Philosophy for non-philosophical disciplines students

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Spring term 2018

Course requirements

- Attendance: 2 absences allowed
- Readings:
  - up to 4 papers assigned
  - placed in „course materials“ section in IS
  - final exam – 8-10 open questions, 60 percent limit to pass

What is philosophy?

- Philosophical question
- Love of wisdom
- What philosophers do
- Critical thinking about what most people take for granted – a science of presuppositions
- Reflection guided by principles of logic and precision in thought and argumentation on the deepest concepts in which we think about the world
- Making sense of the world we live in

What is philosophy?

- (x science) inquiry into problems which cannot be resolved by more empirical evidence
  - How your ideas hang together, rather than whether they are true
- Search for a coherent and justified overall world-view.
- Philosophy starts where two common-sense notions push in different directions

Why study philosophy?

- Charge: philosophy is useless
- Usefulness is a relative matter – what do we want to achieve?
- Learning to think
  - Argumentative, analytic, communicative, writing skills
- The unexamined life is not worth living

Is philosophy difficult?

- Yes – why should it not be?
- Could it be easier? Yes - clarity

Concept I - God

Why start with God?

- Theoretical question with deep practical relevance
- Theism – one God, omnipotent, omniscient, supremely benevolent
  - Shared by Christians, Jews, Muslims
- Can we prove such a God exists?
  - Theism, atheism, agnosticism

The Design Argument

- Teleological Argument (telos – purpose)
  - Everything is suited to the function it performs
  - The complexity of some phenomena suggest they must have been designed
  - The Divine Watchmaker analogy
    - compare a watch with the human eye, the DNA, the complex processes in ecosystems, etc.

Criticisms

- Weakness of analogy
  - to what extent are watches similar to eyes?
  - counterargument – design is still more likely than pure chance.
- Evolution
  - Darwin (1809-82) – theory of evolution by natural selection
  - survival of the fittest – the best adapted pass their genes
  - does not refute God, but makes him irrelevant

Criticisms

- Argument does not prove the Theistic God
  - not necessarily one
  - not necessarily allmighty (short-sightedness, cataracts)
  - not necessarily supremely good – natural catastrophies, disease
  - Douglas Adams – *The Hitchhiker´s Guide* – „Slartibartfast“ – the fjord designer ☺

The Fine Tuning Argument

- More modern version of Design Argument
- The Anthropic Principle
  - the chance of the world turning out to be conductive to human life to evolve was so tiny, that it must have been designed by a divine architect.
  - the range of suitable starting conditions for a life-supporting universe is very limited

Criticisms

- The Lottery objection
  - winning in a lottery does not prove your winning was chosen
  - in a sense it is no surprise that we evolved in one of the possible universes which support life – we could not have evolved elsewhere
- Criticisms of the Design Argument apply

The First Cause Argument

- An a priori argument
- Cosmological Argument
- Every event has been caused by a cause. There must have been a cause of the universe – The First Cause – The God

Criticisms

- Self-contradictory
  - everything has been caused x God was not caused
    - (everything except God? – begs the question)
- Not a proof
  - turn to the future – will there be The Final Effect?
  - why could not there be an infinite series of causes and effects (comp. infinite series of numbers)
- Limitation – omnipotent? not omniscient, not supremely benevolent

The Ontological Argument

- Does not rely on evidence at all
- God´s existence necessarily follows from the mere definition of God
  - God = most perfect being imaginable
  - a God which did not exist would not be most perfect
  - So, God exists
- Seems absurd: can we define sth. into existence?

Criticisms

- Absurd consequences
  - we could define a *perfect* island – that would not show it exists

The Problem of Evil

An Argument for Atheism

The argument

- There is evil in the world
  - man-caused – Holocaust, terrorism, …
  - natural – tsunami, earthquakes, fires, …
- By definition, God is supremely benevolent
- A supremely benevolent being would not allow evil in the world
- Thus, there is no God.

Saintliness

- Without wars, torture and cruelty no saints or heroes could exist, evil enables moral improvement
- Answers:
  - the amount of evil is too excessive
  - much of the evil goes unnoticed
  - world without evil is preferable to world with evil and saints
  - a cruel method of moral education

Artistic Analogy

- World is like a work of art (painting)
- It´s beauty is given by a combination of dark and bright spots.
- Evil contributes to the overall harmony of the world.
- Answer:
  - evil is beyond human comprehension
  - sounds sadistic (comp ISIS burning Jordanian soldier „commercial“)

Free Will Defence

- Evil is the consequence of human free action
- The only alternative is a world of good machines
- Answers:
  - good machines (with illusion of free will) may be preferable to free monsters
  - perhaps we don´t even have free will (and are designed to be evil)
  - why does freedom exclude our choices being always good (why aren´t there only good alternatives)?

Free Will Defence

- Answers
  - Why does God not intervene? (He does allegedly do miracles)
  - Free Will Defence does not answer the problem of natural evil

Laws of Nature

- Life would be impossible without regularity
- Natural evil is a by-product of laws of nature
- Answers:
  - Omnipotent God could create laws of nature that would not cause evil (Is he bound by the laws of nature?)
  - Why does he not intervene more often?

Pascal´s Wager

- Blaise Pascal (1623-62) – French mathematician
- not designed to proove God´s existence, but the rationality of belief
- starts from the agnostic position
- four options:
  - disbelieve and be wrong (ultimate loss)
  - disbelieve and be right (limited gain)
  - believe and be right (ultimate gain)
  - believe and be wrong (limited loss)

Pascal´s Wager

- answers
  - egoistic belief (God should not encourage)
  - believe and be wrong is not limited loss.

Metaphysics

Personal Identity

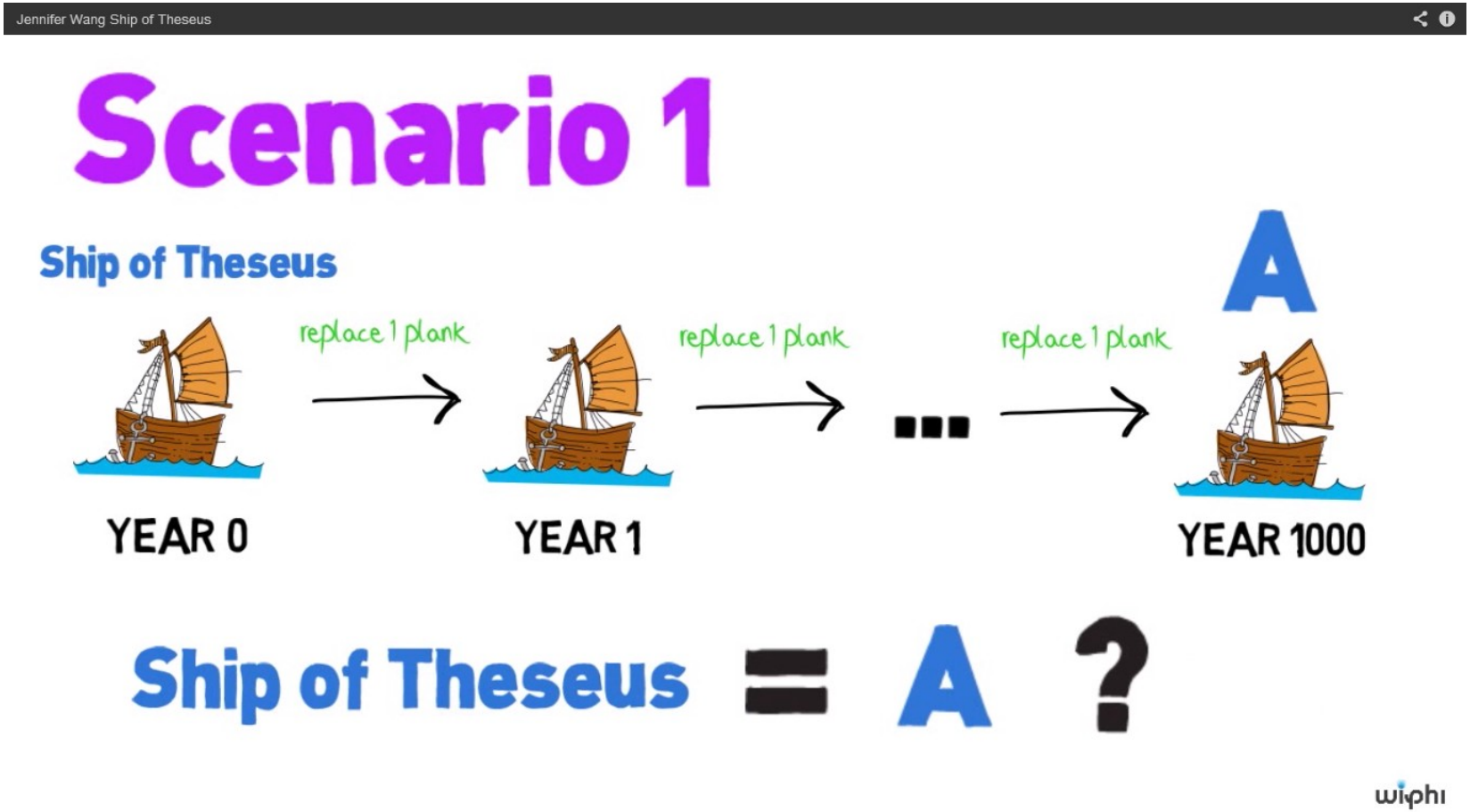
Motivations

- Metaphysical
  - Identity at a time – individuation
  - Identity over time – persistence

