

**1st "Training the Trainers" Workshop
(22. 11. – 03. 12. 2010)**

Methodology in Political Science

Dr. Sebastian Jäckle

For the start...

Dear Mr. Jäckle,

In contrast to my last weeks statement I will no longer participate in your course „government survival in parliamentary democracies“. Because I want to get my credits for a comparative class, the **empirical** focus of the course does not make any sense to me.

Best regards,

XXX

What does **empirical** mean... and what does it not mean?

„Empirical research is the way to scientific insight based on **sensory perception, observation, measurement, experiment** and other techniques that monitor the *real* world“
(Nohlen)

Empirical research is **not only** quantitative or statistical research!

What is a **method**?

The **way to a scientific analysis** including approaches, operations and techniques of research planning, research arrangement, and of the gathering, evaluating and interpreting of data.

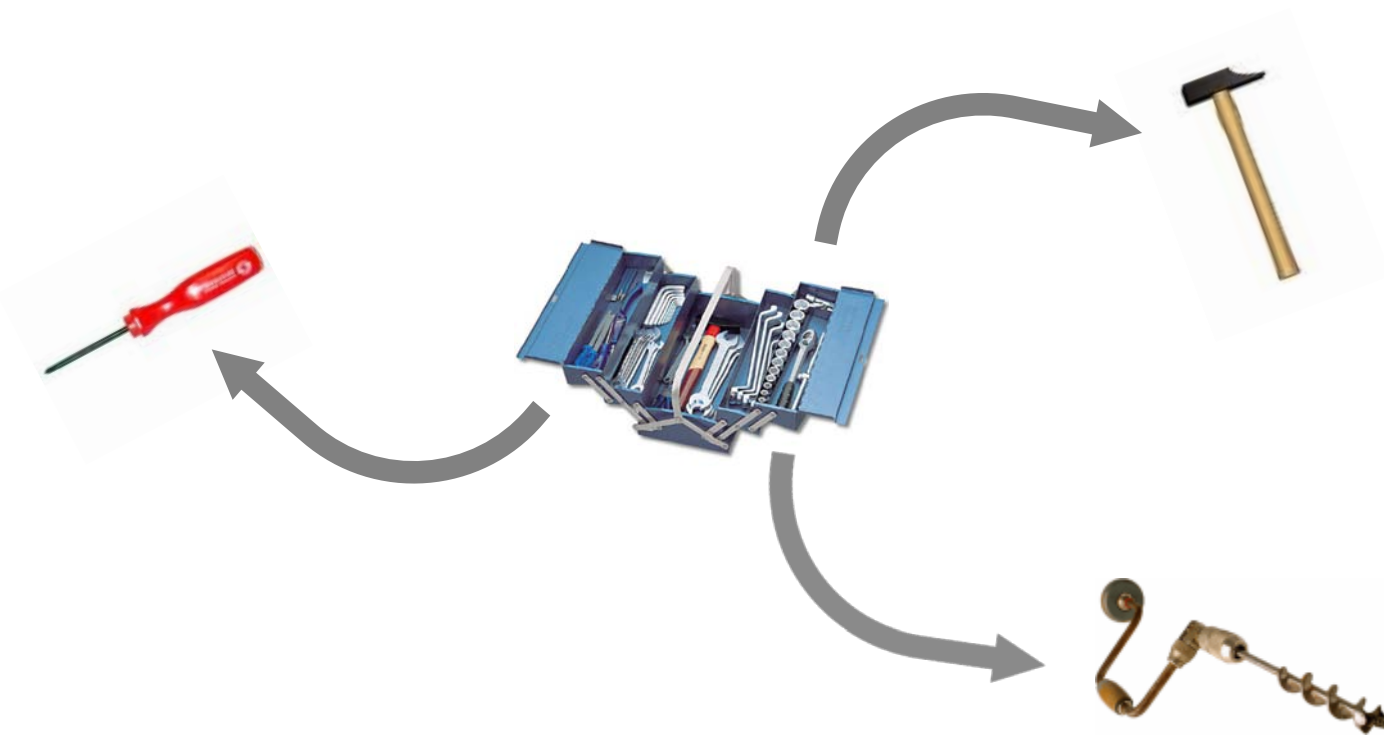
Rules, solutions to problems, and **operations** for the recovery and examination of scientific knowledge.

Techniques of
research
planning, data
collection and data
analysis.

Source: Schmidt,
Manfred G. 1995:
Wörterbuch zur Politik,
Stuttgart, 600-601.

What is the difference between a **method** and a **methodology**?

