

L1. The Logics of Inquiries

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Major Inquiries in Sociology



Forms and ages of inquiries

Birth of inquiries and statistics as discipline of governments

– Statistics

- Statistics German word. Conring (1606-1681), Schölzer (1735-1809)
- Statistics is describing the “State”. Eclectic description of the State’s resources (not so much quantitative), organized along

– Part of art of governing (governmentality / *Gouvernementalité*) and a way of achieving the *police, polizei* of the kingdom (Foucault, 1988)

– Counting / enumerating / Exhaustiveness

Borgès, 1946. *On exactitude in Science*

“In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satisfied, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast map was Useless, and not without some Pitilessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography. *purportedly from Suárez Miranda, Travels of Prudent Men, Book Four, Ch. XLV, Lérida, 1658*”.

19th century as an age of inquiries

- Social and political inquiries
 - Inquiries on the poor and on the social question
 - Villermé, 1840, *Tableau de l'état physique et moral des ouvriers employés dans les manufactures de coton, de laine et de soie*
 - Engels, 1845 *Die Lage der arbeitenden Klasse in England*
 - Le Play Monographs of working-class families
- Journalistic investigations
 - Birth of the “reporter”
 - Henri Mayhew, *London Labour and the London Poor* : series of articles in a newspaper, the *Morning Chronicle*
 - Great details concerning the trades, habits, religion, and domestic arrangements of the thousands of people working the streets of the city.
 - Popular fiction journalists: Rouletabille (Followed by Tintin and Clark Kent, Peter Parker...)
- Colonial/geographical inquiries
 - René Caillié, 1830, *Journal d'un voyage à Tombouctou et à Jenné, dans l'Afrique centrale*,
 - Tombouctou was forbidden to Christians, disguised in Muslim.
 - Won a prize from the French Geography Society



19th century as an age of inquiries

- Realism / Naturalism in novels
 - Zola, *Les Rougon-Macquart, Histoire naturelle et sociale d'une famille sous le Second Empire*
- Police investigations
 - François Vidocq (1775-1857). Former convict. Became Chef de la Sûreté Générale. Founder of the first private detective agency

- Detective Novels
 - Edgar Poe
 - Leroux
 - Leblanc
 - Arthur Conan Doyle



Pleasures of inquiries

- Edgar Poe, “The Purloined Letter”
 - Empty intrigue
 - A letter has been stolen from the boudoir of an unnamed woman by the unscrupulous Minister D—. It is said to contain compromising information. D— was in the room, saw the letter, and switched it for a letter of no importance. He has been blackmailing his victim.
 - No murder, no motives, no content of the letter, no identity of the character.
 - Inquiries and conflict in inquiries



Pleasures of inquiries (2)

“I took the entire building, room by room; devoting the nights of a whole week to each. We examined, first the furniture of each apartment. We opened every possible drawer (...) After the cabinets we took the chairs. (...)

(...) we examined the rungs of every chair in the hotel, and, indeed, the jointings of every description of furniture, by the aid of a most powerful microscope. (...)

We divided its entire surface into compartments, which we numbered, so that none might be missed; then we scrutinized each individual square inch throughout the premises, including the two houses immediately adjoining, with the microscope, as before.”

Pleasures of inquiries (3)

- 3rd degree anticipation
- Dupin anticipates the ministers' anticipation of the police investigation
- The letter is fairly visible on the desk of the minister, but turned upside-down like a glove-turned.

“Such a man, I considered, could not fail to be aware of the ordinary political modes of action. He could not fail to be anticipate -- and events have proved he did not fail to anticipate -- the waylayings to which he was subjected. He must have foreseen, I reflected, the secret investigations of his premises”

Major sociological inquiries at the birth of sociology

- Durkheim, 1897, *Le suicide*
 - Statistics
- Weber, 1905, *Die protestantische Ethik und der “Geist” des Kapitalismus*
 - History (second hand)
- Thomas and Znaniecki, 1918-1920, *The Polish Peasant in Europe and America*
 - Based on documents (mainly letters)
- Anderson, Nels. 1923. *The Hobo: The Sociology of the Homeless Man*. Chicago: University Of Chicago Press.
 - Documents and to some point participant observation