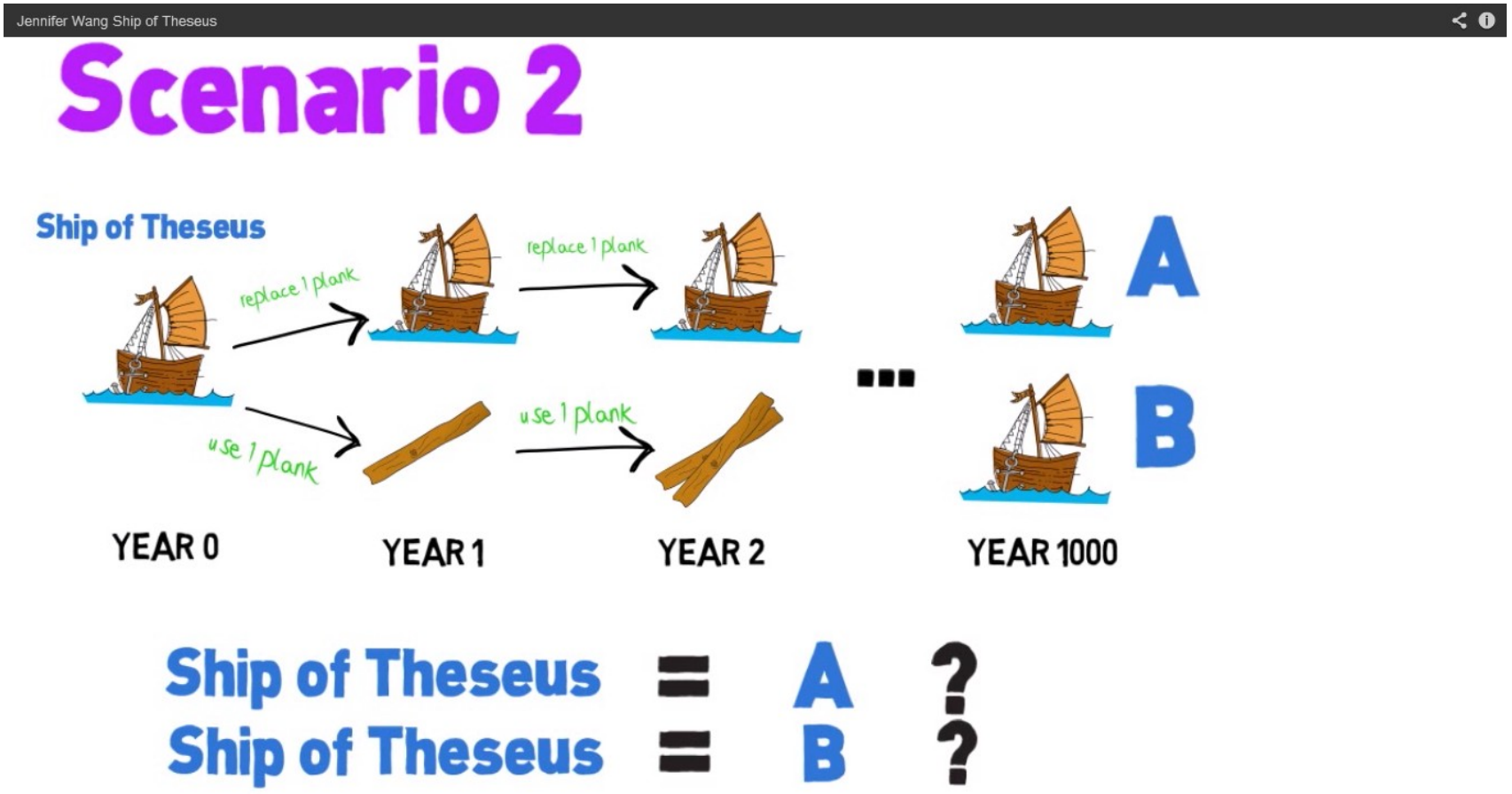
    motivating thought experiment

    Ship of Theseus:

Ship of Theseus



Ship of Theseus



Motivations 2

- Practical motivations
  - Anticipation of afterlife
  - Abortion and euthanasia
  - Advance directives
  - Cloning
  - Responsibility
  - Compensation

Two questions

- 1. How could I possibly survive my death?
- 2. Would such survival give me what I want from survival?
  - Why are you looking forward to tomorrow?
  - Mad surgeon example: you are kidnapped by a mad surgeon who decides to replace your mental and bodily states until you have the qualities of Donald Trump.

Soul and immortality

- Soul: Christian theology, Cartesian dualism
  - Immaterial, indivisible, (indestructible)
  - Independent of body and particular mental contents
    - I could gain a new body and new thoughts.
- P1 = P2 if they have the same soul
- I can survive the death of my body if my soul continues to exist.

Soul and immortality

- Problem: epistemic inaccessibility of souls
  - No verification of my own identity via mental or bodily features.
    - I don´t know when I started lecturing to you.
- Lesson: our own identity should be known to us.
- Survival uninteresting
  - Features I care about are tied to the body and mind, if those vanish, the survival of mere soul does not give me what I want.

Body and immortality

- P1 = P2 iff they have the same body.
  - What counts as the same?
    - Sameness of matter (atoms, tissues)
    - Continuity of matter.
- Can I survive my bodily death?
  - No.

Memory theory

- John Locke – We are sure of our own persistence. How? We remeber it.
- PI consists in sameness of consciousness, that is, memory connectedness.
- P1 = P2 if P2 can remember P1´s experiences.
- Explanation of afterlife
- Survival is interesting
- Explanation of responsibility (mind swap)

Memory theory

- Prince and Cobbler experiment (mind swap)

Problems of memory theory

- I have not done what I cannot remember
- Identity is transitive:
  - If P1=P2 and P2=P3, then P1=P3
- Boy-officer-general story (paradox)
  - Officer remebers boy (=)
  - General remebers officer (=)
  - General does not remember boy (not =)
  - But general = boy (by transitivity)

Psychological theory

- P1 = P2 if P1 is psychologically continuous with P2
- PC – a chain of direct psychological connections
  - Memories, intentions, beliefs, character traits etc.
  - Rope analogy
- PT can explain the boy-general case

Psychological theory

- Can explain afterlife
- PI is epistemically accessible
- Can account for responsibility
- Implications for
  - Abortion, euthanasia, advance directives

Problems of PT

- D. Parfit – teleportation (travel or death?)
- See documentary Brainspotting 7:30

Problems of PT

- Lesson: PI cannot be psychological continuity, because PI cannot branch.
- Fix: „No branching condition“
  - P1=P2 iff P2 is psychologically continuous with P1 and no-one else is.
- Further problems:

Problems of PT

- Split brain operation + double hemisphere transplant

Problems

- A´s brain is split and transplanted into a body B and a body C.
- B and C are psychologically continous with A
- Therefore: A has died.
- If only one hemisphere were transplanted, A would survive
- A should bribe a nurse to destroy one hemisphere. (reductio).

Identity does not matter

- Parfit: After all, PI does not matter for survival, anticipation, responsibility, etc.
  - Double hemisphere transplant secures all the features of a regular survival.

Animalism

- Rejection of claim that psychological continuity is necessary for identity.
- PI has nothing to do with psychology.
- Two arguments: the fetus problem, the thinking animal problem

The fetus problem

- I was a fetus (ultrasound image)
  - Common sense and biology
- Fetus has no mental states – no continuity between me and me-fetus
- Thus, PT has to deny that I was a fetus.
- Also, I cannot end up as a vegetable (PVS).
  - reductio

Popular answer

- Fetus – mature organism – vegetable
- I „share matter“ with adult organism, but I am not the organism
  - Organism can survive loss of mental properties
  - I cannot
  - I and my organism co-exist.

Problem

- The idea of co-existing but non-identical material objects is paradoxical.
  - I think, I share matter with animal, animal must think. Two thinkers at one place
  - Two sets of mental states (e.g. pains)
  - Absurd consequences (hurt only embryos)
  - How could material duplicates have different persistence conditions?

Animalism and the practical

- Immortality impossible
- Identity with fetus and PVS - OK
- Advance directives – OK
- Responsibility – KO
- Brain transplants – KO
- Answer: identity does not matter – ethical concerns do not relate to identity.

Concept 2 - Morality

Motivating questions

- How should I live?
- How should I act?
- What makes an action right or wrong?
- Normative vs. applied ethics
- Looking for a principle or a set of principles guiding our behavior.