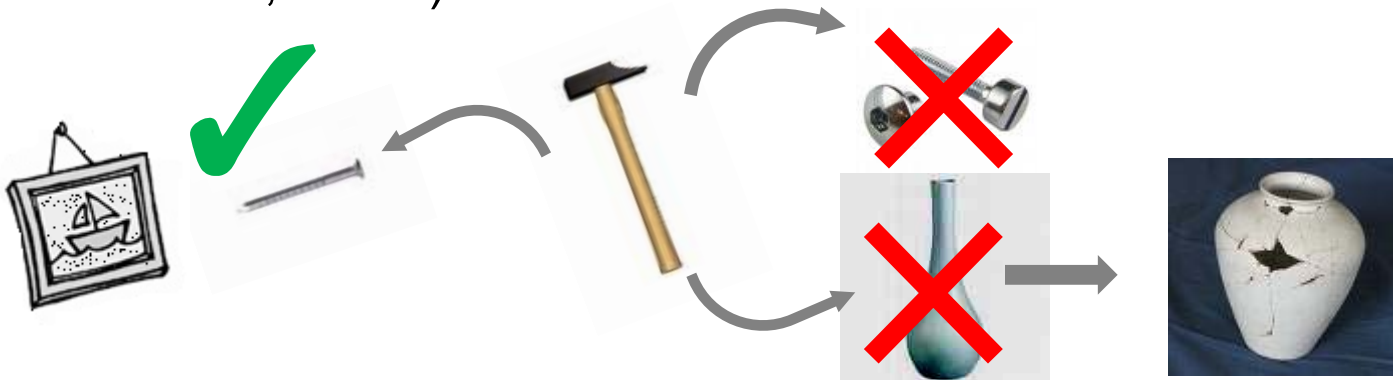
„One useful way to consider this relationship is to think of methods as tools, and methodologies as well-equipped toolboxes.“ (Moses/Knutsen 2007, 4)



The proper usage of the methods-tools...

But:

„it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.”
(Maslow 1966, 15-16)



And:

generally there is no Swiss Army Knife (like in MacGyver) in the social sciences that could be used to answer all arising questions.



Criteria for selecting methods

- Methodological tool box
- Research question and number of cases
- Data collection and data interpretation
- Practical constraints
 - Data availability
 - Financial restrictions
 - Observation period
 - mobility

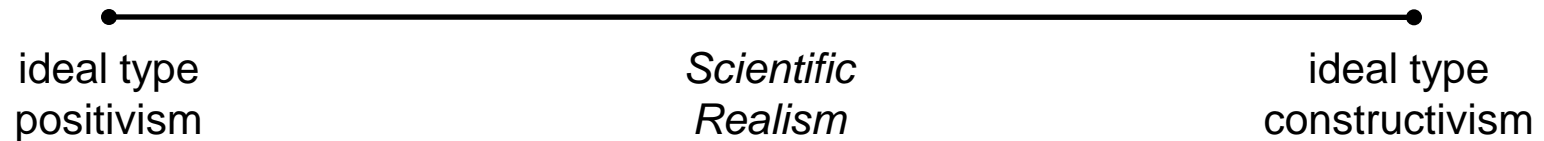
Criteria for selecting methods – positivism vs. post-positivism

positivistic perspective

Naturalism, empiricism, behaviorism share the same methodological basis.

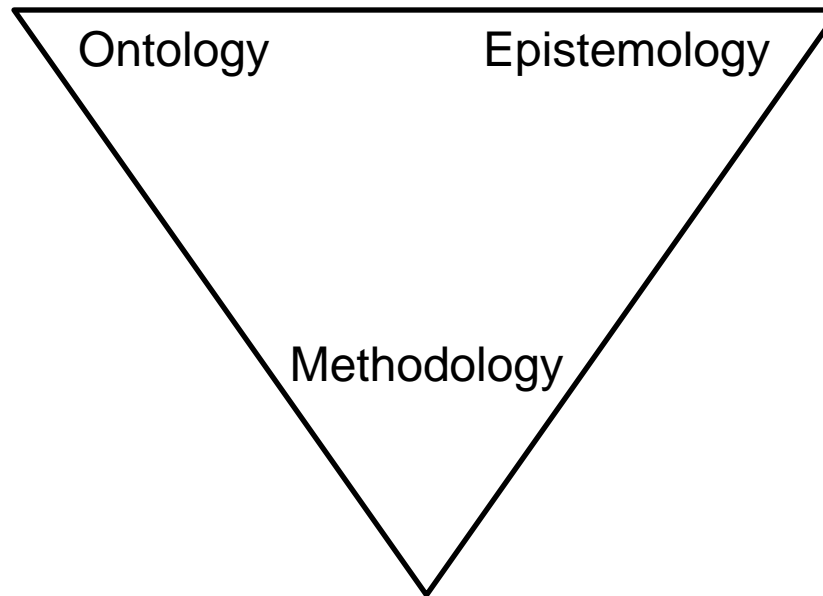
post-positivistic perspective

Constructivism, post-structuralism, reflexive or interpretative-descriptive approaches share the same methodological basis.



