

# Research Basics and Research Design I

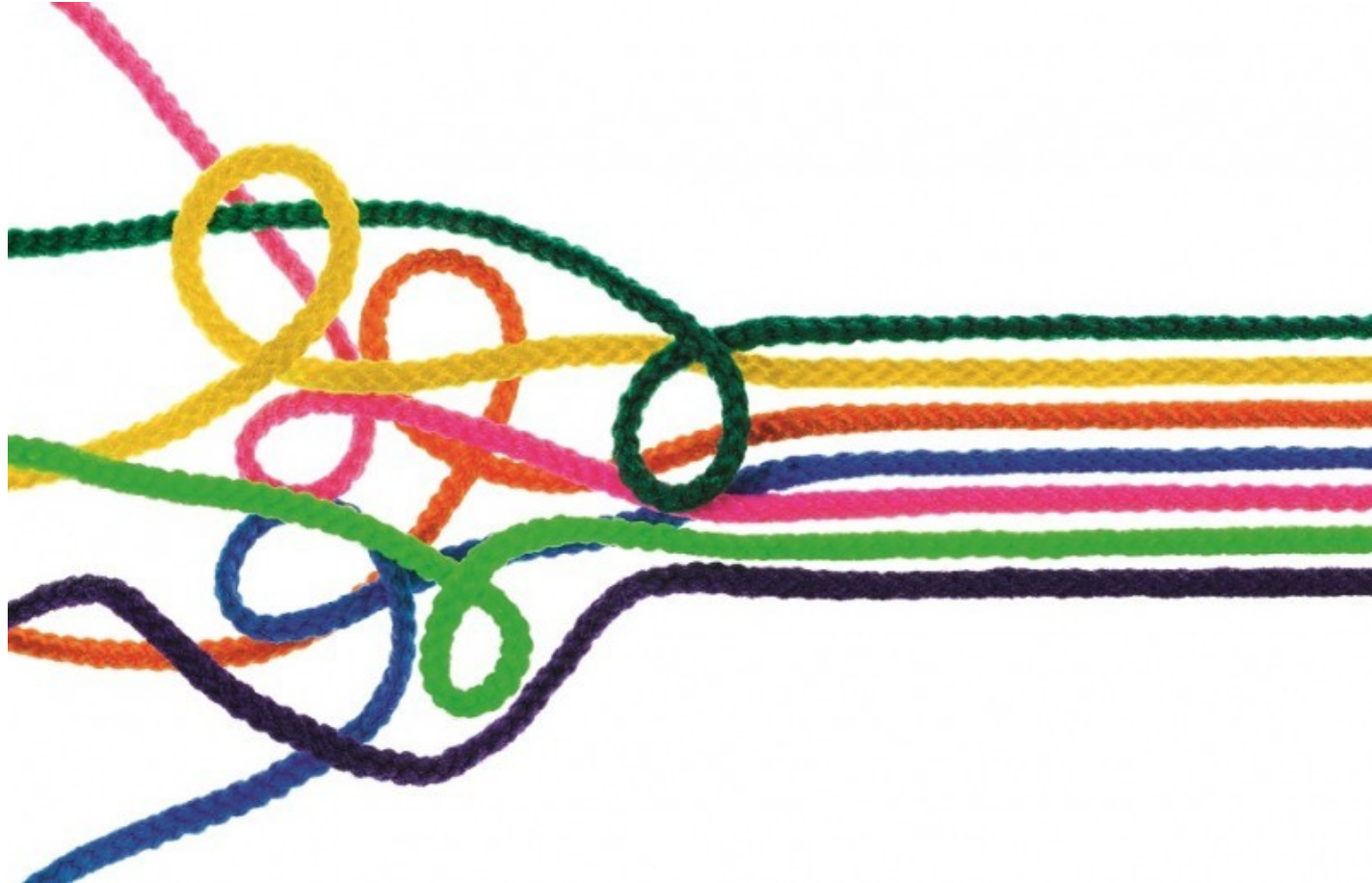
Methodology of Conflict and Democracy Studies

September 23

# Aim of this lecture

- Introduction to research and methodology
- How to do research?
- What is a good research?
- Basic concepts that you need to know

# Order VS Chaos



# Where to begin?

- Identification of the topic?
- Raising questions?
- Formulation of hypotheses?
- Data availability check?
- Calculation of costs?