Consequentialism

Basics

- Right and wrong based on consequences
- Utilitarianism
  - J. Bentham (1748-1832), J. S. Mill (1806-73)
  - Good conseqences – maximize happiness
  - Probable consequences
  - Includes animals

Theories of happiness

- Hedonism (Bentham, Mill)
  - The only good is pleasure, higher and lower kinds
- Mental state theory
  - There are valuable mental states besides pleasure
  - Happiness is subjective
- Preferential theory
  - Value inheres in preferences being satisfied
  - Preferences must be rational
  - Semi-objective
- Objective theory

Criticisms

- Difficulty of calculation
  - Interpersonal comparison
  - Who to include (animals, future generations)
- Prediction of consequences
- Total or average happiness?
- Problem cases
  - Transplant, framing an innocent person, trolley problems, breaking promises

Rule utilitarianism

- Combination of consequentialism and duty based ethics
- Focus not on acts, but on rules
- Rules with best consequences are the moral ones
- Avoids calculation problems
- Charge of rule worshipping

Duty-based theories

Basics

- Each of us has duties
- Actions we ought (not) to perform
- Acting morally amounts to acting in accordance with duty
- Actions are absolutery right or wrong
- Consequences do not matter
- Christian ethics, Kantian ethics

CHRISTIAN ETHICS

- Dominant in West
- Based on Ten Commandments
- Authority derived from God
- Absolute validity
- Further rules and distnctions (love your neighbor, doing and allowing, double effect)
- Dostoevsky - if God does not exist, anything is permitted

What is God´s will?

- How do we determine what God wants us to do?
- Bible open to numerous interpretations, contains contradictions
- Advocates behavior we find morally abhorrent
    - The Lord is speaking to Abraham in this story where God commands him to sacrifice his son: ‘Take your son, your only son Isaac, whom you love, and go to the land of Moriah, and offer him there as a burnt-offering on one of the mountains that I shall show you.’ (Genesis 22:2)
    - Samuel, one of the early leaders of Israel, orders genocide against a neighbouring people: “This is what the Lord Almighty says... ‘Now go and strike Amalek and devote to destruction all that they have. Do not spare them, but kill both man and woman, child and infant, ox and sheep, camel and donkey.’” (1 Samuel 15:3)

The Euthyphro Dilemma

- 1) Does God aprove of actions, because they are morally good, or 2) are actions morally good, because God aproves of them?
- 1) objectivism, rationalism
  - God is not the source of morality,
  - Moral rules would exist even without God.
  - His powers and freedom of will are limited.
- 2) divine command theory, voluntarism
  - Morality is arbitrary, not based on reasons, anything might be good.
  - Acting only out of fear of God
  - Objection: God would not command anything bad, because God is good
    - Circular – „good“ means „aproved of by God“

KANTIAN ETHICS

- Immanuel Kant (1724-1804)
- What actions are moral?
- Those performed out of a sense of DUTY, not self-interest, emotion or consequences
- Morality cannot be based on factors beyond our control.

The Categorical Imperative

- As rational human beings we have *categorical* duties – absolute, unconditional.
- Our morality is a set of *categorical imperatives*
  - Compare with *hypothetical*
- One basic C.I.: „Act only on maxims which you can at the same time will to be universal laws.“ – principle of universalizability
- Maxim – generalized intention behind an act
  - E.g. Always help those in need when it is in your interest; always keep your promises, etc.

The Categorical Imperative

- Moral action has to be universalizable
  - Hold for everyone in the same situation
  - One must be impartial
  - E.g. „Always free-ride when possible“
    - There would be no-one to free-ride on
- Alternative formulation
  - „Treat other people as ends in themselves, never as means to an end.“

Criticism

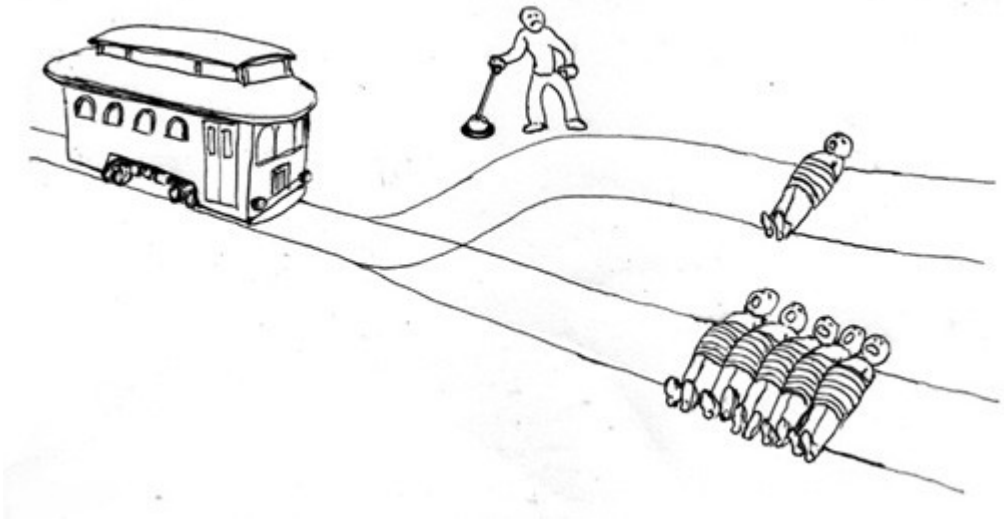
- Empty theory – no guidance
  - In cases duty conflicts
  - „madman“ example
- Presupposes rational decision-making
  - Not supported by psychology (Kahneman, Haidt)
- No place for moral emotions – compassion, guilt, remorse
- Disregard for consequences.

Criticism

- It is difficult to avoid doing harm
  - Breaking promise in order to save a person
- Deontological theories
  - Doing vs. allowing harm
  - Intending vs. forseeing harm
  - Treating somebody as a means vs. as an end