Criteria for selecting methods – ontology – epistemology – methodology

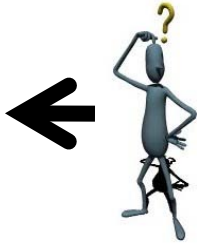
*„What does
the world
consist of?“*



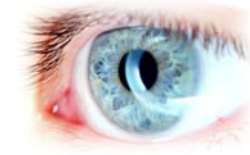
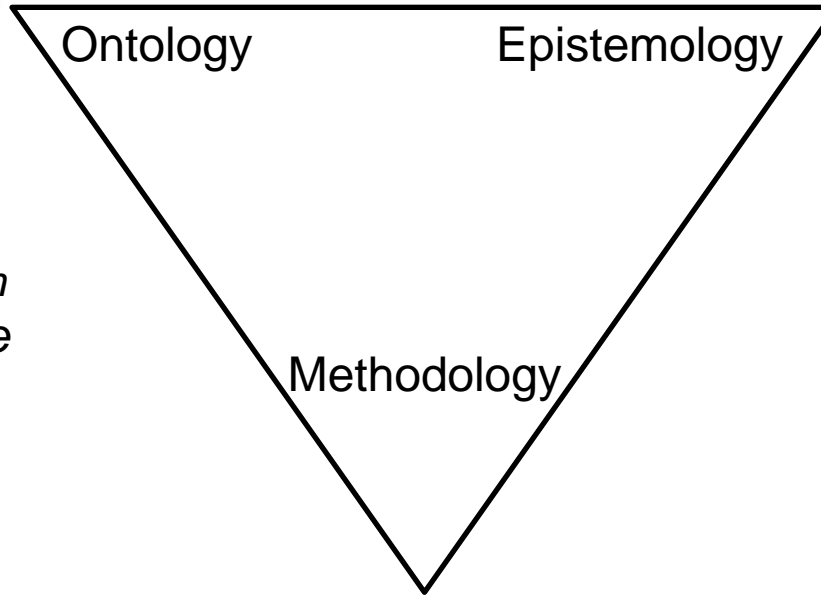
*„What
can we
know?“*

*„How can
we know?“*

Criteria for selecting methods – ideal type **positivism**



*There exists a world
which we can observe
from the outside, which
is independent of the
existence of an
observer*



*Knowledge is what I can
perceive with my senses
/ observed regularities
can be formulated as
laws and thus add to the
accumulation of
knowledge (explanation
of the world)*

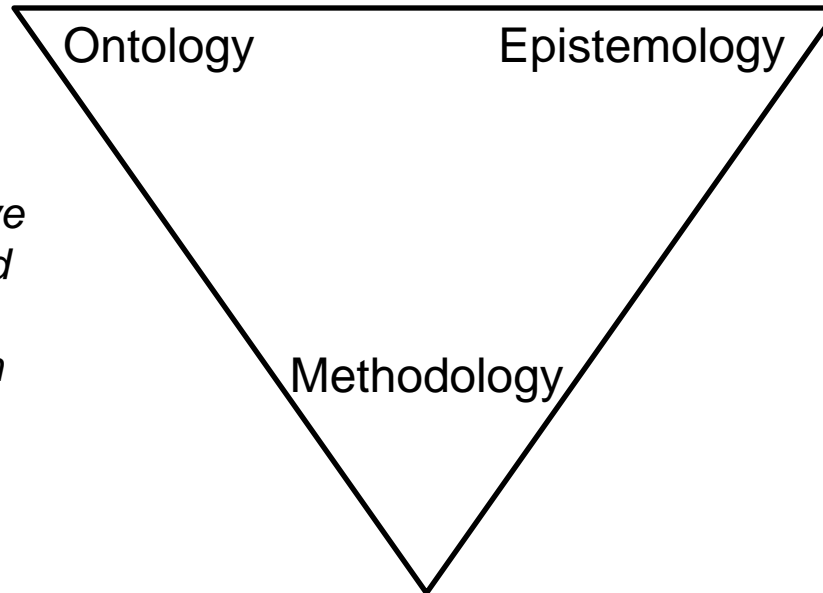
*Gaining knowledge through methods
making the world observable and
communicable as directly as possible.*



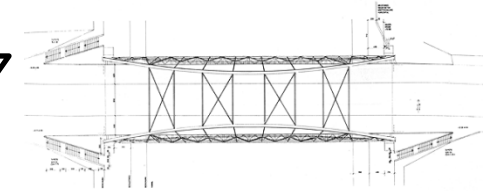
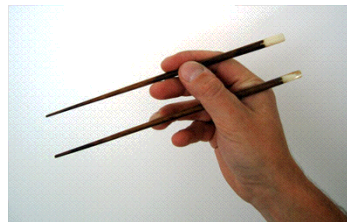
Criteria for selecting methods – ideal type **post-positivism**



There exists a subjective world, in a material and social way, which we can only perceive from our own perspective



Gaining knowledge through methods capturing social constructs in their meaningful context.

