Moral Choice

Frances Copithorne Meds 470

This Lecture Will Cover

Background Info

What are morals and moral dilemmas? What is moral reasoning and how is this related to choice value?

Quiz Questions

1. What is the role of our logical decision system?

2. What is the role of our emotional decision system?

3. What does emotion do to value?

4. How are emotional / logical decisions mitigated by the brain?

Research Review

Locations of Moral Reasoning

Review of Greene and Paxton 2009

Terms

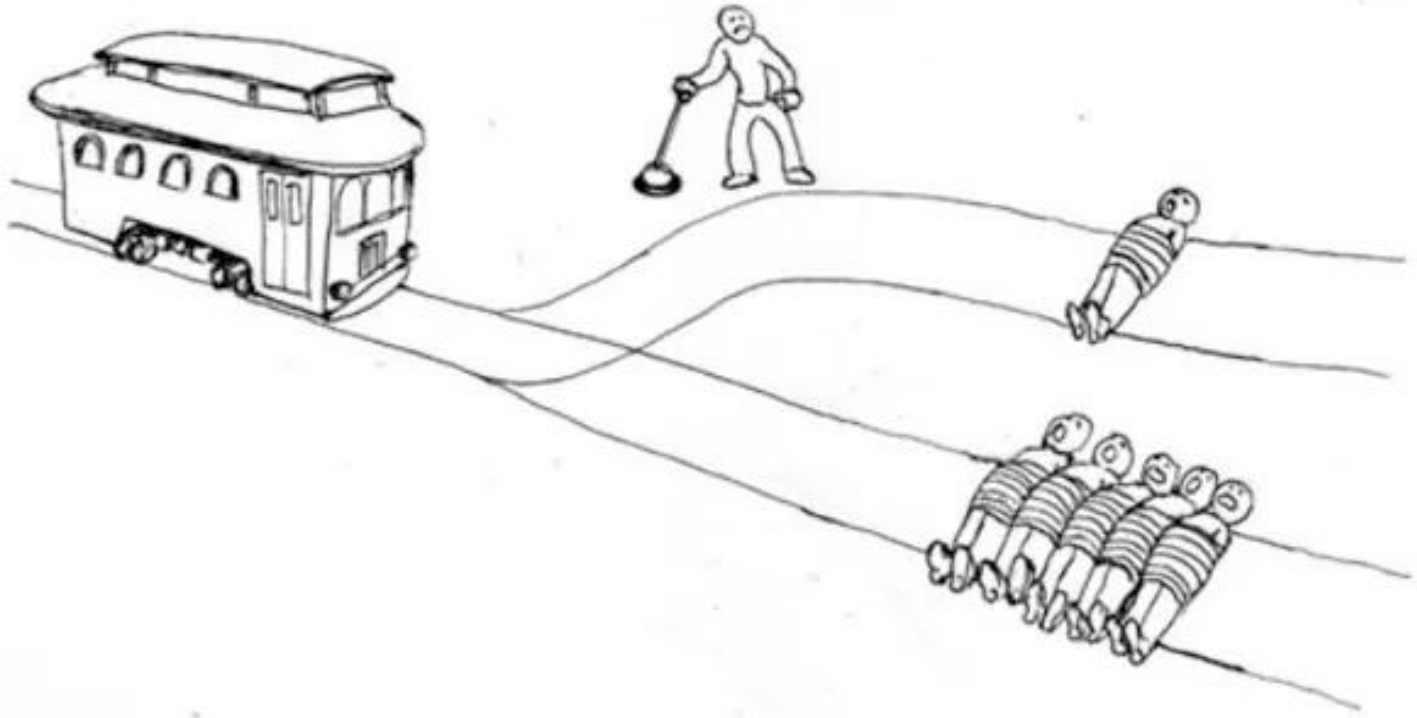
What are morals?