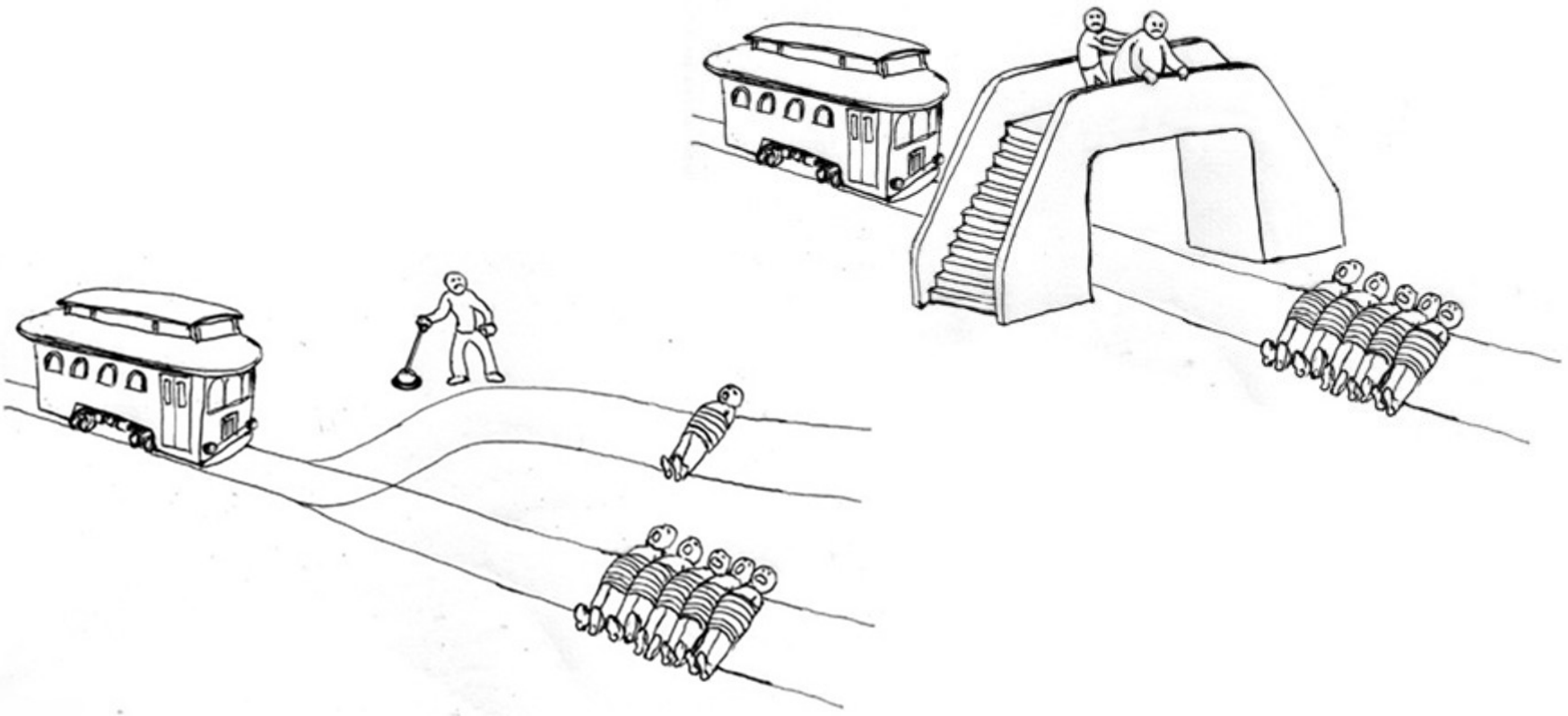
Doing harm vs. allowing harm

– Test cases: transplant dilemma; switch dilemma



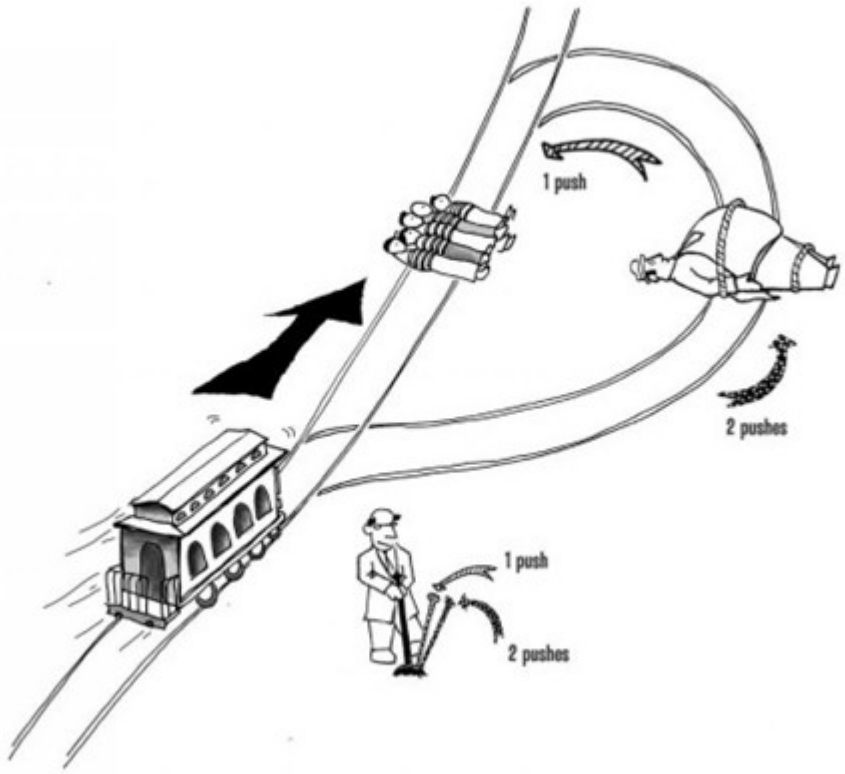
Intending harm vs. forseeing harm

- Test cases: switch dilemma; fatman dilemma



A means vs. an end

- Test cases: switch, fatman, loop.



Virtue Theory

Basics

- Inspired by Aristotle´s Nicomachean Ethics
- Key question: how should I live, what character should a good person have
- Cultivating virtues leads to a good life.
- Everyone seeks flourishing (eudaimonia)
- Certain ways of living promote flourishing
  - Applies to non-humans

VIRTUE THEORY

- Cultivation of virtues leads to flourishing
- Virtue
  - Pattern of behaviour and feeling
  - Tendency to act, desire and feel in certain ways in appropriate situations
  - Involves intelligent judgment of circumstances
    - Compassion with those in need, etc.
    - Prudence, courage, temperance, modesty…
    - Doctrine of the mean

Criticisms

- Which virtues should one adopt?
  - Differences between virtue theorists
  - Danger of bias and reinforcing cultural stereotypes (is monogamy or sexual independence a virtue?)
- Experimental research shows our characters are not as stable (generosity, cruelty, cheating, loyalty…)

Appearance and Reality

Epistemology

Outline

- Knowledge of the world through the senses.
- Relationship between what I perceive and what is really out there?
  - Can we be certain?
  - Could we be dreaming / living in the Matrix?
  - Do objects exist when nobody is perceiving them?
  - Do we experience objects directly?
  - THEORY OF KNOWLEDGE - EPISTEMOLOGY

Common-sense realism

- The most common view of non-philosophers
  - There are physical objects
  - We perceive these objects directly
  - The objects exist independently of perception
  - They are what they appear to be
  - Our senses are generally reliable
- Challenged by sceptical arguments
  - Scepticism – our knowldge is never certain

The Illusion Argument

- Senses sometimes mislead us
  - Friend in the distance, stick in water
  - Apple after grape or honey
  - Railway tracks converge
  - Heat above the road creates „puddles“
  - Colors look different in different light
  - The moon looks larger above the horizon
  - The sun seems to revolve around the earth
- Undermines the certainty that our perception is always acurate.

Criticisms

- Degrees of certainty
  - We have uncontroversial cases of knowledge
  - We can discern the illusions, because we have certain knowledge
  - Sceptic: not sure we have cases of knowldge
    - Vivid dreams
    - Experiencing dream does not feel different.
    - Some ordinary experiences may be dream-like.
    - The possibility of hallucinating

Brain in a vat

- Brain wired to a supercomputer
  - Virtual reality machine (The Matrix)
  - Stimulating my nerves
  - Producing mental states
  - (thought experiment)

Memory reliability

- The thesis that senses are reliable is based on memory.
- Memory is notoriously unreliable.
  - The supermarket experiment
  - Memory reconstructive

- In sum: althought it feels as if we directly perceive reality as it is, we cannot be certain.

An answer to the sceptic

- René Descartes – Cogito ergo sum
  - I cannot doubt my own existence
- Conclusions limited – I am a thinking thing
  - Ayer: even that much does not follow
    - Thinking is going on
    - Not necessarily true that processes must have a subject
    - Comp. „It is raining“

Representative Realism

- Modification of common-sense realism
- All perception is a result of inner representations of external world
- We perceive „inner pictures“ caused by objects
- Explains Illusion Argument:
  - Colors – not in objects, but in the mind

Primary and secondary qualities

- John Locke
  - Primary – in object – size, shape, movement, texture
    - Our representations resemble them
  - Secondary – in the mind – color, smell, taste
    - Redness – the power of objects to produce red images in normal viewer under normal conditions.
    - Ideas of secondary qualities do not resemble the actual objects
    - They are combined products of objects and mind.

Criticisms

- Perceiver in the head – pushes problem a stage back
  - If we observe internal images (a film), who is the observer?
    - A smaller person interpreting the images?
    - Who interprets the interpretations?
    - Infinite regress

Criticism

- The real world is unknowable
  - We cannot perceive the world directly
  - We perceive only images
  - No way to see if the images correspond to the world.
  - Cannot leave the cinema

Idealism

- George Berkeley – esse est percipi
- All experience is that of mental representations
- External world does not exist
- Objects only exist when perceived
- No need to postulate independent objects
- Our realist language is a convenient way of speaking
- There is nowhere to go from the cinema

Criticisms

- How does an idealist explain dreams and illusions?
  - unsystematic, unpredictable
- Solipsism – all that exists is my mind – no other people
  - Reductio: we presuppose the existence of other people in everyday life
    - Shame, embarrasment would be absurd

Criticisms

- Simplest explanation
  - What causes the experiences?
  - How come they are so stable?
- We cannot prove objects do exist, but their existence is the best explanation of our observation

Causal Realism

- Evolutionary assumption –
  - The role of the senses is to navigate through environment
  - We acquire beliefs about environment through senses
  - These beliefs are generally true, as long as they are caused by external objects (not drugs, etc.)
- Assumption: there is external world
- Criticism: no reason selection should track true beliefs as opposed to advantageous ones

- Positive illusions – enhance our health prospects
- Clinical delusions – explain unusual experiences due to brain damage
- Self-deception – hides undesirable truths
- Confabulation – fills gaps in memory
- Religious beliefs – support a sense of community

knowledge

How to define knowledge

- John has no belief whatsoever about the date of Anne´s birthday. Does he know the date?
- John believes it is Anne´s birthday. Anne´s birthday is in a week. Does John know that?
- John throws a dart into a caledar shouting „Anne“. He hits today. In fact, it is Anne´s birthday today. Does John know that?
- John sees Anne´s driving license showing it is Anne´s birthday today. He has no reason to suspect the license is fake. As a result, he forms a belief that it is Anne´s birthday today. It really is Anne´s birthday. Does John know that?

How to define knowledge

- P knows that T =df
  - P has a belief T
  - T is true
  - P is justified in believing T

The Gettier Problem

- Smith and Jones have applied for a particular job. Smith has been told by the director that Jones will get the Job. Further, Jones has shown Smith that he has ten coins in his pocket. As a result, Smith forms the following belief:
  - The guy who will get the job has ten coins in his pocket
- However, it is Smith who gets the job in the end and, in fact, Smith also has ten coins in his pocket.

- His belief is true and justified, but is not knowledge.

