DEPARTMENT OF ECONOMICS & MANAGEMENT

UNIVERSITÀ DEGLI STUDI DI FERRARA

- EX LABORE FRUCTUS -

Research Methods

Economics of Innovation

Ugo Rizzo

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Research in Science and Research in Social Science

- What are the characteristics of scientific research?
- Are these shared with social science research?

Natural Science…a standard view

- Natural scientists develop concepts and theories to describe and explain nature from the outside (Blaikie 1993:96, cited in Bagnall)

- Research is systematic, skeptical, ethical

Natural Science…a standard view

- Natural scientists develop concepts and theories to describe and explain nature from the outside (Blaikie 1993:96, cited in Bagnall)
- Facts and objective knowledge from observation or direct experience
- Universal causal laws
- Explaining an event links it to a general law
- Facts are value-free
- Quantitative data, rules, not common sense

Major Philosophical Position

- "Scientific Method" = Positivism
  - Reality exists in the empirical world
  - Physical science, conceived in the logic of the experiment is the model for social science
  - Universal laws
  - Neutral observation language
  - Repeatable experiments

Problems with Science/Positivism

- Does direct experience/observation provide the basis for scientific explanation?
- Difficult to separate observation and theory
- Theory does not always correspond to reality
- Scientific “laws” do not always hold
- Facts and values cannot be separated
- Social phenomena exist in minds and interpretations
- Is social reality objective?
- Can we quantify everything about social behaviour?
- Are people objects to be studied? Experiments?
- Can social researchers be objective?

Positivism in Social Research

- Drive for objectivity (the knowledge that has been achieved is objective)
- Surveys, statistical methods, structured interviews – quantitative methods

Methodological choices

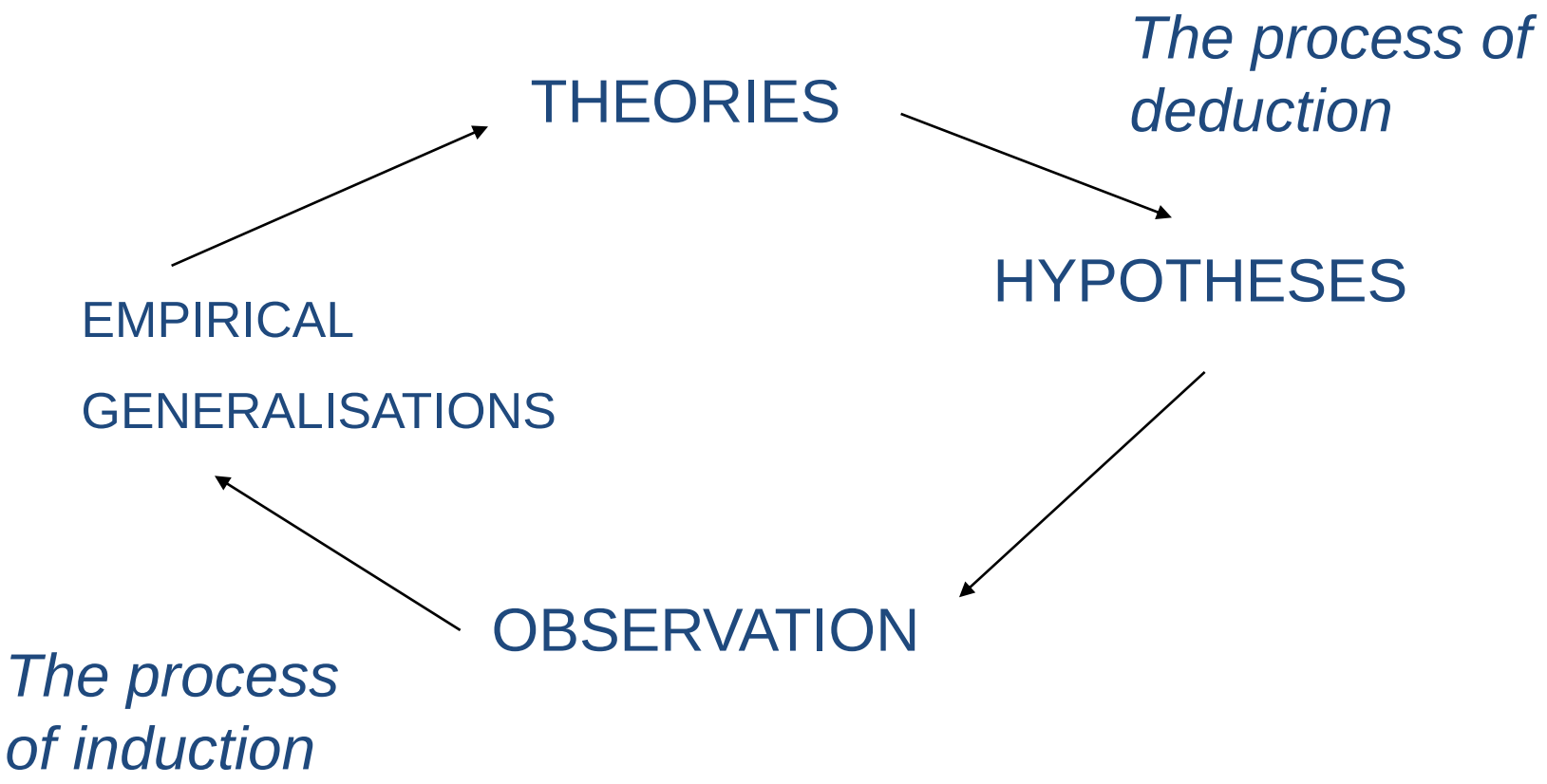
Deduction

Theory tested through observation of the empirical world

Induction

Observation of the empirical world generates grounded theory

Deduction and induction (Gill & Johnson, 1996)