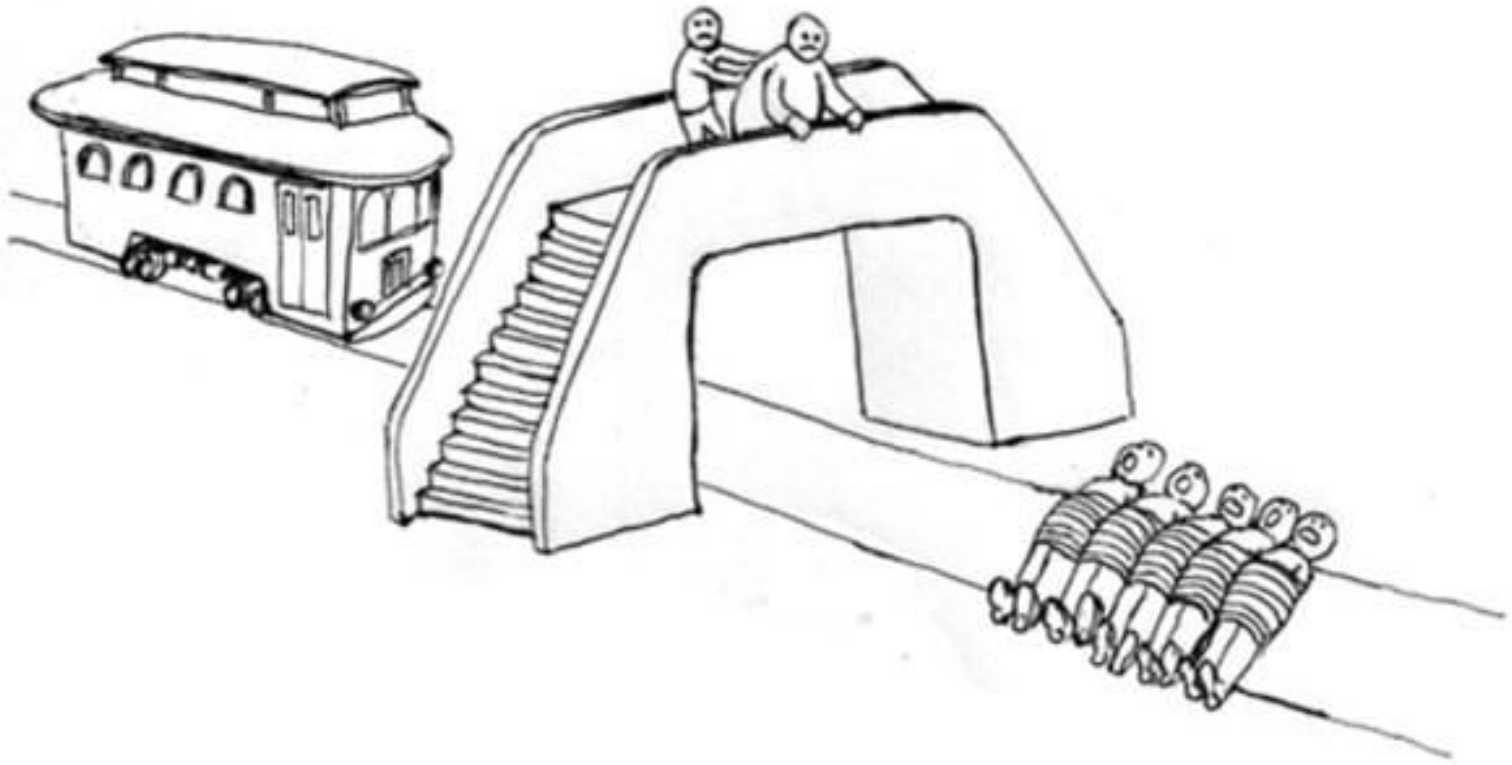
A moral is a principle or a value that is used to judge and guide behaviour. They are generally shared between social groups as a set of beliefs about what is good or bad

Terms

What is a moral dilemma?

When a person is faced with a choice that involves a moral decision or VALUE, that conflicts with one of several other competing moral principles or values





Terms

What is a moral reasoning?