Justification

- Foundationalism – knowledge has a pyramidal structure
  - Basic beliefs, justified prima facie, a priori
  - Derived beliefs – inferred from basic beliefs by reliable rules of inference
  - Criticism: there are no basic beliefs, infinite regress
- Coherentism – beliefs are mutually justified in a network of beliefs
  - All beliefs are derived
  - Justificatory circle, need not be vicious.

Truth

- Correspondence theory –
  - Sentences correspond to facts
  - Shared logical form
  - Facts are truthmakers
- Coherence theory
  - A sentence is true iff it coheres with a set of accepted sentences
- Pragmatist theory
  - A sentence is true iff its acceptance is useful in explaining phenomena, promoting further research, leading to fruitful hypotheses, etc
- Consensual theory
  - A sentence is true iff it is accepted by the scientific community.

Critical thinking

1. key concepts

Logic, Arguments, Premises, Conclusion, Statements, , etc.

Logic

- Science that evaluates arguments.
- A system of methods and principles that we use as criteria for evaluating arguments.
- Formal logic, informal logic, critical thinking

Argument

- A group of statements
- One or more premises
- One conclusion

Unsupported statements

- It is going to rain later.
- The world is facing environmental catastrophe.
- Physicists are odd people.
- TOP 09 has a better political program than Social Democrats.

Statement

- A sentence that can have a truth value.
- Truth value: truth or falsity of a statement.
- Other types: question, proposal, suggestion, command, exclamation
- Arguments can only consist of statements

Premises

- Statements that *are claimed* to give support to the statement presented in the conclusion
    - All crimes are violations of the law

      Theft is a crime

      Theft is a violation of the law

Note: are claimed – not necessarily do give support

Conclusion

- A statement that *is claimed* to follow from the premises
  - All humans are mammals

    Jack is a human

    Jack is a mammal

Note: is claimed – not necessarily follows

Good/bad arguments

- True premises support conclusion – good argument.
- Premises do not support conclusion or are false – bad argument.

All men are mortal.	All skinheads are fascist
Socrates is a man.	Peter is a fascist
Socrates is mortal.	Peter is a skinhead

2. recognizing arguments

- A passage contains an argument if it purports to prove something
- Factual condition: At least one statement must be claimed to present evidence.
- Inferential condition: The claim that there is something that follows from the evidence.

Frequent types of non-arguments

1.Passages lacking an inferential claim

- A) Statements of belief or opinion
  - I think a nation such as ours, with its high moral tradition and commitments, has a further responsibility to know how we became drawn into this conflict and to learn the lessons it has to teach us for the future.

Frequent types of non-arguments

1.Passages lacking an inferential claim

- B) Loosely associated statements
  - A nation has the right to know its history. A nation has the right to define its identity. A nation has the obligation to honor its elite.

Frequent types of non-arguments

1.Passages lacking an inferential claim

- C) Report
  - A powerful car bomb blew up outside the regional telephone company headquarters in Medellin, injuring 25 people and causing millions of dollars of damage to nearby buildings, police said.

Frequent types of non-arguments

1.Passages lacking an inferential claim

- D) Expository passage – a topic sentence followed by one or more sentences that develop the topic sentence. The object is to develop the sentence, not to prove it.
  - There is a stylized relation of artist to mass audience in the sports, especially in baseball. Each player develops a style of his own – the swagger as he steps to the plate, the unique windup a pitcher has, the clean-swinging and hard-driving hits, the precision, quickness and grace of infield and outfield.

Frequent types of non-arguments

1.Passages lacking an inferential claim

- E) Illustration – a statement about a subject followed by one or more specific instances that exemplify the statement
  - Chemical elements, as well as compounds, can be represented by molecular formulas. Thus, oxygen is represented by O_2, sodium chloride by NaCl and sulfuric acid by H_2SO_4.

Frequent types of non-arguments

1.Passages lacking an inferential claim

- Note: some expository passages and illustrations can be interpreted as arguments – when the topic sentence is not well-known, generally accepted or is controversial. Also, the kinds of non-arguments are not mutually exclusive.
  - Water is an excellent solvent. It can dissolve a wide range of materials that will not dissolve in other liquids. For example, salts do not dissolve in most common solvents, such as gasoline, kerosene, turpentine and cleaning fluids. But many salts dissolve readily in water.

Frequent types of non-arguments

2. Conditional Statements

- Form: “if…, then…”
- Antecedent - consequent
- Conditional statements do not meet the factual condition. We do not claim that either the antecedent or the consequent are true.
  - If air is removed from a solid closed container, then the container will weigh less than it did.

Frequent types of non-arguments

2. Conditional Statements

- Conditional statements are not arguments, but can serve as premises or conclusions of arguments.
  - If Peter has stolen the money, he should be punished.
  - Peter has stolen the money.
  - He should be punished.

Frequent types of non-arguments

3. Explanation

- A passage that consists of some statements that purport to shed light on some phenomenon that is usually accepted as a matter of fact.
  - The sky appears blue from the earth's surface because light rays from the sun are scattered by particles in the atmosphere.
  - Cows can digest grass, while humans cannot, because their digestive systems contain enzymes not found in humans. .

Frequent types of non-arguments

3. Explanation

- Explanandum $\rightarrow$ explanans
- Explanation similar to arguments ("because"), but argument shows *that* something is the case while explanation shows *why* something is the case.
- To distinguish, ask: "Is the statement that represents the possible explanandum or conclusion something that is considered controversial, generally unknown, or is it a well-established and accepted fact?"

4. induction and deduction

- Two types of inferential relationship between premises and conclusion
- Deductive argument: if premises are true, then it is *impossible* for the conclusion to be false
- Inductive argument: if premises are true, it is *improbable* that the conclusion be false

- Since the universe is so vast, there are many planets with the atmosphere similar to the Earth’s. Therefore, it is likely that on some of them there exists life.
- Every crime should be punished. Theft is a crime. Therefore, theft should be punished.

Typical deductive arguments

- 1. *Argument based on mathematics* – conclusion depends on arithmetic or geometric computation or measurement.
  - This piece of land is 100 feet on each side.
  - Therefore, it contains 10,000 square feet.

Note: statistics – exception

Typical deductive arguments

- 2. *Argument from definition* – the conclusion depends merely on the definition of a word in the premise.
  - John is a bachelor
  - Therefore, John is unmarried

Typical deductive arguments

- 3. *Categorical syllogism*.
- Syllogism – an argument with exactly two premises and a conclusion.
- Categorical syllogism - Each statement begins with “all”, “some”, or “no”
  - All lasers are optical devices
  - Some lasers are surgical instruments
  - Therefore, some optical devices are surgical instruments

Typical deductive arguments

- *4. Hypothetical syllogism* – a syllogism which contains a conditional statement in one or both premises
  - If electricity flows through a conductor, then a magnetic field is produced

    If magnetic field is produced, then a nearby compass will be deflected

    Therefore, if electricity flows through a conductor, then a nearby compass will be deflected
  - If diamond scratches glass, then diamond is harder than glass.

    Diamond scratches glass

    Therefore, diamond is harder than glass.

Typical deductive arguments

- 5. *Disjunctive syllogism* – a syllogism which contains an “either…, or…” statement
  - Either breach of contract is a crime or it is not punishable by law.

    Breach of contract is not a crime.

    Therefore, breach of contract is not punishable by law.

Typical inductive arguments

- 1. *Prediction* – premises describe some known events in the past or present, conclusion moves beyond to some events in the future
  - The atmosphere is very unstable and cumulus clouds are growing very fast. Therefore, it is likely that there is going to be a storm soon.

Typical inductive arguments

- 2. *Argument from analogy* – depends on the existence of similarity between two facts. Certain properties that are had by the first fact are on the basis of such similarity attributed to the other fact as well.
  - Peter has a German car and it is very reliable. Christina also has a German car, so it must also be reliable.

Typical inductive arguments

- 3. *Inductive generalization* – premises describe a sample which has certain characteristics, conclusion extends the characteristics to the whole group.
  - Opinion polls – 35% of the population would vote Social Democrats.

    Did they ask everybody?

Typical inductive arguments

- 4. *Argument from authority* – conclusion depends on a statement made by some presumed authority.
  - Vaclav Klaus claims that global warming is a myth. Therefore, global warming is a myth.

Typical inductive arguments

- 5. *Argument based on signs* – premises describe a certain sign, conclusion states the situation that the sign symbolizes.
  - There is a sign that the road is closed. Therefore, the road is probably closed.

Typical inductive arguments

- 6. *Causal inference* – proceeds from the knowledge of the cause to the knowledge of an effect, or conversely.
  - There is thick black smoke on the horizon. There must be fire somewhere.
  - The beer was left in the freezer overnight. The bottle has probably broken.