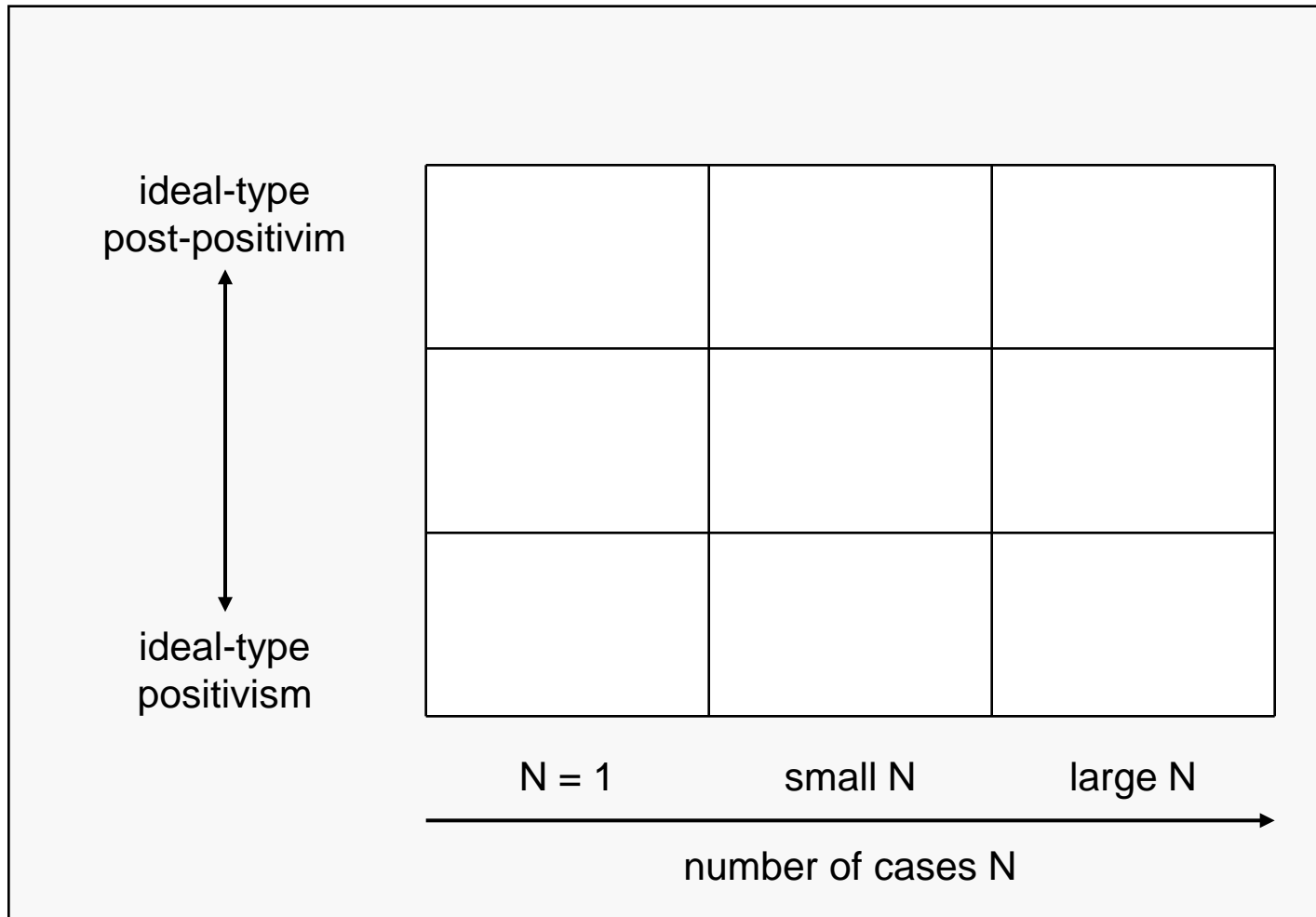


Knowledge is never objective, but always socially constructed, and therefore highly context-specific, and only in a limited way instantaneously seizable (understanding the world)