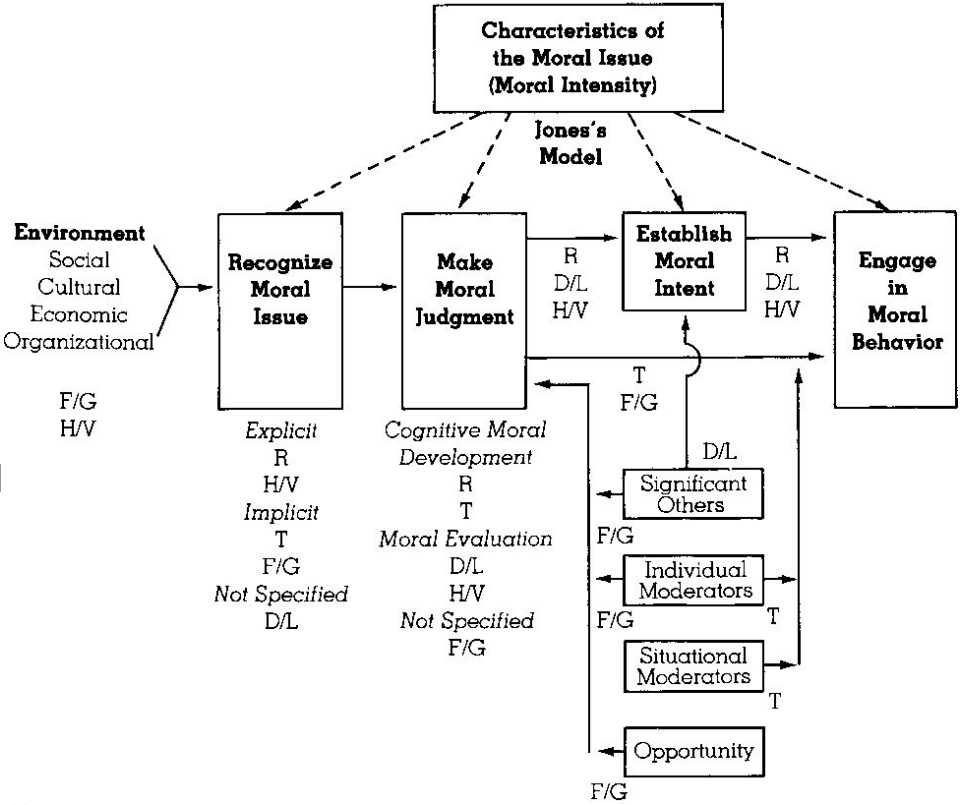
The cognitive process of evaluating and making judgments about what is right or wrong. It can be a complex process influenced by multiple factors, such as emotion, societal norms, religion, education, personal beliefs and values.

This is just an example of a framework for moral reasoning as a sequential model

What we are really concerned with here is "Make moral judgement" (the moral evaluation, and what can affect that)

Situational moderators
Significant others
Opportunity, etc

FIGURE 1
Synthesis of Ethical Decision-Making Models



Key:

R = Rest (1986)
T = Trevino (1986)
D/L = Dubinsky & Loken (1989)
F/G = Ferrell & Gresham, (1985)
H/V = Hunt & Vitell (1986)