Conclusion

- Three things to watch out for when deciding if an argument is deductive or inductive:
  - Indicators
  - Strength of inferential link
  - Typical inductive and deductive arguments

5. extended arguments

- Arguments in newspapers, magazines and ordinary speech may be very complex – arguments, sub arguments, multiple conclusions, conclusions serving as premises, etc.
- For the sake of clarity, the form of extended arguments must be analyzed

Types of argument structure

- Vertical pattern
- Horizontal pattern
- Conjoint premises
- Multiple conclusions

Vertical pattern

- The conclusion of a prior argument becomes a premise of another argument
- (1)The selling of human organs should be banned. (2)Allowing human organs to be sold will lead to a situation in which only the rich will be able to afford transplants. This is so because (3)whenever something scarce is bought and sold as a commodity, the price always goes up. (4)The law of supply and demand requires it.

Vertical pattern

- (4)
  ↓
  (3)
  ↓
  (2)
  ↓
  (1)

Horizontal pattern

- Conclusion supported by more independent premises
- (1)The selling of human organs should be banned. (2) If it is allowed, people in financial need will start selling their organs. Also, (3) criminals will start killing healthy young people and sell their organs on black market.

Horizontal Pattern

- (2) (3)

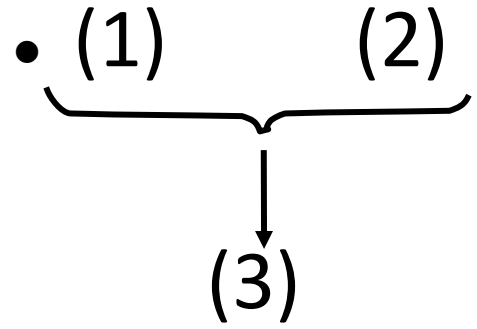
  ↘ ↙

  (1)

Conjoint premises

- Two or more premises, which independently give little or no support to conclusion, but together give substantial support.
- (1) Whenever it is raining, it is wet. (2) It is raining. Therefore, (3) it is wet.

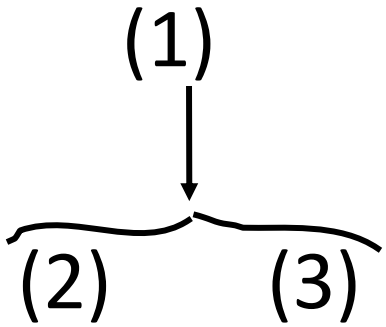
Conjoint premises



Multiple conclusion

- Strictly speaking each argument has only one conclusion. This is a simplification.
- (1) Dropping out of school and bearing children outside of marriage are two of the primary causes of poverty in this country. (2) Therefore, to eliminate poverty we must offer incentives for people to get high school diplomas. (3) Also, we must find some way to encourage people to get married before they start having children.

Multiple conclusion



Hidden premises

- It is frequent that some arguments contain only one premise, where there should in fact be two conjoint premises
- The arguer does not express the other premise, because:
  - a) she thinks that it is obvious
  - b) she wants to hide a statement that might be false

example

P1: The number of crimes is increasing

C:The capital punishment should be re-introduced

This argument is very weak. If you think that it is OK, you assume that something else is true:

P1:The number of crimes is increasing

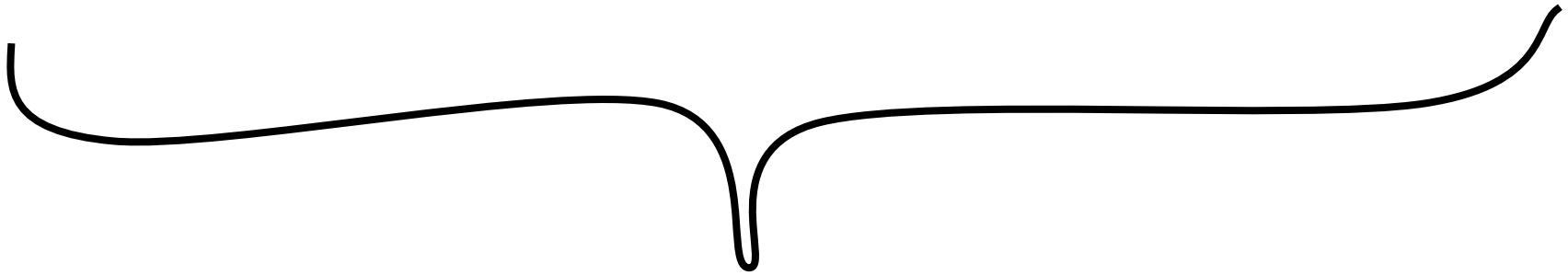
P2: The re-introduction of CP can reduce the number of crimes

C:The capital punishment should be re-introduced

The first premise works only if the second premise is true. This is therefore a case of conjoint premises

P1:The number of crimes is increasing

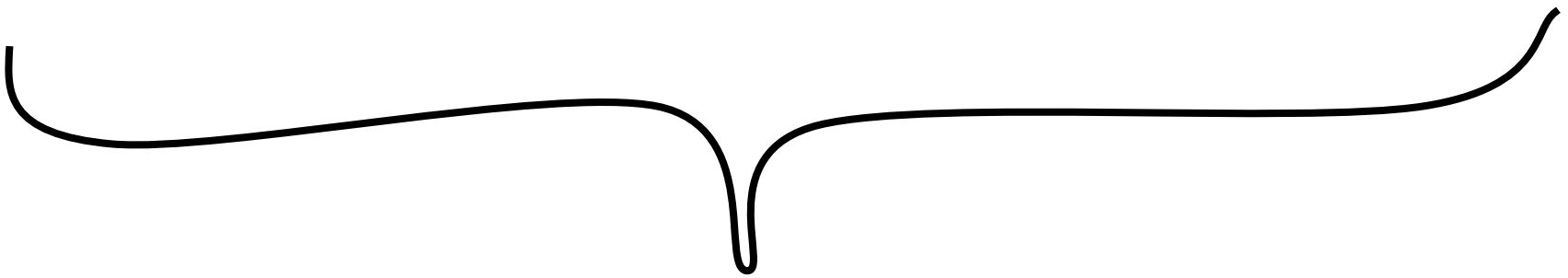
P2: The re-introduction of CP can reduce the number of crimes



C:The capital punishment should be re-introduced

Michael Jordan said so

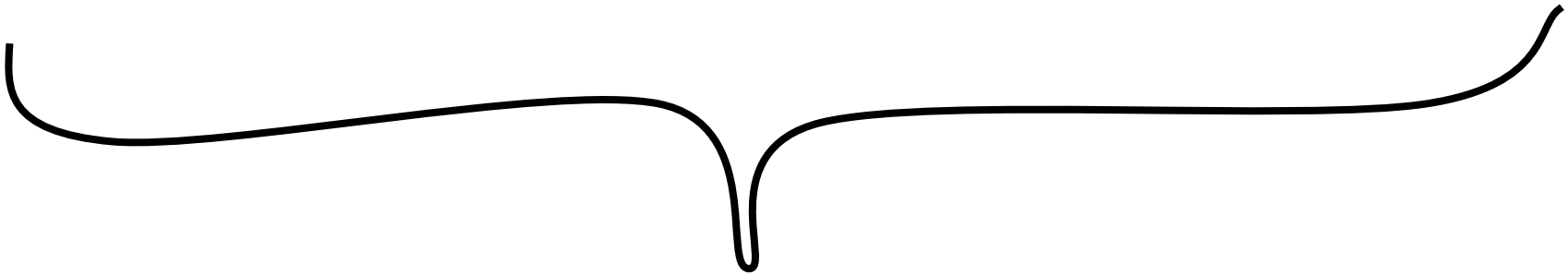
????????