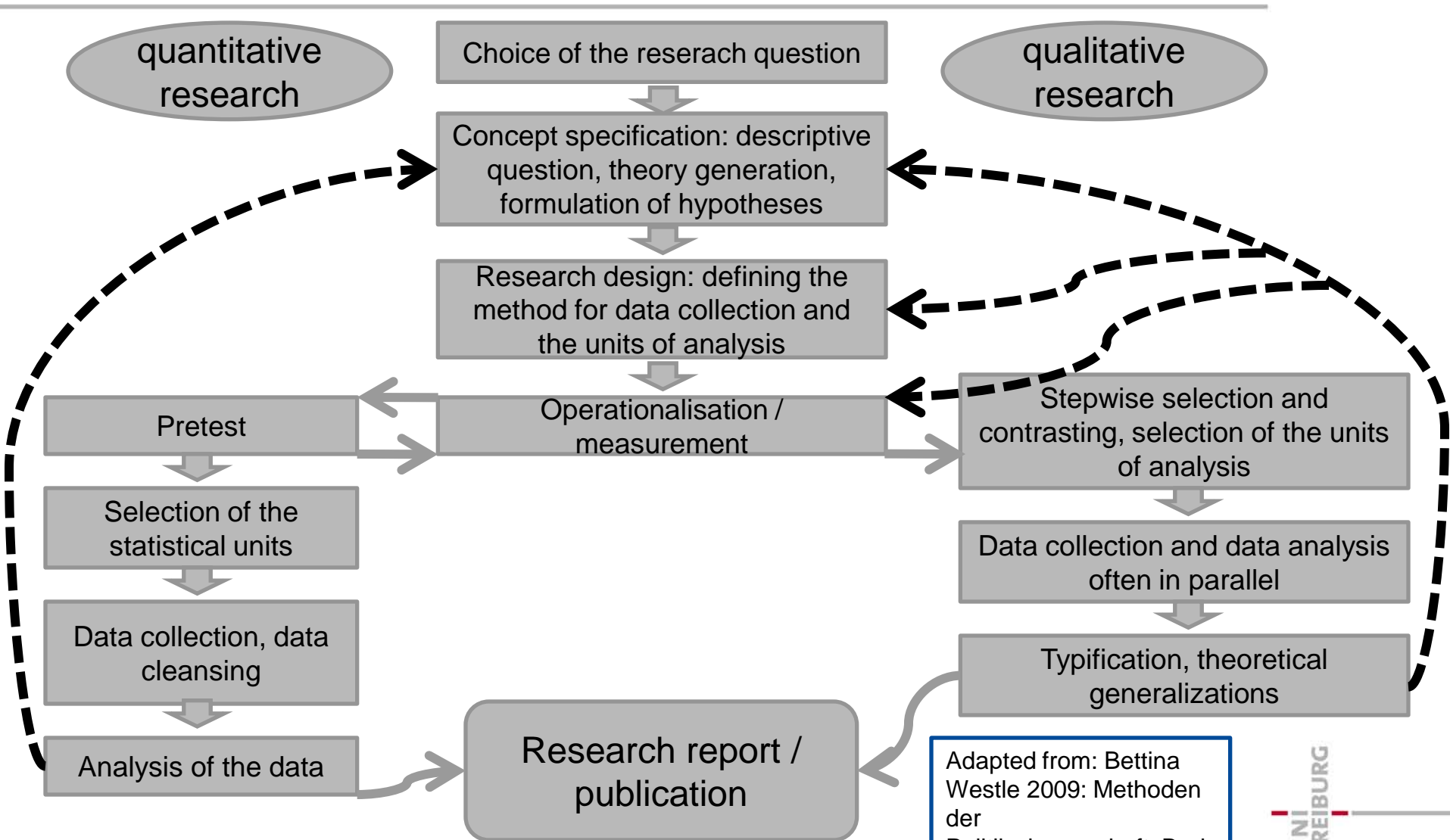
Criteria for selecting methods – positivism – realism – constructivism

criteria	Positivism	Realism	Constructivism
Ontology	Epistemological fundamentalism (the world exists autonomously from our knowledge about it)	Epistemological fundamentalism (the world exists autonomously from our knowledge about it)	Epistemological anti-fundamentalism (the world is socially constructed)
Objectivity within research	Objectivity is possible; there are universally valid laws in the social sciences (like in the natural sciences) which can be discovered through observation of reality.	Limited objectivity is possible, because causal structures are assumed which however can only be observed partially.	Objectivity is not possible, because the researcher is always included in social constructs which shape his view of reality.
Intention of research	Make causal statements/predictions (explanation)	Make causal statements/predictions (explanation)	Causal statements/predictions not possible → main focus is on the understanding of behavior (understanding)