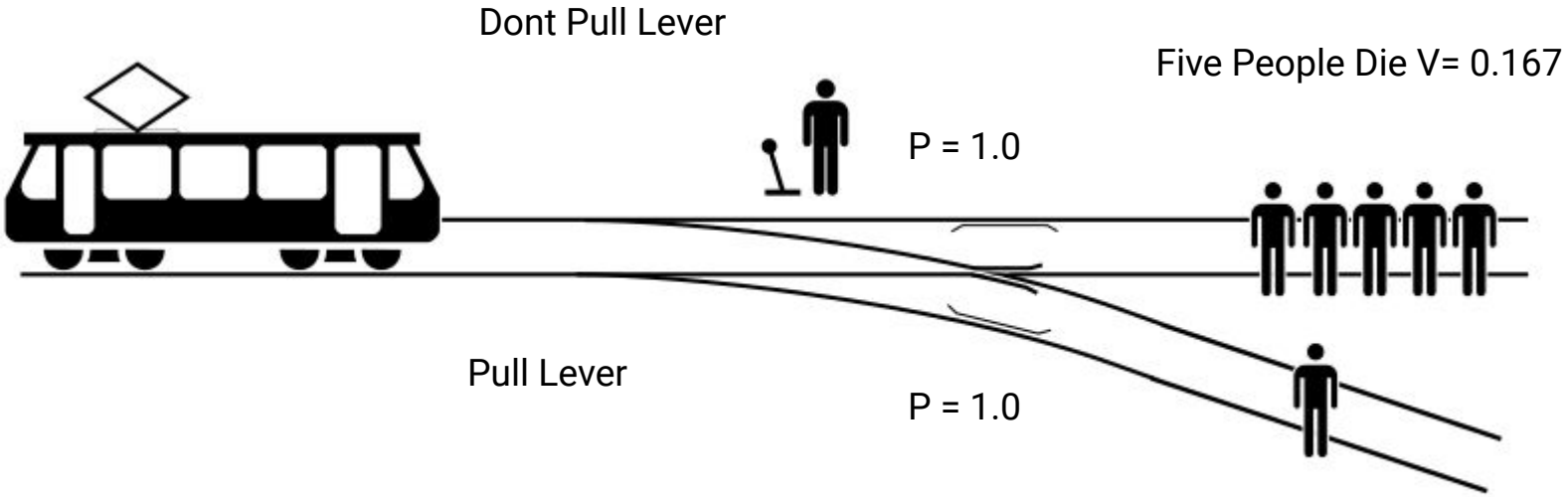
Terms

Utilitarianism vs Deontology

Utilitarianism: Maximizing the overall well being for the greatest number of people. The value of the action depends on its consequences and the net benefit or harm. Think “the greater good”

Deontology: Some actions are intrinsically right or wrong, regardless of the consequences, based on the principles of moral law.