Chicago Bulls are the best basketball team in NBA

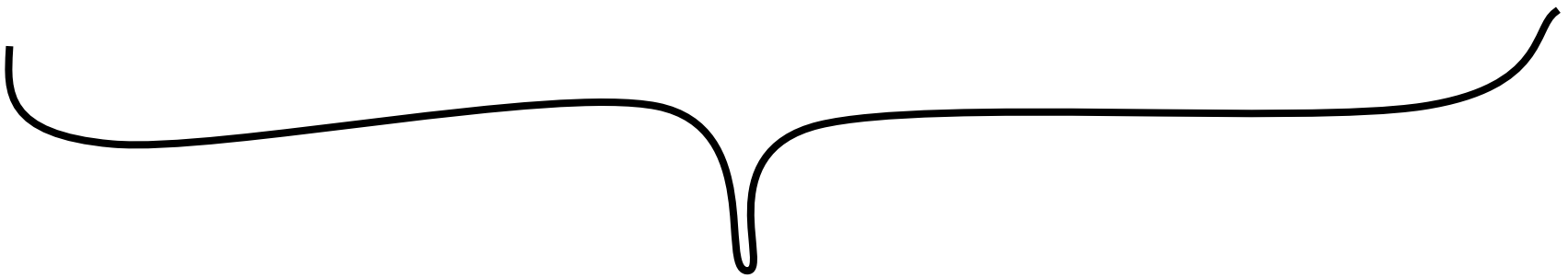
Michael Jordan said so

Michael Jordan is
an authority on basketball



Chicago Bulls are the best basketball team in NBA

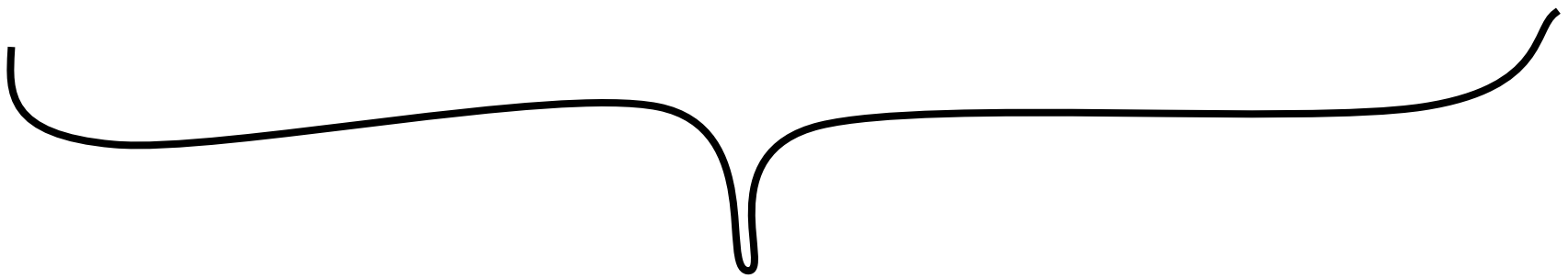
Peter´s car is reliable ????????



Mary´s car will be reliable

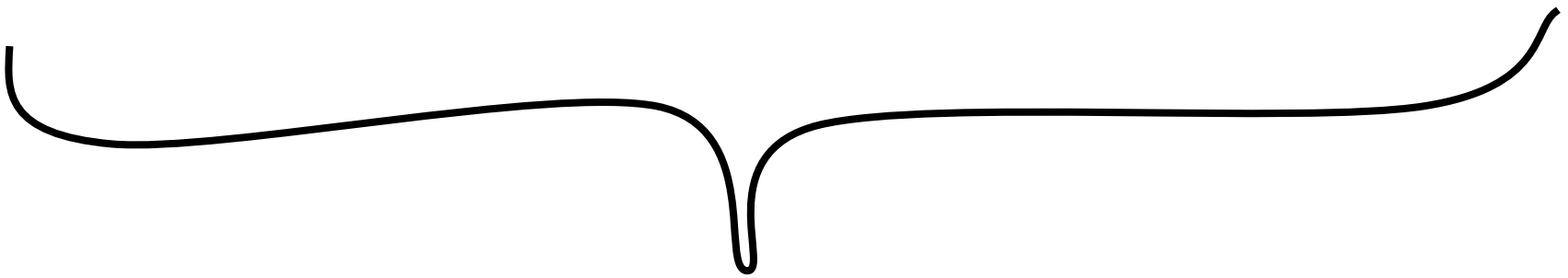
Peter´s car is reliable

Peter´s car is like Mary´s



Mary´s car will be reliable

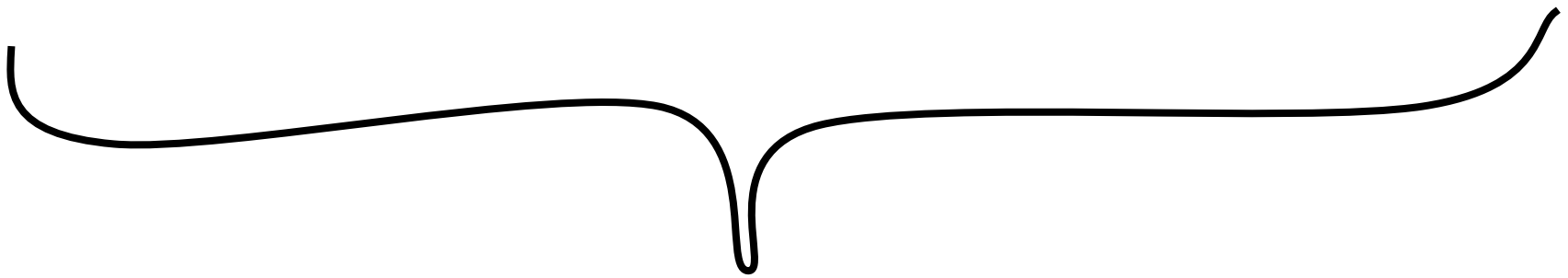
Peter has been in jail. ????????



We shouldn´t trust Peter

Peter has been in jail.

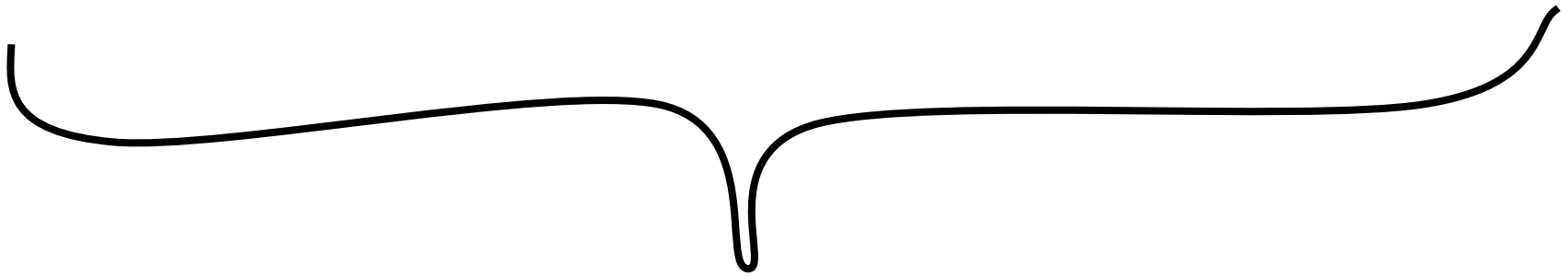
Ex-prisoners are not to be trusted.



We shouldn´t trust Peter

My daughter failed the entrance exams

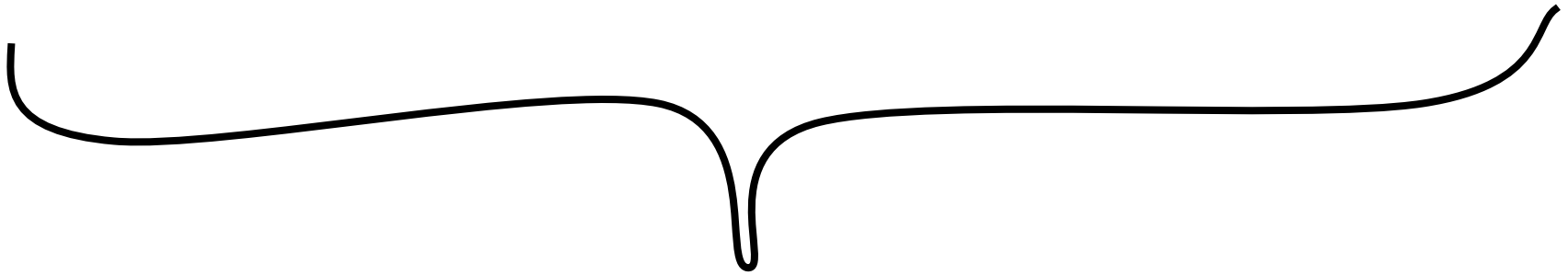
??????????



You will never get to Masaryk University

My daughter failed the entrance exams

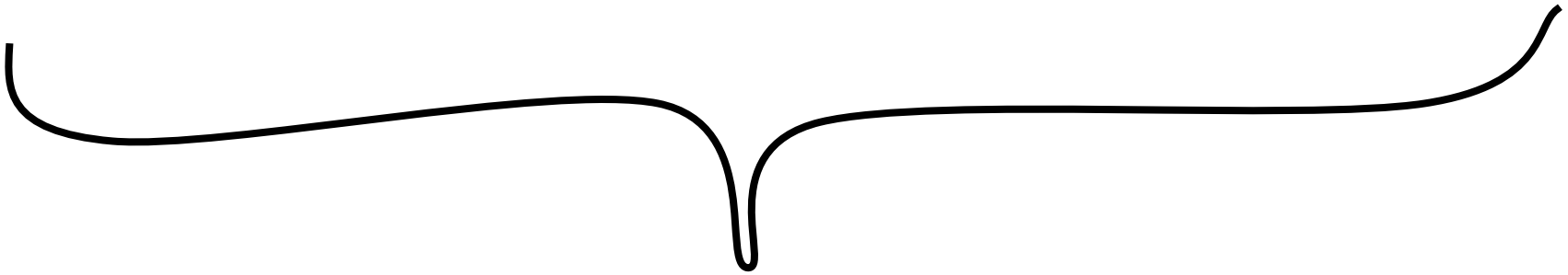
My daughter is smarter than you



You will never get to Masaryk University

It will prevent poachers from killing them

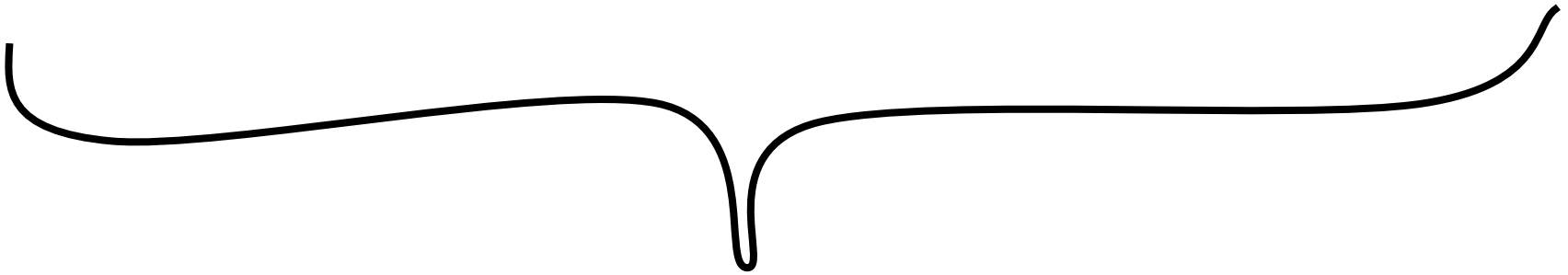
????????



