UNIVERSITY OF OXFORD

Research Design

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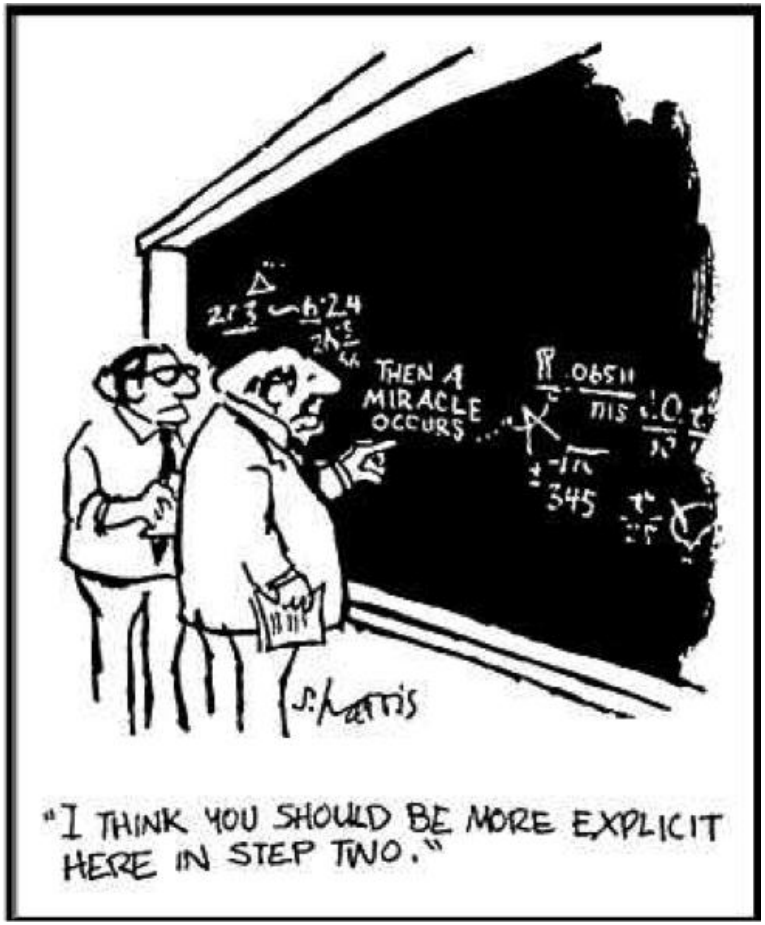
Course Structure

1. **Causality**
    1. Causes of effects and effects of causes.
    2. Experiments and observational studies.
        1. Potential outcomes.
        2. DAGS.
        3. Instrumental variables.
        4. Sample selection models.
2. **Measurement**
    1. Validity, reliability.
    2. Scales and indices.
    3. Item construction and question wording.

How do we choose our research problems?

1. Personal interest in a question.
2. Moral commitment.
3. Concern about a policy problem.
4. Meta-theory/ research programmes.
    1. Globalisation; intimacy; network society; Third-way; social capital.
    2. Puzzles, problems, inconsistencies, replications.
5. Funding opportunity.

Empirical Investigation



Empirical Investigation

1. Inductive not deductive reasoning.
    1. From particular to general.
2. Uncertainty not certainty.
3. Persuasion not proof.
4. Falsification not verification?
    1. Do we know the sun will rise tomorrow?
    2. Are all swans white?
5. Provisional not final.
6. Public not private.
    1. Has to pass the “show me” test.

A general template

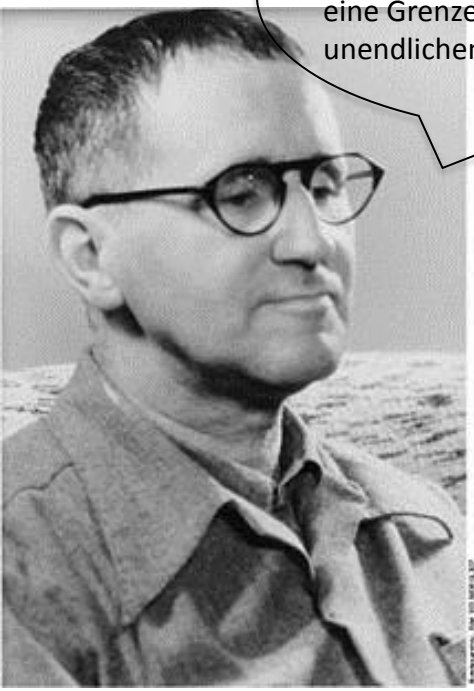
1. Identify a puzzle/regularity that is worth explaining.
    1. Why do some ethnic minorities do less well in school than others?
2. Establish the “stylised” facts .
3. Construct explanations/models of the hypothesised mechanisms.
4. Distinguish the observable implications of the explanations/models.
5. Test the predictions of the explanations/models against observations.
6. Compare explanations/models for plausibility and fit to facts.
7. Iterate.

Inference

1. Several stages involve the use of **inductive inference.**
    1. Drawing conclusions about the universe of interest from evidence about just a part of that universe - estimation.
        1. Establishing the relevant facts.
        2. Comparing model predictions with the facts.
        3. Comparing the relative performance of models.