Virtue Ethics: Not covered in this ~~lecture~~

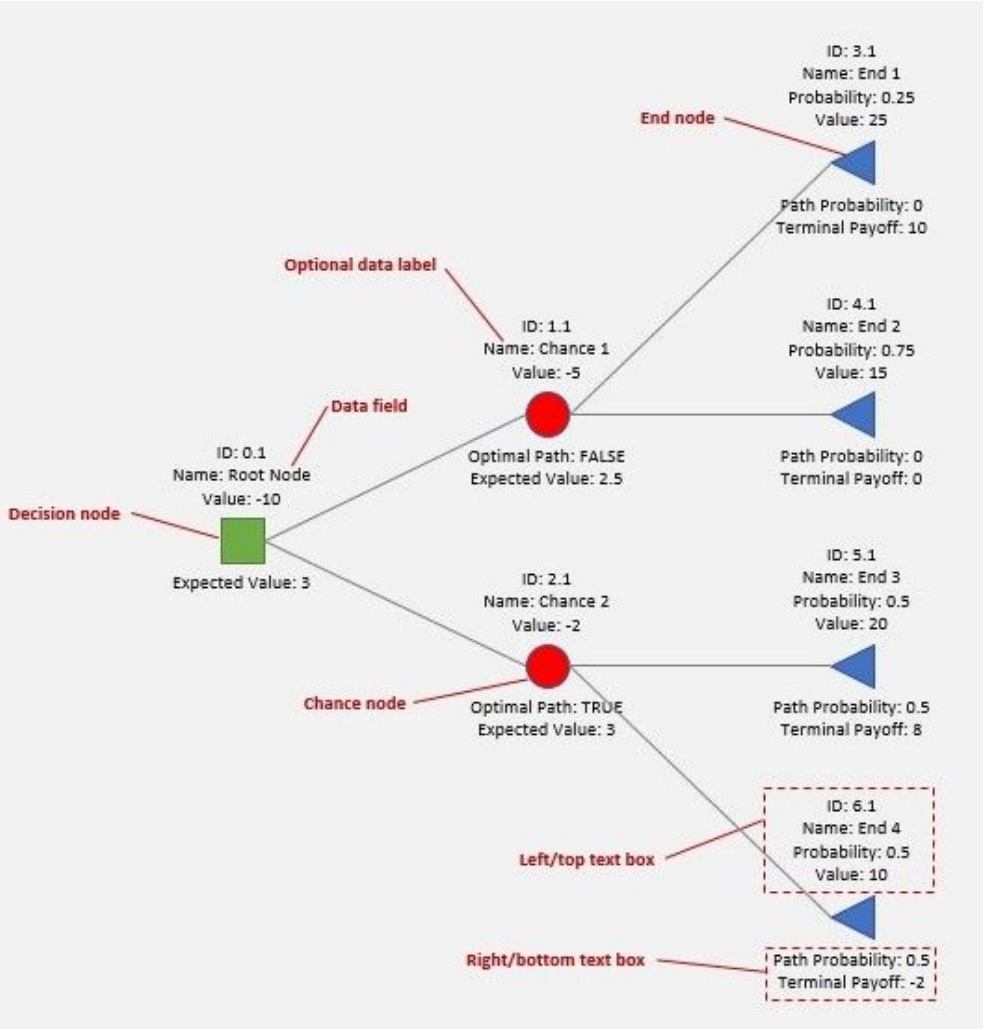


Perfect Utilitarianism = We always choose the highest value

Just like how normal decisions have value, moral choices have value. The expected value of a moral decision depends on how the individual assigns value, which can be utilitarian or deontological, both of which also may have a subjective component.

In addition, there may be a rapid value assessment as seen in the System 1/System 2 dual processing theory.

The interaction between these two systems may combine to form our internal “highest value” judgement of the moral decision that will guide our behaviour



Quiz Questions

What is the role of our emotional decision system?

Emotional decision system =affective or intuitive system,
Makes decisions based on our emotional responses and gut feelings.
Generates initial emotional reactions to stimuli and events, and is often associated with spontaneous and automatic decision-making.

Emotion can influence value by shaping our subjective experiences and perceptions of the world. Emotions tend to center on what is meaningful, or salient in our environment. Emotion may affect moral decisions and motivate us to take action or avoid certain situations.

What is the role of our logical decision system?

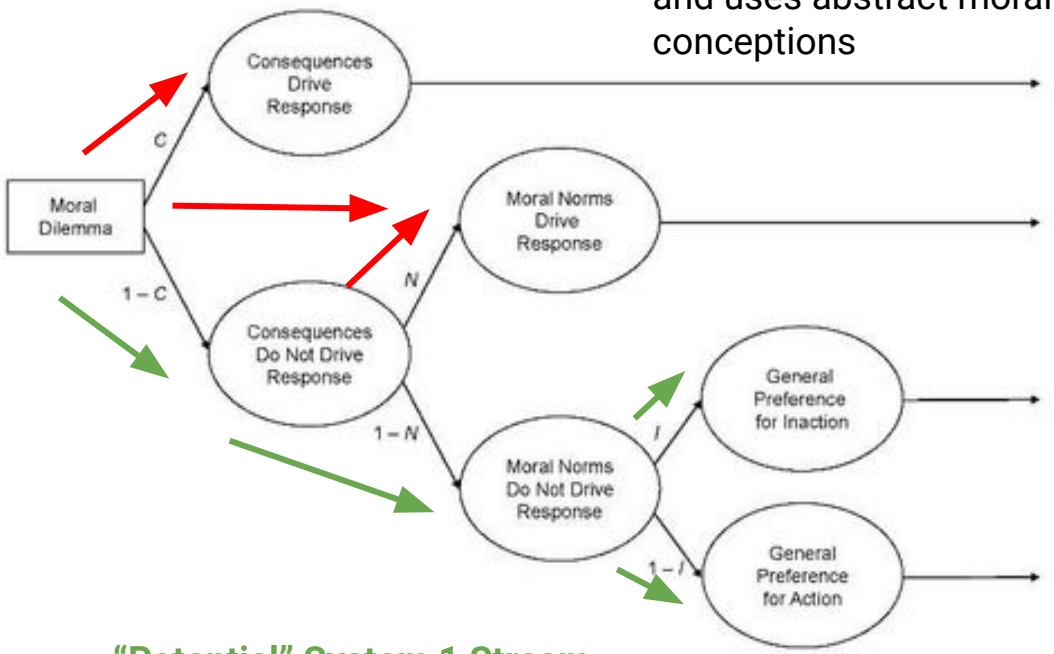
Our logical decision system = cognitive or rational system (System 2)
Processes information and makes decisions based on conscious thought and reasoning. This system evaluates options based on logic, evidence, and prior knowledge. Considered reflective, deliberate and intentional decision-making.