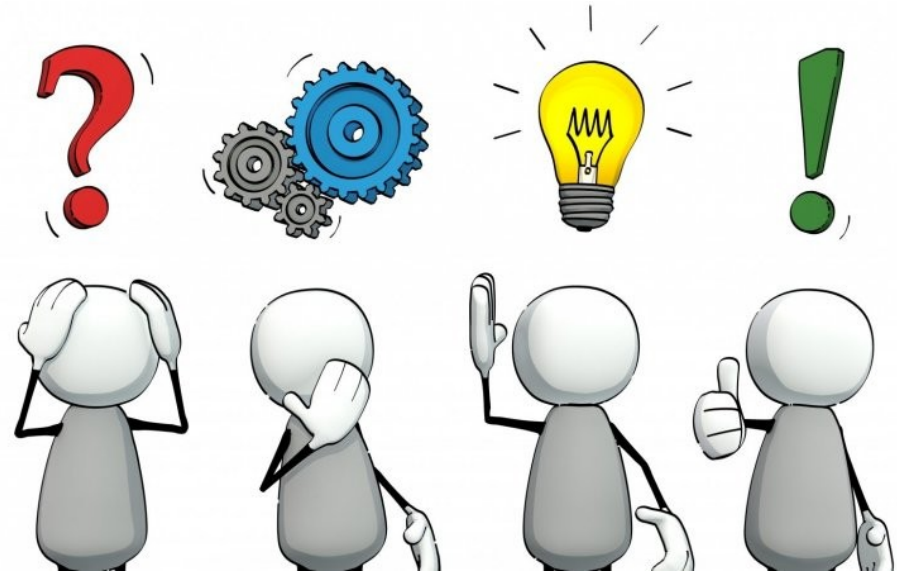
# Step by Step

1. Topic and goals (*+ reading*)
2. Research questions (*+ reading*)
3. Hypotheses (*+ reading*)
4. Methods (*+ reading*)
5. Data collection
6. Data analysis
7. Results



# Topic and Inspiration

- College courses
- Extracurricular activities
- Your future career
- Discussions with others
- Reading



# The Genre of your Research

- The topic is only the basic field
- Necessity of clear goals and ambitions
- Added value of the research
  
- Possible genres:
  - Literature review
  - Policy analysis
  - Description
  - Prediction
  - Formulation of and testing theories

# Research Questions

- RQ give focus, set boundaries and provide direction
- What / How / Why:
  - What – description, characteristics of social phenomena
  - Why – causes and reasons
  - How – explanation, change
- RQ point to data, i.e. RQ affect the data collection and analysis



# Research Questions

- Well formulated questions help the research and vice versa
- Empirical criterion:
  - What data are needed to answer the question?
- If RQ do not lead to certain data, there is no way to answer the question

# Research Questions

- Beware of normative RQ
- *Is it correct to apply gender quota?*
- *Was the election of E. Macron a good decision of French citizens?*
- Normative RQ cannot be answered using empirical data
- Solution – reformulation of RQ (changes also its content)
- *Do French citizens think that electing E. Macron for president was a good decision?*

# Hypotheses

- *Logical conjecture about the nature of relationships between two or more variables expressed in the form of a testable statement (O'Leary 2004)*
- Hypotheses are derived from theory
- Main elements:
  - Testability
  - Relationship between at least two variables
  - Expectation backed by the literature
- *'Increasing unemployment rate leads to higher local support of far right parties.'*
- *'Terrorist attacks with victims increase the fear of society to a higher extent than terrorist attacks without victims.'*

# Hypotheses

- Not a necessary part of any research
- Hypotheses are used for testing theory
- Key questions:
  - Does the theory suggest a relationship between variables?
  - Does it suggest the direction of such relationship?
- Placing hypotheses **before** the theory is senseless

# Logic of Research

- Two main ways – inductive and deductive
- Inductive:
  - Explorative, search for patterns
  - Main aim is generalization and formulation of new theories
- Deductive:
  - Builds on previous knowledge
  - Main aim is to test existing theories

# Logic of Research

Inductive	Deductive
Observation, data collection	Theory → hypotheses
Search for patterns	Test of hypotheses
Generalization, new theories	Confirmation / rejection of theories

# Theory

- A set of statements that collectively describe and explain a phenomenon, its causes or consequences
- These statements are at a higher level of abstraction than simple facts
- Objective - not only to describe but also to explain
- Explanation of things based on **'if A then B'** logic
- Theory is nothing more than a set of causal laws and hypotheses (Van Evera)

# Variables

- A way to store concepts from the social reality
- Elements of each variable:
  - Label – name / description
  - Values – denominations of occurrence of the variable
- Example – a variable concerning income:
  - Label – ‘income’
  - Values – expression in a certain currency (EUR, USD, GBP etc.)



