Theory and Social Research

PMCb1005 Basics in social research methodology

Aim of this lecture

- Role of theory
- Inductive and deductive research
- Causality
- Variables

What is NOT a theory

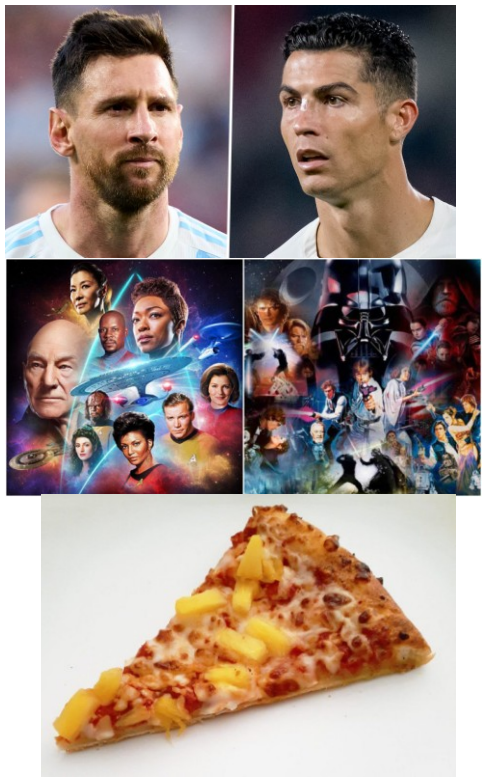
- Theory is not just another opinion
- Theory is not a belief
- Theory is not a philosophy
- Theory is not a preference

Theory

- It states and presumes **what is** and not **what should be**

- Theories cannot settle normative debates about values

- Lionel Messi or Cristiano Ronaldo?
- Star Wars or Star Trek?
- Pizza without pineapple or pizza with pineapple?



Mirror, Mirror on the Wall, Who's the Fairest of Them All?

How would an ordinary (magic) mirror come to its answer?

What if the mirror was a scientist?

It is all about regularities

- The aim of social research is to seek patterns in social world
- Similar but not the same as natural sciences
- Despite differences among individuals, social regularities exist

Objections to social regularities

- The charge of triviality
  - Is social science the Captain Obvious among sciences?
- Exceptions
  - Do not forget the probabilistic logic we have to use
- People can interfere
  - Our observations do not aim to anger the social scientists
  - Some warnings however remain – the Enron case and business talk

Individuals or aggregates?

- Difference between what we observe and what we study
- Ambition to find social regularities
- Ambition is not to understand every human being’s behaviour
- This brings us back to theories