Possible classification of research methods



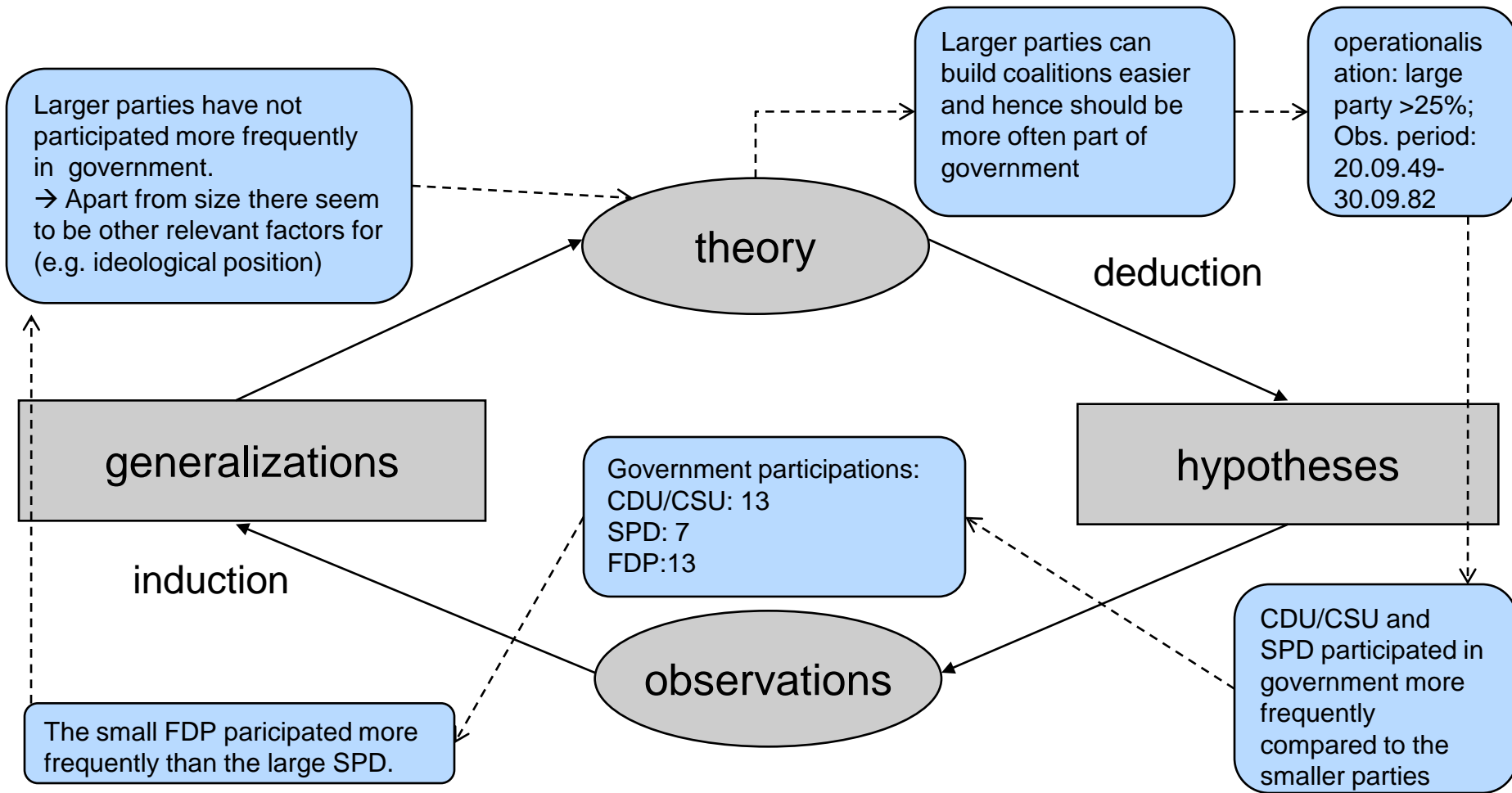
The research process



Adapted from: Bettina Westle 2009: Methoden der Politikwissenschaft, Baden-Baden, S.117-118

The research process

A simple example of a research cycle



Problem of induction (Popper)

- The method of induction does not serve as a scientific method of cognition
- Hypotheses can never be verified, but only (at best) falsified
- All knowledge is preliminary and knowledge generation always trial & error

Problem of induction (Popper) the classic example



Count the swans

Which color do these 14
swans have?

Inductive conclusion:



Swans are always white!

Problem of induction (Popper) the classic example



Once we find a black swan, our theory is falsified

BUT:

If our observation- and measurement tools are not precise enough or if they map reality imprecisely we cannot even falsify our theory.