Scientific inquiries

Two poles of the inquiry

- Confirming
And/or
- Exploring
- With
 - Common steps
 - Tensions

1. The confirmatory approach: standard causal analysis

- Phenomena studied are already clearly identified
- Theory preexists inquiry
- Theory establishes causal links between various phenomena
- The inquiry provides a test of the theory
 - If positive : theory is (provisionally) proved
- The inquiry follows a rigorous research design : elements of proof are systematically collected. Others are excluded.
- The proof is often quantitative
- Relies highly on a counterfactual reasoning
 - $A \Rightarrow B$ is established through the comparison of $P(B/A)$ and $P(B/\text{non-}A)$

2. The exploratory approach: inductive and descriptive

- An area of lack of knowledge identified rather than a clear set of phenomena. Ex: the Khazars' kingdom.
- No pre-established theory before inquiry
- “The research question emerges from the fieldwork”
- Describing phenomena, interpreting them, understanding them, contextualizing them more relevant than establishing/testing causal links between them.

1. Explaining. Causal confirmatory approaches

- Explaining a social phenomenon = linking it to other phenomena
 - Durkheim: Would say ‘social phenomena’ only “*The determining cause of a social fact must be sought among antecedent social facts and not among the states of the individual consciousness.*”
 - Questionable for the type of causality (but not for causation)
- A phenomenon X causes a phenomenon Y
 - A variation of X leads to variation of Y
 - Durkheimian example: Higher degree of individualism => higher degree of suicide
- Order of phenomena: X precedes Y logically and temporally.
 - (With exceptions: anticipations – or final causes – as a cause

Counterfactuals

- When X is a discrete phenomenon (gender, class, etc), we compare individuals $X=1$ with a control group $X=0$.
 - Durkheim Example:
 - High individualism: Protestants
 - Low individualism: Catholics
- We compare $P(Y | X=1)$ with $P(Y | X=0)$
- Counterfactual analysis.
- A good counterfactual (or control group), is not just one where $X=0$, but a group where everything is similar to $X=1$ group (for all other variables) except X
 - Example: Both Protestants and Catholics believe suicide=sin.

Counterfactuals. A useful analytical tip.

- Base of experimental approach:
 - Two groups randomly dispatched
 - One gets the treatment
 - One gets the placebo
 - Difference of outcome
- Statistical analysis.
 - Two groups matched by all their control variable characteristics
 - One with $X=0$, other one with $X=1$
 - Difference in outcome of Y
- Small n qualitative research

C. Woll, The power of inaction: Bank bailouts in comparison

Countries where banks refused to collaborate with the State on bail-out plans did worse

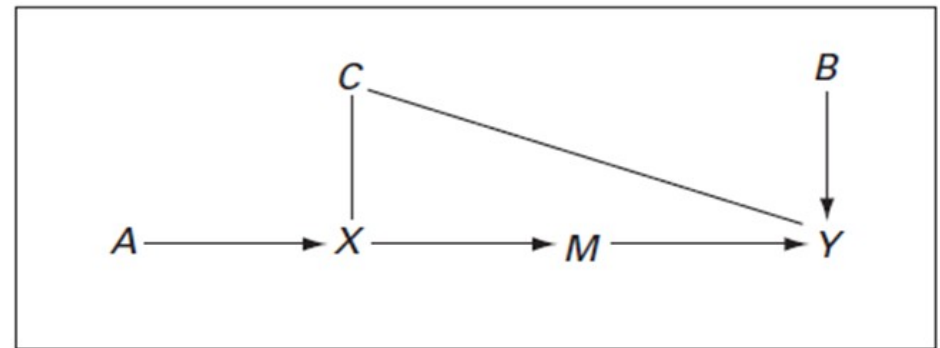
Compare Ireland (inaction) and Denmark (cooperation)
- Thought experiments. Counterfactual history.

Vogel, Railroads and American Economic Growth: Essays in Econometric History,

 - “the level of per capita income achieved by January 1, 1890 would have been reached by March 31, 1890, if railroads had never been invented.”

Difficulties in assessing causality

- Confounders
 - C variables correlated both to X and Y
 - Example: X=Ethnicity and Y=School results. Parental education as confounder
 - If we don't control for C, X “captures” the role of C on Y