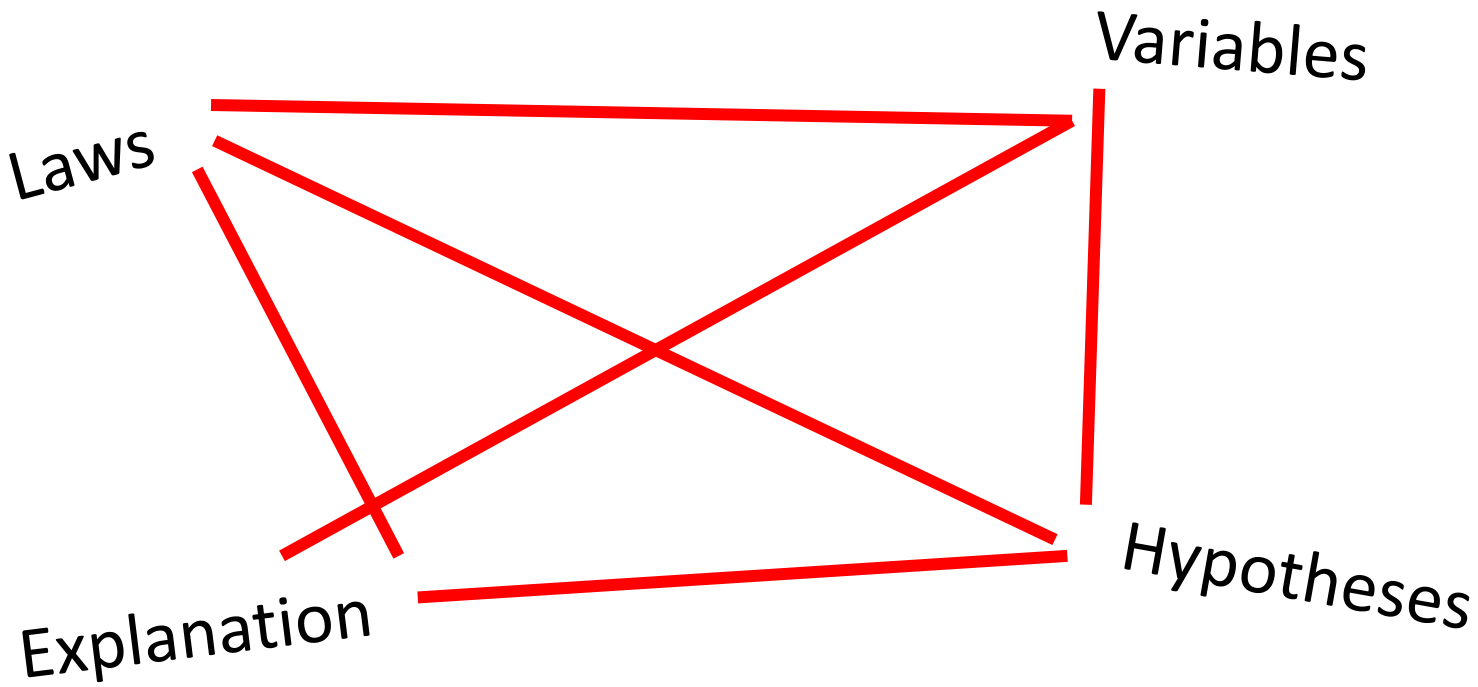
Theory

- A systematic explanation for the observations that relate to a particular aspect of life (Babbie)

- A theory about a substantive issue or phenomenon; its function is to describe and explain (Punch)

- General statement that describes and explains causes and effects of phenomena (Van Evera)

Elements of theory



Theory

‘Nothing more than a set of connected causal laws or hypotheses’

Van Evera 2000, p. 12

Variables

- Basic elements we use in science
- Sets of attributes
- Their values are likely to vary (vs constants)
- Unlimited number of examples
  - Age, partisan affiliation, unemployment rate, eye colour, e-mail address, Olympic medals, temperature, speed

Variables

- Important to distinguish

- **Independent variable**
  - The expected cause within a causal relationship we analyse
  - Also called explanatory (they explain an outcome)

- **Dependent variable**
  - The expected consequence within a causal relationship we analyse
  - Also called response/outcome variable

Variables

- Identify the independent (IV) and dependent (DV) variables
- *There's no smoke without fire*
- *Higher unemployment reduces political trust towards elites*
- *Attending lectures leads to better score in the final exam*

Variables

A → q → r → B

x

C

- Other types of variables

- Intervening variable
  - Placed between IV and DV
  - Eating a lot of sugar → toothache → more intense mouth hygiene

- Condition variable
  - Affects the size of effect the IV has on DV
  - Rising unemployment (IV) decreases trust towards elites (DV) but only if the state does not offer substantial social benefits to the unemployed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Causality

- The relationships of variables based on logic of causes and consequences

- Criteria:
  - Association
  - Time order
  - No spuriousness

- Causal effect – how a change in IV affects the value of DV
- Causal mechanism – explanation of the causal effect

Causality

What is a good theory?

- **Large explanatory power**
  - Large effect of IV on DV
  - Less restrictions concerning conditions of the causal effect

- **Parsimonious theory**
  - Uses small number of variables to explain the effect

- Friends or enemies?

What is a good theory?

- **Satisfying and clearly framed**
  - Satisfies peoples' curiosity
  - Does not point to a familiar cause
  - *We lost the match because we scored less points*
  - *I won the Nobel prize because the Nobel Committee decided so*

  - Describes the effect in a clear and transparent way
  - *Campaigns affect voting behaviour*
  - *Waking up early prolongs life*

What is a good theory?

- **Falsifiable**
  - There are (potential) data to test the theory
  - No ability to test → no scientific theory

- **Explains important issues**
  - *So what?*

- **Has prescriptive richness**
  - Allows to presume consequent development
  - Especially accounts for IVs we can control and manipulate
  - *Eating too much sugar damages your teeth*
  - *More math classes in schools increase financial abilities of the society*
  - *Heavy rainfalls decrease turnout in elections*