Deductive and inductive methodologies (Burrell & Morgan, 1979)

Deductive

- Uses systematic protocol and techniques as epitomised in the natural sciences
- Focus on the process of testing hypotheses
- Standards of 'scientific rigour': use standardised research instruments
- Quantify phenomena and establish links between various variables

Inductive

- Analysis of subjective accounts
- These are generated by 'getting inside' situations and involving the researcher in a naturalistic setting
- Emphasis is on the building of theory that is grounded in empirical observations

Deductive logic entails

- The reduction of theoretical statements to causal/ predictive hypotheses that are testable
- The identification of independent and dependent variables
- Neutralising extraneous variables

Key issues in deductive work

- *Indexality*: There are many issues that are taken as ‘common sense’ and therefore unexplored by the experimenter
- *Experimenter effects*: The experimenter can alter the situation in unknown ways
- *Interpretation by participants*: The meaning of a phenomena (eg: transformational leadership) may be different to different people
- *Ethics*: the treatment of people as ‘psychological dupes’ or passive participants in a research process

Key premises of the inductive approach

- There are fundamental differences between the subject matters of the natural and social sciences
- The social world cannot be understood in terms of causal relationships that do not take account of the fact that human actors are infused by values, intentions, attitudes and beliefs
- Human action has an **internal logic** of its own which must be understood in order to make action intelligible
- The imposition of an **external logic** (i.e. theory led) upon human action is inappropriate

Key issues in inductive methodologies

- *Nature of reality*: Realities are multiple, constructed or holistic
- *Relation of knower to known*: Knower and known are interactive/ inseparable
- *Possibility of generalisation*: Time/ content bound hypotheses are the only ones possible
- *Possibility of causal linkages*: Impossible to distinguish cause/ effect - all entities are in a state of simultaneous shaping
- *Role of values*: All inquiry is value bound: these values need to be recognised by the researcher

Key philosophical issues underlying approaches to theory

- Ontology: How we make sense of and understand the nature of the world eg: is there a truth out there?
- Epistemology: what is counted as warrantable knowledge?
- Human nature: to what extent are we autonomous or are our actions determined by the environment?
- Methodology: do methods need to be able to uncover general laws or analyse more unstructured events? (Qualitative or quantitative methods)

The Social Scientist

"studies social phenomena, requiring and understanding of the social world, from the inside, a world which is constructed and reproduced by the actions of people. People who continually interpret and make sense of behaviour, situations and activities. In other words, the social world is already interpreted before the social scientist arrives" *Blaikie 1993: 36 quoted by Bagnall*

Major Philosophical Positions

Naturalism/Interpretivism – a different set of beliefs

- Social phenomena distinct from physical (no simple causal relationships; no universal laws; importance of meaning and interpretation; comprehend not understand)
- Leads to qualitative methods choice
  - Case studies, interviews, ethnography

Further major alternatives

Realism

- Reality exists in the empirical world

Constructivism

- Reality does not exist but is constructed

Constructivism

- Interpretive/naturalistic stances give rise to constructivism
- Social researcher seeks to understand multiple social constructions of meanings and knowledge
- Social construction of technology – social meanings of technology and technological change

Realism

- Knowledge is a social and historical product
  - Not value-free
- Explanation is concerned with how mechanisms produce events
  - In a particular time and place
- Real world is complex and multi-layered
- Need to be rigorous about explanations
- Political/economic contexts essential

Why is this important?

- The reflective researcher!
  - Reflect upon what you are doing
- Appreciate that different methodological approaches are related to different views of the world (philosophical positions)
- Your research will lead you to make knowledge claims
  - What can you say about the world?

Needs for the Thesis

A philosophical debate is NOT necessary, but…

- A justification of your research design and choice of approach and methods is essential
- Drawing sensible conclusions from your research is essential
- A reflection upon its limitations is desirable

Essay structure

- A scientific paper represent the main example about how to structure (and format) your essay:
  - Introduction
  - Theory
  - Literature review
  - Empirical framework (of whatever form)
  - Discussion
  - Conclusions

- Not compulsory to have a section for each of these points, but all these points need to be somehow addressed

Essay & Empirical framework

- You are not expected to conduct primary research (i.e. interviews with individual entrepreneurs).
- You are also not obliged to gather secondary data and analyse it, although this may be desirable
- Some form of connection between theory or literature and some figures should be provided
- You could also gather the information about the topic of interest from books, journals, newspapers, business magazines and the Internet.
  - Consider only valuable sources of information (especially through the internet)
    - Always quote your references

Further tips

- In constructing the analysis, you could for example address one of the following, or put in relations two or more of the following:
  - **Micro-level dimensions:** Individual or firm level analysis
  - **Meso-level dimensions:** Activities, relationships and strategies involved in different phases of the individual or firm processes
  - **Macro-level dimensions:** Contextual backdrop, including national and international setting, industry and culture.

Further tips

- You are expected to
  - bring together and critically evaluate theories and conceptual frameworks in forwarding your arguments
  - assessing competing interpretations, rather than just providing description or simply repeating the literature