Of theoretical interest

X = Causal factor

Y = Outcome

M = Mechanism

Background factors

A = Antecedent

B = Covariate

C = Confounder

General features

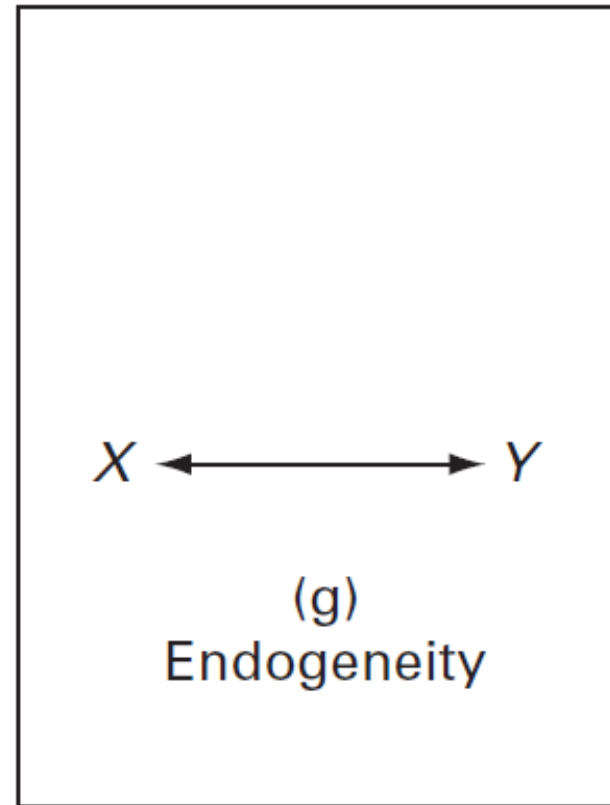
→ = Causal relationship

— = Covariation (possibly causal)

An elaborated causal graph

Difficulties in assessing causality

- Reverse causality
 - Situations where Y impacts in return X
 - Example: achievement in school and motivation.



2. The exploratory approaches.

Reflexive, descriptive and interpretative inquiries

- “Research questions emerge from fieldwork”
- Knowledge of the topic studied is small
- Not enough to set up fruitful hypothesis
- Prior knowledge might be ideological, linked to a political agenda.
 - Durkheim, 1982 [1895]. Rules of sociological method
 - “One must systematically discard all preconceptions. (*“Il faut écarter systématiquement toutes les prénotions”*)
 - Preconceptions coming from ideology, religion, morality are deadly.
 - Preconceptions from academia ... are also dangerous

Reflexivity

- Qualitative anthropological insist on the importance of reflexivity.
- Anthropological knowledge traditional tied to some form of colonial domination
- Science is not (totally) outside society.
- Bourdieu, 1997. Scientists are prisoners of a scholastic view.
 - They can't understand well the logic of practice, because they tend to view people as if they were scientists.
- Where do I talk from? How much my perception is not biased by my own culture, my own hierarchies.
- Understanding my position as an observer, and how my position is interpreted by the persons I observe is key to understand what I observe.

Research questions coming from the field might be better research questions.

- Post hoc hypothesis or HARKing (Hypothesizing After the Results are Known) often seen as a scientific sin...
 - No (short term) risk of being disconfirmed
- Malinowski studying Trobriand discovers the Kula ring system.
- Evans-Pritchard studying the Nuer finds a community structured as an “ordered anarchy”
- Often justification of research question as understudied area. Fill a gap in knowledge. Imprecise contour of a theoretical contribution

Ginzburg, Carlo. 1992. *The cheese and the worms: The cosmos of a sixteenth-century miller*.

 - Minutes of trial of a miller in the 16th century for atheism could tell us something on popular culture of the 16th.
- Before the *why* question:
- *What? When? Where? Who? How?*

Common Step I. Why should we care ?

Motivations for an inquiry

- Inquiries are long and costly to run. Long and boring to read.
- You need good motivations to start an inquiry (/ or to start writing about it)
 - 1/ Scientific: Unsolved scientific question
 - 2/ Social: A social phenomenon (problem) that impacts also non-scientific actors. Public policy agenda
- Balance between the two ?
 - Scientific only: “ivory tower”. Problems of social justification/funding
 - Social mainly: “response to social demand”

What are good research questions?