- Slower processing with a higher cognitive load
- Requires application of general knowledge and abstract moral conceptions
- Logical system may question judgements which are based on moral intuitions and identify which intuition are from irrelevant factors (ie. should a personal relationship change the result of a moral dilemma?)
- Interferes with initial emotional response
  (We will look at this soon)

How are emotional / logical decisions mitigated by the brain?

"Potential" System 2 Stream

Logical system requires conscious deliberation and uses abstract moral conceptions



Proscriptive Norm Prohibits Action		Prescriptive Norm Prescribes Action	
Benefits of Action Greater than Costs	Benefits of Action Smaller than Costs	Benefits of Action Greater than Costs	Benefits of Action Smaller than Costs
action	inaction	action	inaction
inaction	inaction	action	action
inaction	inaction	inaction	inaction
action	action	action	action

"Potential" System 1 Stream

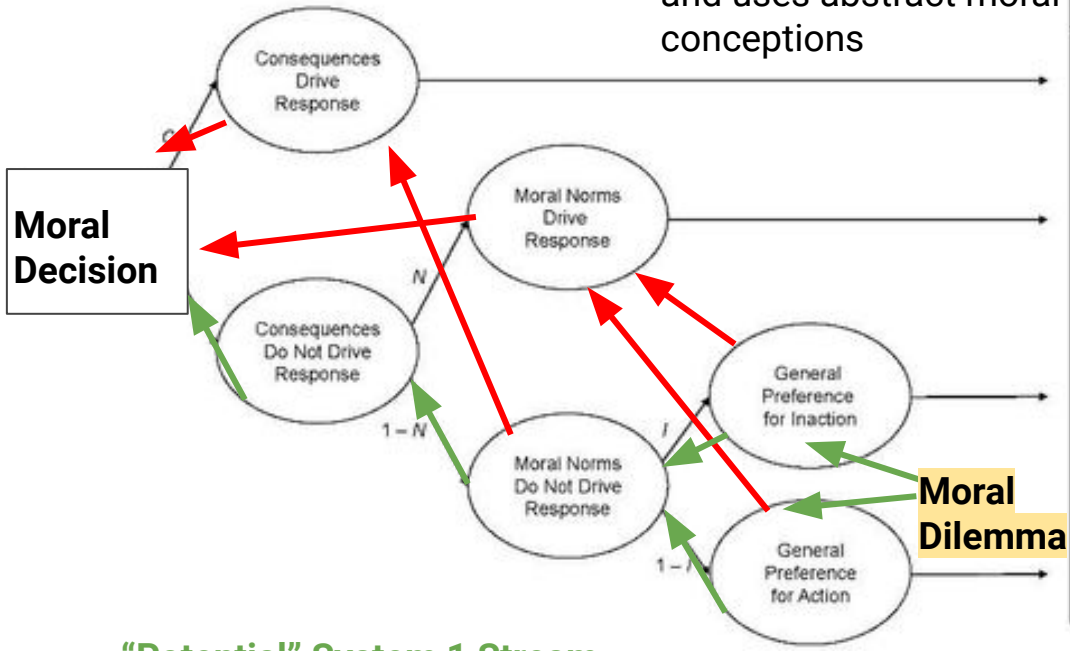
General preference = pure emotional / intuitive decision without reflective process

