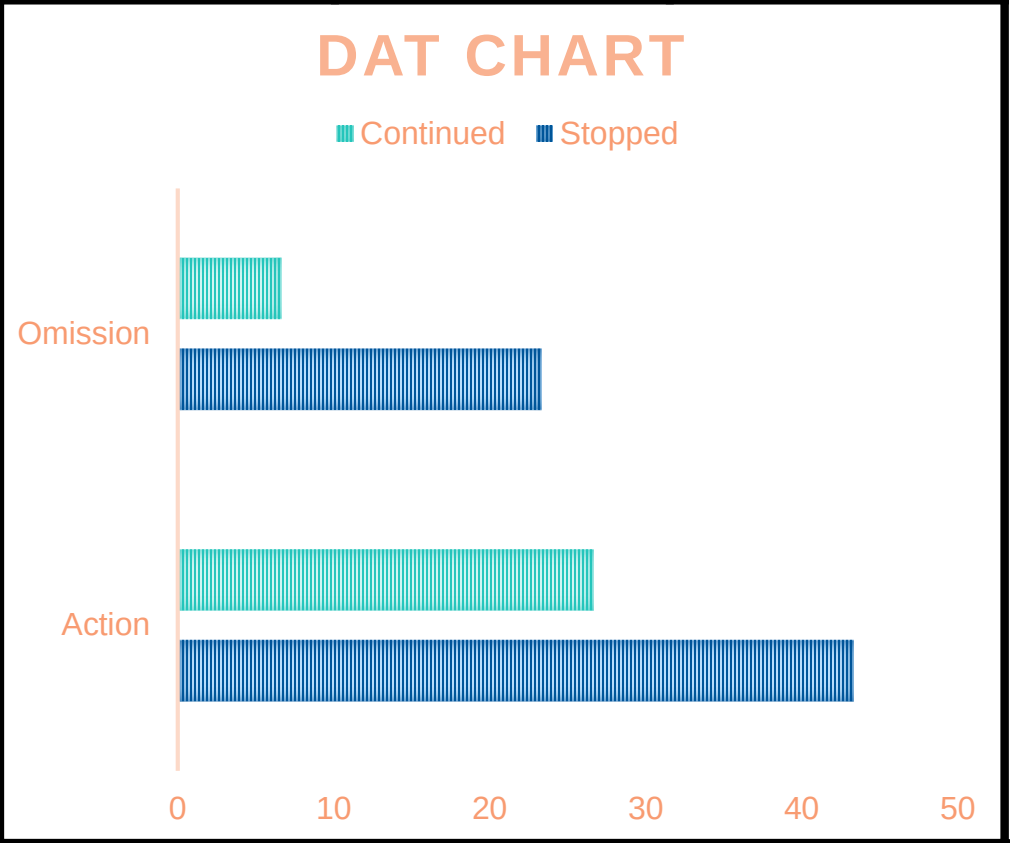
Influencing morality

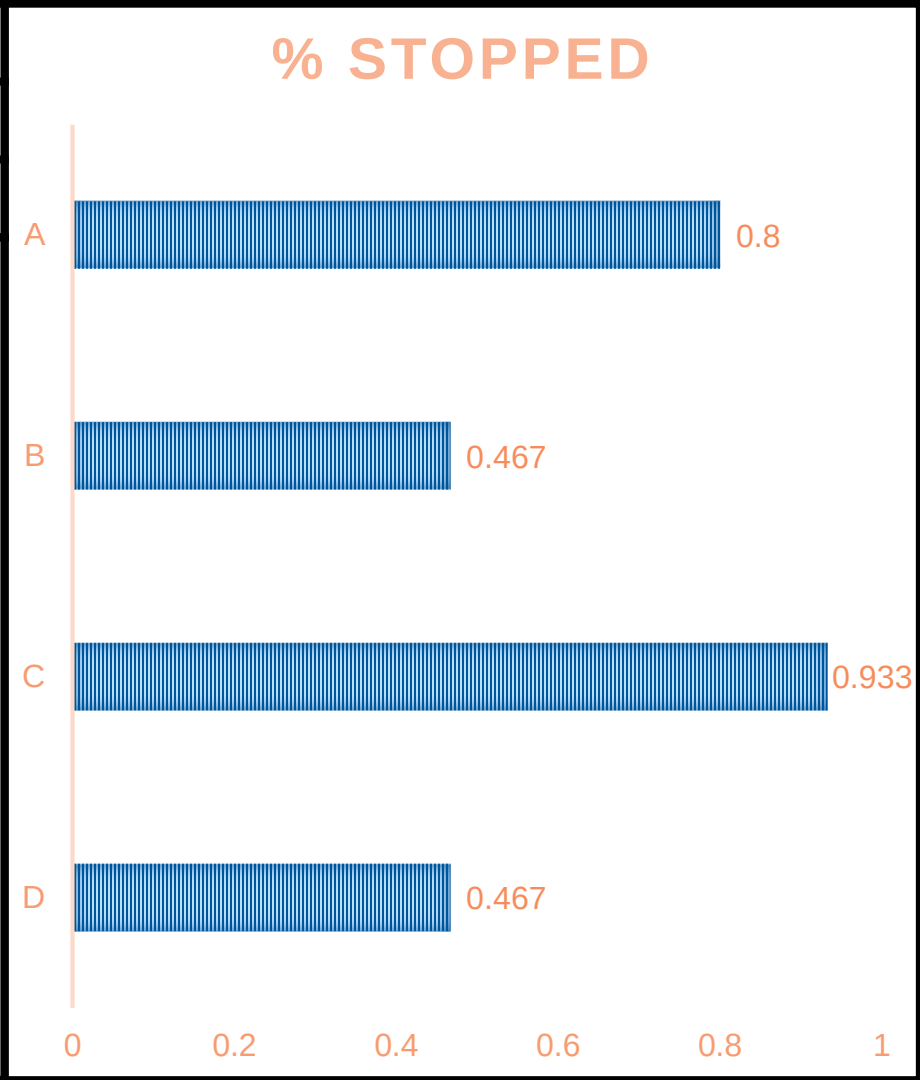
Moral dilemmas should be easily influenced by others in our society as the rules of morality are dictated by our society.

Study

Can people be influenced by others to break the law?

	Action to stop	Action to continue
No group	A	B
Group	C	D





Next studies

1. Can people be influenced by an AI? What happens if the car tells them to keep moving? What happens if we give it a robotic voice in one condition and a human voice in another?

2. Are utilitarian and deontological cognitive processes more easily affected through different influence methods? For example, normative and descriptive influence tactics, or sales tactics such as reciprocity?

The future

There should be a personal moral dilemma in virtual reality study because…

Any questions?