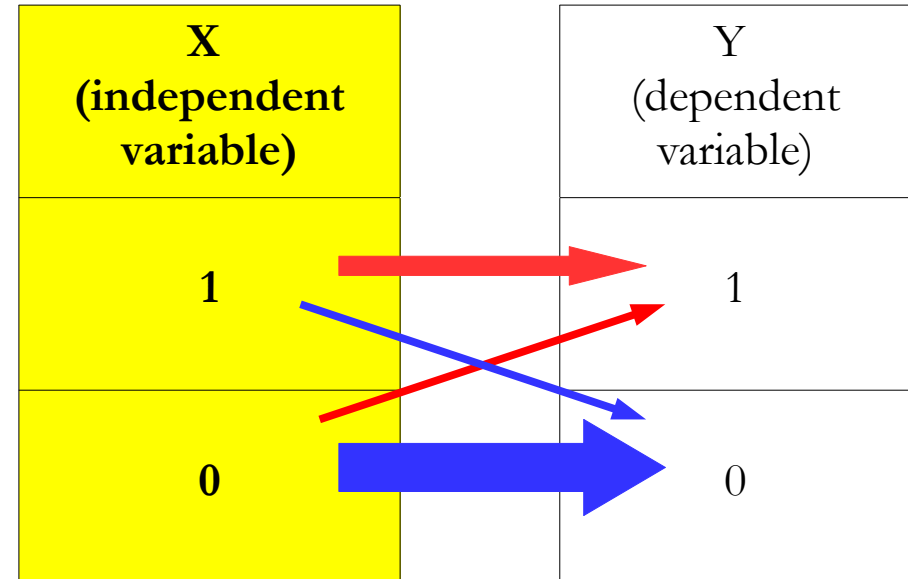
- Abbott, 2004. *Methods of discovery*
 - Avoid subjects that can't be wrong. “ “This paper analyzes sexual insults by combining a Goffmanian account of interaction and a semiotic approach to language””
 - Good research questions have alternatives : can be true or not.
 - Good ideas are not too obvious. They resist.

Good ideas for conducting a research

- Two types of bad ideas:
 - Too obvious. Alternative has no chance of being true.
 - Not very surprising
 - Probably already proved in the literature.
 - Not obvious at all. Alternative has a great chance of being true.
 - Failure of demonstration
- Good ideas are in between.

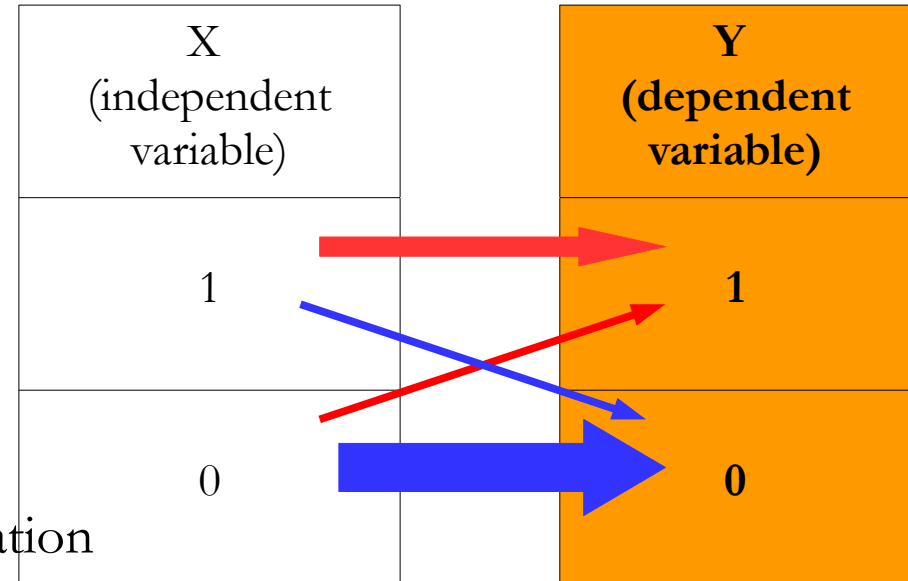
Common steps II. Case selection

- Classical design
 - Select a sample representing all possible independent variable cases
 - Here with both $X=0$ & $X=1$
 - Ex: Male/Female ; Black/White
 - Measure the outcome on Y
 - Ex: High education/ Low education
 - Compare
 - $P(Y=1 | X=1)$ with $P(Y=1 | X=0)$ (red arrows)
and/or
 $P(Y=0 | X=1)$ with $P(Y=0 | X=0)$ (blue arrows)