Imagine this is a value table
Based on the assigned choice value and perceived probability
(EV = Gain*Probability - Cost*Probability)

Let’s Rework that Decision Tree……

"Potential" System 2 Stream

Logical system requires conscious deliberation and uses abstract moral conceptions



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"Potential" System 1 Stream

Emotional System = pure emotional / intuitive decision without reflective process

Imagine this is a value table
Based on the assigned choice value and perceived probability
(EV = Gain*Probability - Cost*Probability)

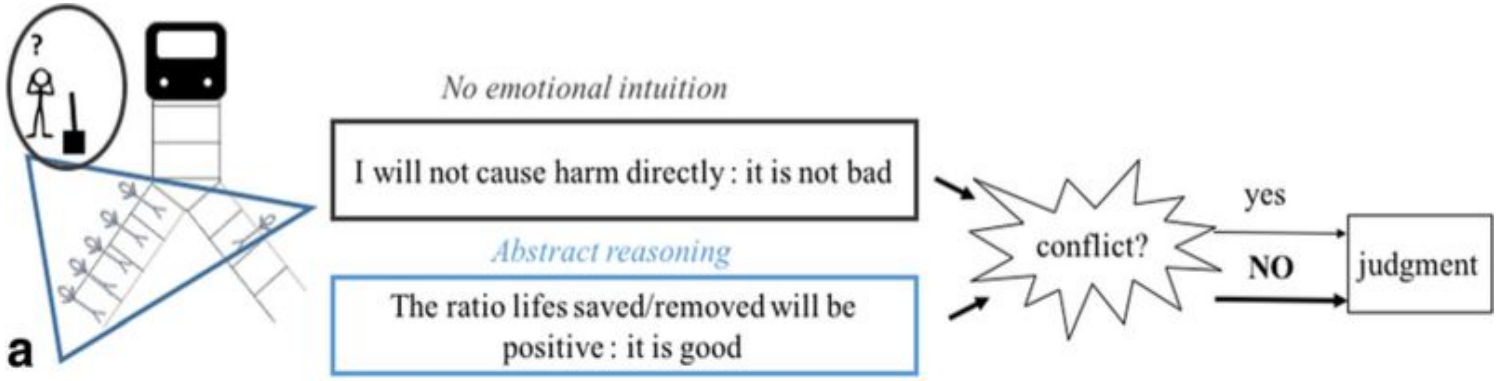
Revisiting the Trolley Problem

Interaction between assigned value and the emotional and logical systems

How does dual processing between the emotional decision system and the logical decision system work?

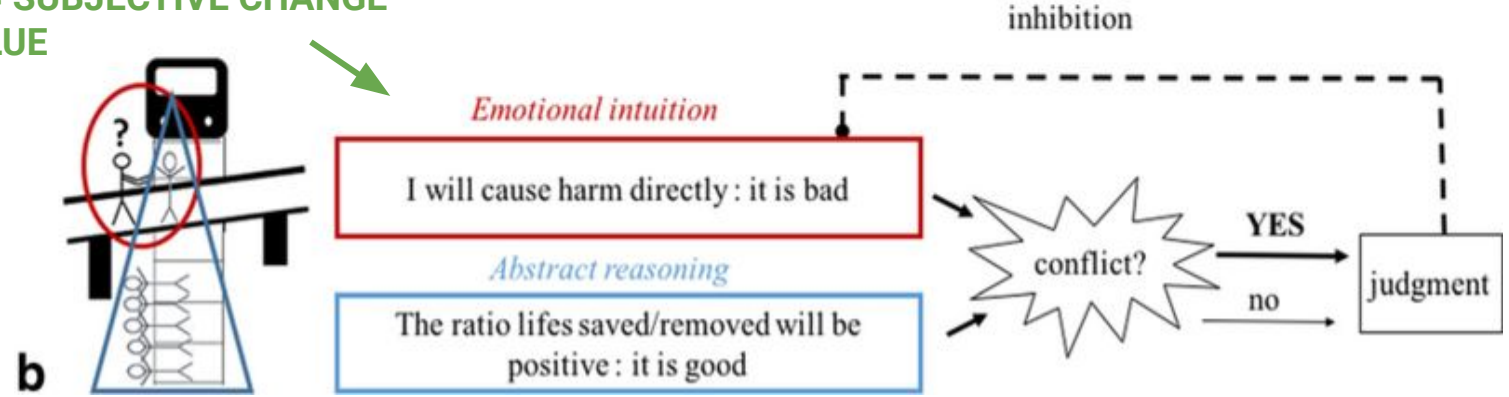
How can we observe the effect of emotion on value?