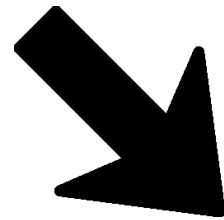
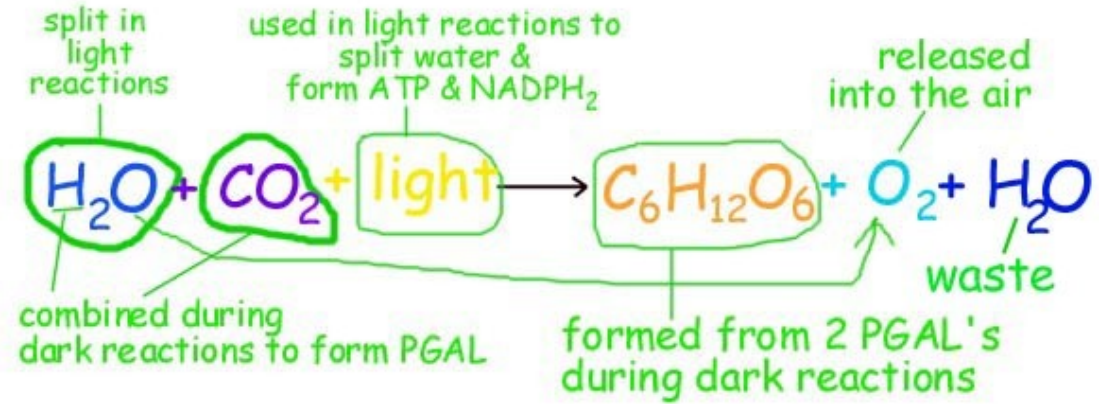
# Variables

- Main role of research – identify and explain causal relationships between variables
- We distinguish between:
  - Independent (explanatory) variables – suggested cause
  - Dependent (outcome) variables – suggested consequence
- *Higher inflation decreases probability of government to win election*
  - Search for variables
  - Which one is independent and which one is dependent?

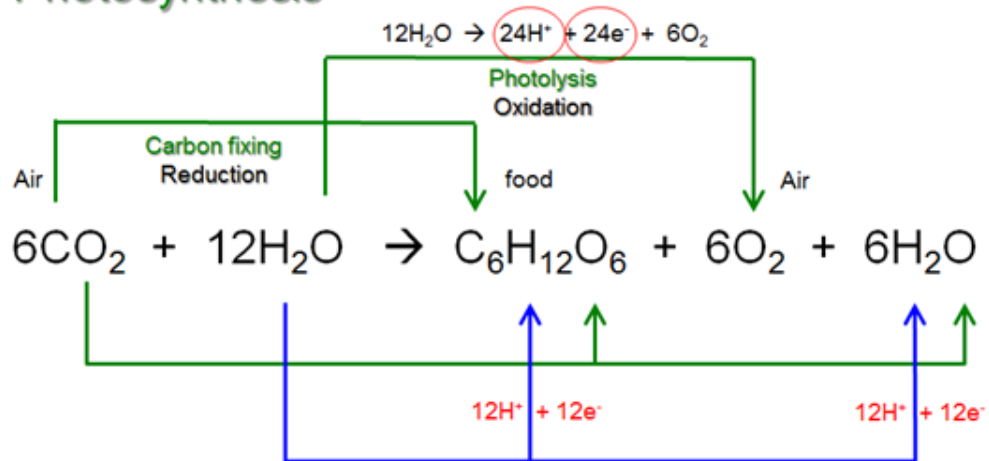
# Causality

- Basically what is this course all about
- Causal effect:
  - Change the value of a dependent variable if the value of an independent variable changes
- Causal mechanism:
  - Explanation of the link between cause and effect
  - Clarifies the nature of the relationship between independent and dependent variables





## Photosynthesis



- Hypothesis 1: *'More life experience leads to better career paths.'*
- What is *'life experience'*?
- What is a *'better career path'*?
- Hypothesis 2: *'Higher GDP allows countries to follow more ambitious national interests'*
- What are *'national interests'*?

# Operationalization

- Transformation of concepts into measurable items
- By operationalizing we define measurement of social phenomena that is hardly (or not at all) measurable directly
- Europeanization, good character, tasty food, wonderful color, right-wing extremist

# Compare these definitions

1. **A nice person** – a person who is kind and caring and who everyone likes

2. **A nice person** – a person who smiles at least ten times a day and when other people are asked how they like him/her, this person receives a mean value of eight and more on a 0-10 scale

- Which of these two helps you more to identify a nice person in the real world?

# Operationalization

- Terrorist group
- Electoral success
- Tasty food
- Popularity
- Successful exam
- Educated person



# Be a Researcher

- Topic: *Popularity of Ed Sheeran / Taylor Swift in contemporary music industry.*
- Find some research questions
- Formulate hypotheses (we expect that we have a theory)
- Operationalize

# Be a Researcher

- Topic: *Electoral victory of Donald Trump in USA.*
- Find some research questions
- Formulate hypotheses (we expect that we have a theory)
- Operationalize

# Be a Researcher

- Topic: *Occurrence of terrorist attacks in Europe since Migration crisis.*
- Find some research questions
- Formulate hypotheses (we expect that we have a theory)
- Operationalize