Measurement – some terms and definitions

measurement

systematic allocation of a quantity of numbers (or symbols) to the expressions of a variable

we can measure on different **measurement scales**:

- Nominal scale
- Ordinal scale
- Interval scale
- Ratio scale

variable

changable attribute, where the unit of observation can take on at least two realisations

Differentiation by:

- the type of attribute realisation (continuous vs. discrete)
- the type of measuring level (qualitative vs. quantitative)
- the type of attribute level (individual vs. collective level)
- the „position“ within the hypothesis (dependent vs. independent variable)

scales of measurement

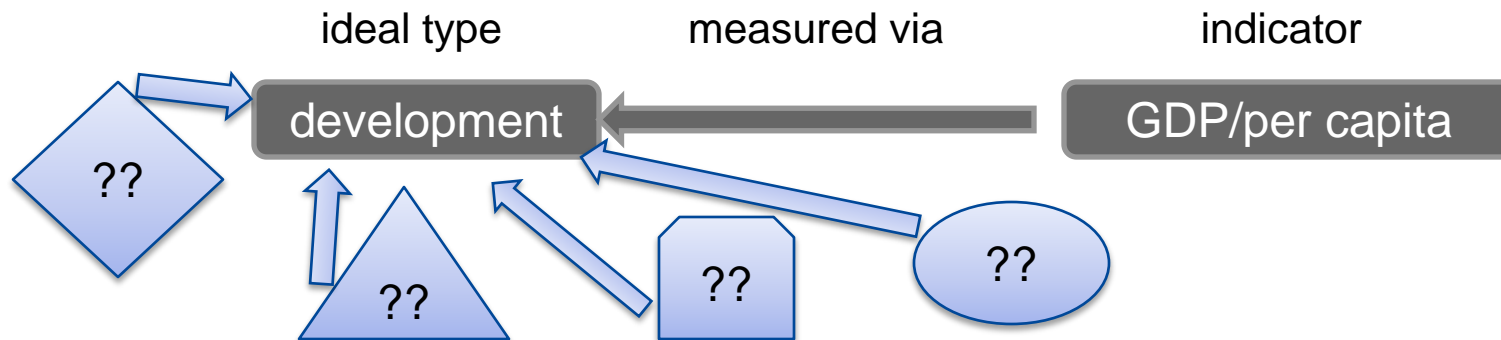
scales of measurement	description	meaningful statements	possible mathematical operations	examples
nominal scale	realisations of the attributes constitute no natural order	equal (=) unequal (\neq)	frequencies; mode; contingency coefficients	sex, religion...
ordinal scale	realisations of attributes constitute a natural order. The distances cannot be quantified	greater ($>$) and less than ($<$) relations, as well as (=; \neq)	median; rank correlation	military ranks, school grades, democracy scales
interval scale	realisations of attributes constitute a natural order. The distances between them can be quantified.	differences between realisations can be interpreted (+; -) as well as (=; \neq ; >; <)	addition, subtraction, arithmetic mean, variance, Pearson's r	temperature in $^{\circ}\text{C}$, intelligence quotient, calendar time
ratio scale	Like interval scale but with an absolute reference point.	ratios between realisations can be interpreted (:, *) as well as (=; \neq ; >; <; +; -)	division and multiplication, geometric mean, harmonic mean	length, temperature in $^{\circ}\text{Kelvin}$, income, percentages of votes

measurement – the problem of adequation

The theoretical concept of an **ideal type** (Max Weber) can in its pureness never be found in reality and includes always non-quantifiable aspects.

- A **statistical generic term** on the other side has essentially to be quantifiable

→ principle of minimal logical discrepancy between the ideal type and the statistical generic term



...there is a relatively large logical discrepancy, because a number of other factors apart from the GDP should be of some relevance for the concept of development

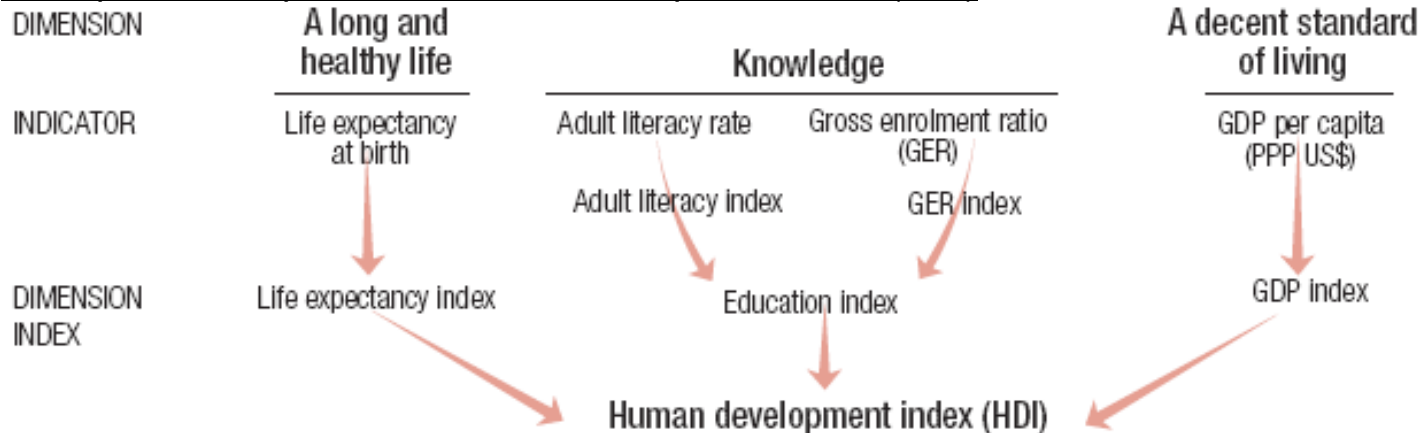
measurement – construction of indices

A number of indicators can be combined into a single index for grasping a concept more precisely. The following three levels have to be kept in mind:

1. Conceptualisation:
 - What shall be measured?
 - Which components constitute the concept?
2. Operationalisation/measurement
 - Which variables/indicators can be taken for operationalisation of the concept?
3. Aggregation
 - How can the single values of the indicators be calculated into a single index-value ?

Munck, G. L. & Verkuilen, J. (2002) Conceptualizing and Measuring Democracy: Evaluating Alternative Indices. *Comparative Political Studies*, 35, 5-34.

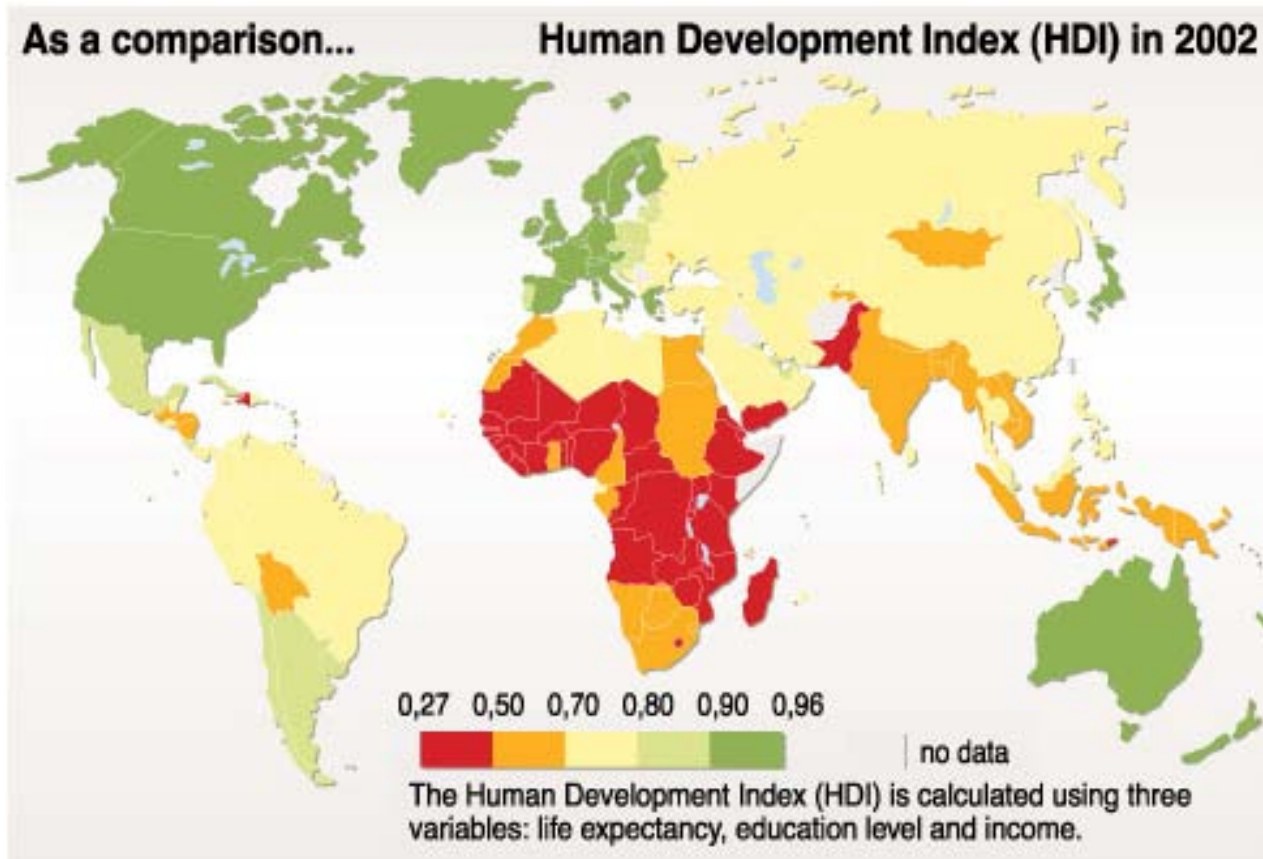
Example: Development – Human Development Index (HDI)



http://www.hdr.undp.org/en/media/HDR_20072008_Tech_Note_1.pdf



measurement – construction of **indices**



<http://maps.grida.no/go/graphic/human-development-index-hdi-in-2002>