Technically, you would end a person's life either way, however there is an emotional response to pushing the person onto the tracks



EMOTION = SUBJECTIVE CHANGE IN THE VALUE

Abstract reasoning stays the same



Brain Regions and Article Review

Where are these processes located:

The Neural Bases of Cognitive Conflict and Control in Moral Judgment, Joshua D. Greene et al., 04
Why are VMPFC patients more utilitarian? A dual-process theory of moral judgment explains. Joshua D. Greene, 07

1. Amygdala is primarily responsible for the emotional response
2. Ventromedial prefrontal cortex may play a role in mediating the relationship of the logical response against the emotional response
3. The Anterior Cingulate Cortex deals with decision and task conflict, and the Dorsolateral-Prefrontal Cortex employs abstract reasoning and cognitive control to evaluate Cost-Benefit analysis.

Further Research : A BIG INFO DUMP Meta Analysis of fMRI

Common and distinct neural networks involved in fMRI studies investigating morality: an ALE meta-analysis
Eres et al., 2014

- Ventromedial prefrontal cortex (vmPFC): This brain area is involved in moderating emotions during moral decision making, obeying social norms and values, and integrating intentions of others with the outcomes of moral decisions.
- Dorsomedial prefrontal cortex (dmPFC): The dmPFC is consistently activated across higher-order social tasks including empathy, theory of mind, and morality. It is involved in decoding belief valence surrounding moral judgments.
- Dorsolateral prefrontal cortex (dlPFC): The dlPFC plays a role in morality by overriding moral decisions through reasoning.
- Lateral orbitofrontal cortex (lOFC): The OFC has been associated with guilt, moral sensitivity, and processing emotionally salient information related to moral value.
- Amygdala: The amygdala is implicated in intentionally making a moral violation, viewing images of interpersonal harm, and sensitivity to basic emotions such as fear and disgust.
- Anterior cingulate cortex (ACC): The ACC has been associated with implicit moral attitudes, utilitarian approaches, and is often involved in self-referential tasks and moral conflict monitoring.
- Temporoparietal junction (TPJ): The TPJ responds to the encoding of an agent's mental state, which can be used to inform moral judgments regarding the agent. It has also been associated with retrospectively justifying moral decision making.
- Precuneus: The precuneus is associated with personal moral judgments and difficult moral dilemmas

Greene & Paxton (2009)

Two hypothesis in honesty in decision making when confronted with opportunities for dishonest gain

Will Hypothesis

- Honesty results from active resistance of temptation by forgoing a known opportunity for dishonest gain
- Comparable to controlled processes that enable delay of reward
- Prediction: opportunity loss trials will preferentially engage brain regions associated with response conflict, control, and/or inhibition

Grace Hypothesis

- Honesty results from the absence of temptation
- Prediction: honest individuals will exhibit no additional control-related activity when they choose to refrain from dishonest behavior

Greene & Paxton (2009)

This study supports the Grace hypothesis

- Using fMRI in conditions where there is an opportunity to dishonestly earn monetary reward
- Individuals who behaved honestly exhibited no additional control related activity or other kind of activity when choosing to behave honestly
- Individuals who behaved dishonestly exhibited increased activity in control related regions of prefrontal cortex, both when choosing to behave dishonestly and on occasions when they refrained from dishonesty
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Questions?