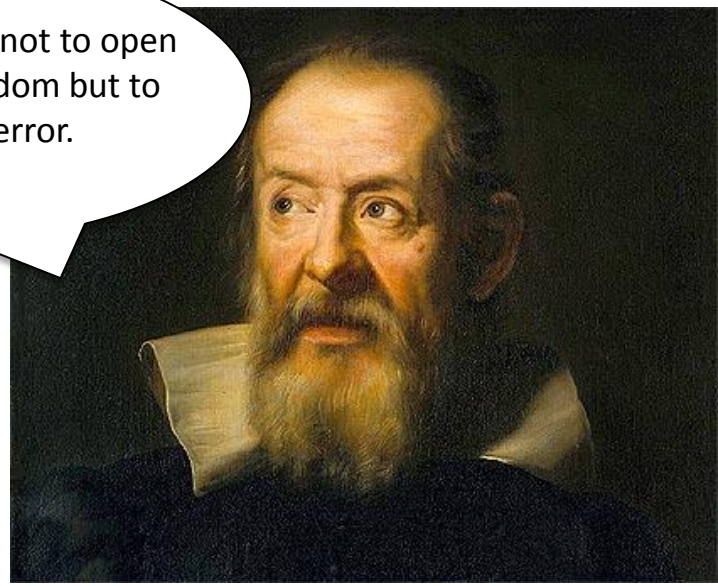
Inference

1. Inference has to be accompanied by estimates of uncertainty/degree of ignorance.



Es ist nicht ihr Ziel, der unendlichen Weisheit eine Tür zu öffnen, sondern eine Grenze zu setzen dem unendlichen Irrtum.

The aim of science is not to open a door to infinite wisdom but to set a limit to infinite error.



Types of inference - descriptive

1. What proportion of UK CEOs were paid more than £1000000 last year?
2. What proportion of organisations in the UK have recognised a trade union last year?
3. What proportion of firms in the UK fail within seven years of start up?
4. Is occupational sex segregation greater in the UK than in the US?
5. Are Japanese employees more committed to their organizations than American employees?
6. Which schools add the most value?
    1. League tables

Types of inference - causal

1. x leads (or tends to lead) to y, which under conditions (a,b,c) leads or tends to lead) to z.

2. where x, y or z are linked by some sort of causal mechanism or storyline.

    1. Firms with 'high commitment' HRM practices perform better.

    2. Incentive pay leads to more employee effort and better quality output.

3. NB different sorts of research design will have important implications for the strengths of the claims you can make about causality.

Inference and Explanation

1. What sort of explanatory mechanism you put forward is logically independent of the inferential procedure you use to test it.
    1. In as far as they are concerned with empirical issues rational choice explanations and symbolic interactionist explanations should use the same model(s) of inference.
2. The disagreement is about the explanatory mechanism not about how to establish the facts or adjudicate between rival explanations.

Implications

1. Squabbles about “qualitative” and “quantitative” approaches to social science are often misconceived.
    1. Fundamental distinction between desire to describe exhaustively a case or set of cases and a desire to use a set of cases to make an inference about a wider universe.
    2. This cuts across the qualitative/quantitative distinction.
    3. What matters for inference is how the cases are chosen.
2. Quantitative/qualitative more fruitfully seen as a strategic choice about measurement (broadly conceived) not about a philosophy of science.

Theory Construction

"What do you mean, it's a start? That's it!"

Theory construction

1. Theory = mechanisms that produce outputs.
2. Theory = stories about how things happen.

3. No rules for making good theories.
    1. Whatever works is best.

4. The provenance is irrelevant for the evaluation.
    1. Bath tub philosophy is as good as 3 years in the library reading Marx's *Theories of Surplus Value.*

5. Theories should have observable implications (the more the better).

Types of questions/claims I

1. Metaphysical
    1. *Why are we here? Is there a purpose? Where are we going? What is The Good?*
        1. Meaningless – logical positivists.
        2. Nonsensical but meaningful to some language community – Wittgenstein II.
        3. Unscientific – Popper.
2. Definitional
    1. *Bureaucracy is best defined as…; What is the nature of…?*
        1. Best for what? Proof of the pudding is in the empirical eating.
        2. Must be non-contradictory.
        3. Empirical consequences of a definition must be compatible with other beliefs/empirical evidence.

Types of questions/claims II

1. Non-falsifiable
    1. *All history is the history of class struggle*; *Dreams are manifestations of unconscious desires; We live in a post-modern world.*
        1. Look like empirical claims – but it is not clear that they are.
        2. What would count as counter evidence?
2. Empirical but not social scientific
    1. *Napoleon lost the battle of Waterloo; Napoleon's defeat was due to Blücher's intervention; Wittgenstein threatened Popper with a poker.*
        1. What kind of inference is involved?
        2. Does the evidence exist?

"Doable" problems

"If politics is the art of the possible, research is surely the art of the soluble…the spectacle of the scientist locked in combat with the forces of ignorance is not an inspiring one, if in the outcome, the scientist is routed."

Peter Medawar *The Art of the Soluble*

Examples of doable problems

1. Does the establishment of quality circles in organisations increase organisational commitment?

2. Do government training programs for the unemployed increase the likelihood of getting a job?

3. Does the provision of financial aid to ex-prisoners decrease recidivism rates?

4. Does work commitment decrease with age?

Examples of problems that are probably "undoable" (in a social scientific sense)

1. What will interest rates be in 3 year time?

2. Why do revolutions happen?

3. Why was JFK shot in Dallas?

From Topic to Question: the ladder of abstraction

1. Topics
    1. Globalisation; the State; Intimacy; Identity; Social Representation; Risk; Network Society.
2. The impact of globalisation on state autonomy.
3. Has globalisation constrained the decision making powers of democratic states?
4. Is there a relationship between degree of trade openness and the quantity of state transfers in the OECD countries between 1990-2018?
5. Ceteris paribus what is the sign of the slope coefficient in the regression of state transfers as a % of GDP and $ value of (exports+imports)/GDP?