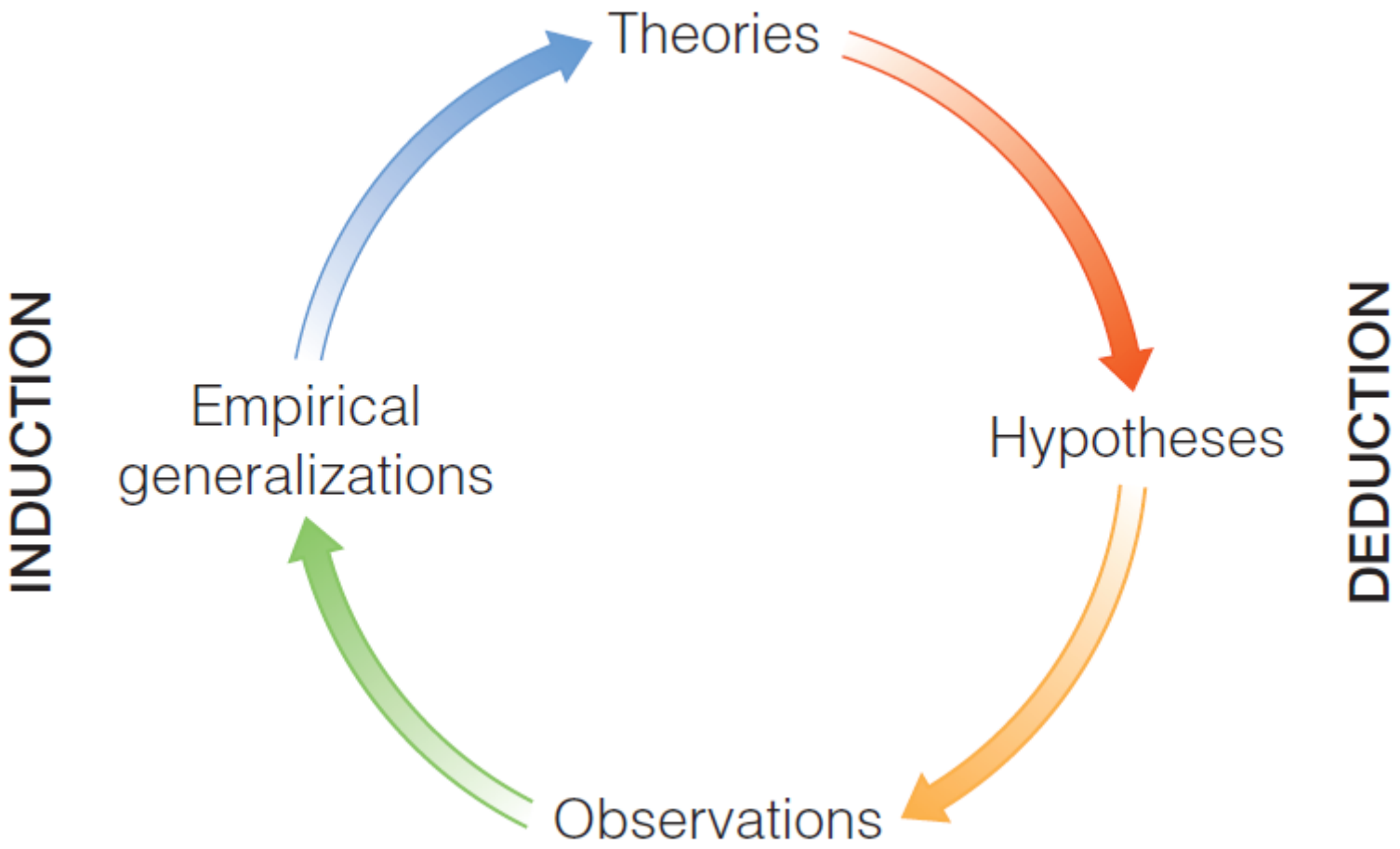
Working with theories

- Generating theories
  - Outliers – what do usual causes not work here?
  - Extreme cases – why is the effect so small/large here?
  - Unknown causes
  - Counterfactual analysis (https://www.youtube.com/watch?v=0IpY0Kt4bn8)

- Testing theories
  - Experiments
  - Observation

Inductive and deductive research

(Babbie 2016 / Wallace 1971)



Inductive research

- From particular to general

- A search for patterns and regularities
- Starts with questions, ends with theories

- Typically associated with:
  - Generating theories
  - Qualitative research
  - **It is not a rule!**

Deductive research

- From the general to the specific

- Starts with a theoretically built pattern (theory)
- Sets specific hypotheses
- Uses data to test whether the hypotheses (theory) fit the reality

- Typically associated with:
  - Testing theories
  - Quantitative research
  - **It is not a rule!**

Inductive approach	Deductive Approach
Questions, observation, data collection	Theories → hypotheses
	
Search for regularities and patterns	Testing hypotheses
	
Generalization, new theories	Confirmation/rejection of theories