Case selection

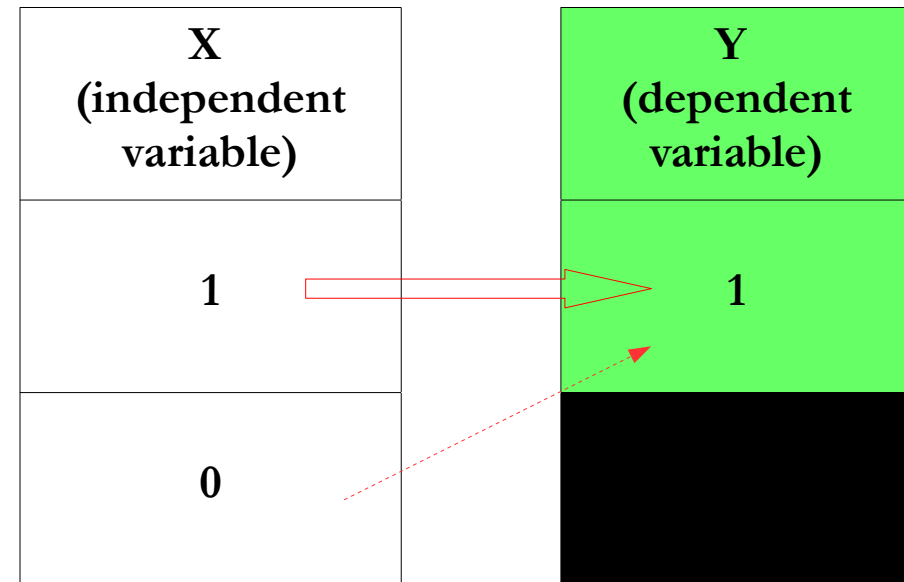
- Variation in classical design
 - Select a sample representing all possible dependent variable cases
 - Here with both $Y=0$ & $Y=1$
 - Ex: Suicide/Alive ;
High education versus top education
 - Measure the X origin
 - Ex: Catholic / Protestant; Black / White;



Problematic case selection I:

“Selection on the dependent variable”

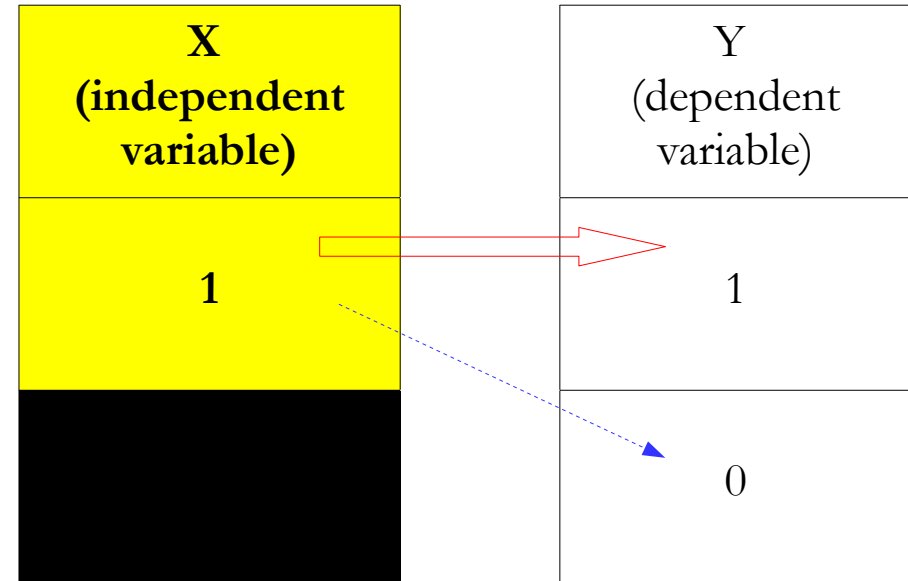
- Case selection on the outcome of interest
 - Suicide
 - Hospitalized
 - “Nearly 60% of hospitalized COVID-19 patients in Israel fully vaccinated”



- If you don't have the proportion of non-hospitalized that are vaccinated... not very helpful
- Could serve as falsification, if one counter example is enough
- But with probabilistic determinism...

Problematic case selection II: “Absence of counterfactuals”

- Selection of only case of the independent variable
 - You want to study female/black handicaps and you select only blacks, females, etc.



- Impossible to know if measured proportions $P(Y=1 | X=1)$ or $P(Y=0 | X=1)$ are small or large !
- Based on expert/interviewee impression...