We should remove elephants´ tusks

Poachers kill elephants when they want to remove their tusks.

It will prevent poachers from killing them



We should remove elephants´ tusks

6. basic properties of arguments

validity, soundness

Assessment of conditions

- Two conditions for arguments:
  - Factual condition – the arguer presents certain statements as true
  - Inferential condition – the arguer infers a new statement from the statements
- Evaluation examines if the statements are true and if the inference is correct. Inferential condition more important – evaluated first

Validity, invalidity

- VALID deductive argument – if the premises are assumed true, it is impossible/improbable for the conclusion to be false.
- INVALID deductive argument – if the premises are assumed true, it is possible for the conclusion to be false.

Validity, invalidity

- Examples:
  - P1: All cats are mammals
  - P2: All mammals are animals
  - C: All cats are animals

  - P1: All cats are mammals
  - P2: All dogs are mammals
  - C: All cats are dogs

  Ask: if the premises are assumed true, could the conclusion still be false?

Soundness

- Sound argument = valid argument + true premises and true conclusion
- Therefore:
  - If an argument has false premises or false conclusion or both, or if it is invalid, it is unsound.
  - If an argument has true premises and true conclusion, it still may not be sound, because it may be invalid.

Summary

- Arguments
  - Valid
    - Sound
    - Unsound
  - Invalid (all unsound)

Summary

- When analysing argument always ask two questions in the following order:
  - Do the premises support the conclusion? (i.e., is the argument valid?)
  - Are the premises true? (i.e., is the argument sound?)

INFORMAL FALLACIES
Fallacies of relevance

- Fallacies of relevance: premises are logically irrelevant to the conclusion. However, they frequently are relevant psychologically, therefore the argument may appear convincing or persuasive.

Example 1

- Secretary: I deserve a raise in salary for the coming year. After all, you know how friendly I am with your wife, and I am sure you would not want her to find out what has been going on between you and that sexpot client of yours.

Appeal to force

- Instead of offering legitimate premises for a conclusion, the arguer threatens to use a force if the recipient does not accept the conclusion

Example 2

- Taxpayer to judge: Your Honor, I admit that I declared thirteen children as dependents on my tax return, even thought I have only two. But if you find me guilty of tax evasion, my reputation will be ruined. I will probably lose my job, my poor wife will not be able to have the operation that she desperately needs, and my kids will starve.

Appeal to pity

- Arguer poses a conclusion and then attempts to evoke pity from the listener.

Example 3

- Of course you want to buy the new Colgate toothpaste. Why, 90 percent of America brushes with Colgate.

Appeal to people

- Direct approach: the arguer tries to excite emotions and enthusiasm of the crowd to win acceptance of their conclusion. Used by propagandists and demagogues.
- Indirect approach: focuses not on the crowd, but on an individual and his or her relationship to the crowd. Often used in advertising industry (Bandwagon argument)

Example 4

- After Sally presents an eloquent and compelling case for a more equitable taxation system, Sam asks the audience whether we should believe anything from a woman who isn't married, was once arrested, and smells a bit weird.
- You tell me I should never lie, but you lied yourself when you told mom that you had not got a salary bonus.

Argument ad hominem

- Instead of arguing against a person´s claim the opponent attempts to disqualify the person as such, and, as a result, the disputed claim.

Example 5

- Mr. Goldberg has argued against prayer in the public schools. Obviously Mr. Goldberg advocates atheism. But atheism is what they used to have in Russia. It leads to the suppression of all religions and the replacement of god by an omnipotent state. Clearly Mr. Goldberg's argument is nonsense.

Straw Man

- A person instead of arguing against the opponent's argument distorts it and knocks down the distorted version.

Example 6

- Your friend Margie says that Taster's Choice coffee tastes better than Folgers. But Folgers has that brilliant marketing campaign with the penguins. It is so funny. Surely, she cannot be serious about that.

Red Herring

- The arguer diverts the attention of the reader or listener by changing the subject to some totally different issue.

Example 7

- Crimes of theft and robbery have been increasing at an alarming rate lately. The conclusion is obvious: we must reinstate the death penalty.

Missing the point

- When an arguer draws a different conclusion than the one that logically follows from the premises.

Fallacies of weak induction

Fallacies of weak induction

- When premises do not give sufficient support to the conclusion

Example 1

- I am sure that global warming is a myth. Our president has declared it, so it must be true. He is a smart guy.

Appeal to unqualified authority

- Appeal to authority – the conclusion is accepted because an authority accepts it.
- P1: X accepts that P

  C: Therefore, P
- For the argument to be successful, the cited authority must be an expert in the field.
- When the authority is not trustworthy, the argument is fallacious

untrustworthiness

- person lacks expertise in the field
- person is biased
- person has a motive to misinform
- the person does not have the requisite abilities to perceive or recall information

Example 2

- People have been trying for centuries to provide conclusive evidence for the claims of astrology, and no one has ever succeeded. Therefore, we must conclude that astrology is a lot of nonsense.
- People have been trying for centuries to disprove the claims of astrology, and no one has ever succeeded. Therefore, we must conclude that the claims of astrology are true.

Appeal to ignorance

- The premises state that nothing has been proved one way or the other about something, and the conclusion makes a definite assertion about that thing. The issue usually involves something that has not yet been proved or is incapable of being proved.

Example 3

- After only one year the alternator went out in Mr. Grady's new Chevy. Mrs. Dodson's Oldsmobile developed a transmission problem after six months. The conclusion is obvious that cars made by GM are just a pile of junk these days.

Hasty generalization

- Occurs in inductive generalizations
- When the sample group is not representative or is too small

Example 4

- During the past two months every time that the cheerleaders have worn blue ribbons the team has been defeated. Therefore, to prevent defeats in the future the cheerleaders should not wear blue ribbons

False cause

- The link between the premises and the conclusion depends on some imagined causal connection that probably does not exist

varieties

- **a) coincidental occurence**
  - Here the fact that the defeat occurs after the cheerleaders wear the ribbon is mistaken for the fact that the ribbons cause the defeat.

- Successful business executives are paid salaries in excess of $ 50,000. Therefore, the best way to ensure that Ferguson will become a successful executive is to raise his salary to at least $ 50,000.
  - Here the result is mistaken for the cause
- There are more laws in the books today than ever before, and more crimes are being committed than ever before. Therefore, to reduce crime we must eliminate the laws
  - Here the coincidence is taken to be a causal relationship

- **b) oversimplified cause**
- When what is taken to be the sole cause of an event is in fact only part of the cause.
- The quality of education in our high schools has been declining for years. Clearly, our teachers just are not doing their job these days.
  - Here the cause of the decline in the quality of education is definitely more complex than just the incompetence of teachers.

Example 5

- Immediate steps should be taken to outlaw pornography once and for all. The continued manufacture and sale of pornographic material will almost certainly lead to an increase in sex-related crimes such as rape and incest. This in turn will gradually erode the moral fabric of society and result in an increase in crimes of all sorts. Eventually a complete disintegration of law and order will occur, leading in the end to the total collapse of civilization.

Slippery slope

- The conclusion depends on an alleged chain reaction that is unlikely to occur.
- The argument is that the first step will with a high degree of probability lead to the last step via a chain of highly probable causes. It is disputable, if the whole chain is highly probable, though.
- Consider one common argument against the legalization of marihuana – it is the first step to hard drugs.

Example 6

- Mary has bought a small brown dog and it does not poop all around the house. Maybe we should get rid of our rottweiler and get a small brown dog too. We will not have to clean up so frequently.

Weak analogy

- Analogy is weak when:
- the compared properties of analogates are irrelevant
- there are few similar properties between analogates
- there are substantial differences between analogates