Practical difficulties in case selection

- Sometimes difficult to avoid totally selection on the dependent variable
 - Imagine you want to understand the holocaust ?
Will you put Argentina in the sample because no Holocaust happened there?
- Difficulty to find good counterfactuals
 - What's a good counterfactual for Hitler, the Nuer, traders, etc. ?
- Counterfactual of the research design might be useless in the end.
 - Too much differences on $Z_1 \dots Z_k$ between $X=0$ and $X=1$
 - “Difficult to compare when everything is different...”
- Find internal counterfactual in the data
 - Party splitting: early / late ; leavers / stayers
 - Finance and pay: front office / back office; etc.
 - Within individual variations

Common steps III. Describing and collecting data

- Steps necessary both in confirmatory framework and exploratory framework
 - Identification / qualification of objects
 - Putting in equivalences
 - Selection / exclusion of objects
 - Aggregating / Summarizing
- Same criteria for confirmation (causality) and exploration (description) ? (Geering, 2012)
 - Truth
 - Precision
 - Generality
 - Boundedness
 - Parsimony
 - Coherence
 - Commensurability
 - Relevance

Tensions between approaches

- Explaining *versus* interpreting
- Parsimony *versus* details
- Analysis *versus* narration
- Aggregating/identifying *versus* differentiating
- Simplicity/Reductionism *versus* complexity
- Realism *versus* nominalism/constructivism
- Contextualism *versus* non-contextualism
- Transcendant *versus* Situated Knowledge

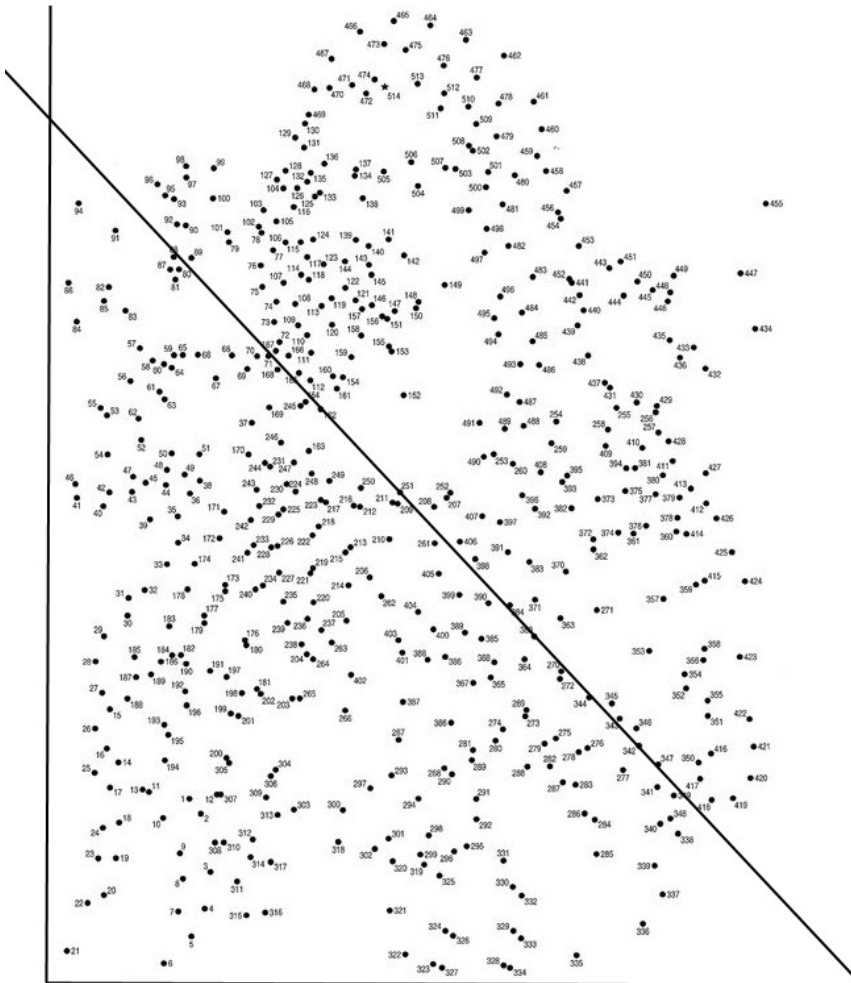
Cf. [Abbott, 2004. *Methods...*](#)

Understanding interpretivism

- Standardizing, aggregating, explaining = equating the unequal
 - 2nd Wittgenstein. A clear univocal language for qualifying object is impossible. Game with languages
- There are only “singularities”
- Interpreting.
 - Setting coherence among those singularities through language.
 - Creating meaning more than proving
- Enable people to see things differently. Qualifying and requalifying
 - Ex. Callon, 1984, “Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay”.
- Validity through *Verstehen*.
 - I understand a behavior when I can understand the set of conditions under which I could act in a similar way.
 - Importance of “thick descriptions” of a universe which enable researchers/readers to reconstruct the symbolic universe.
- Elements of rigor.
 - Coherence,
 - Accumulation
 - Saturation: impression of not learning anything more



Statistics versus interpretation



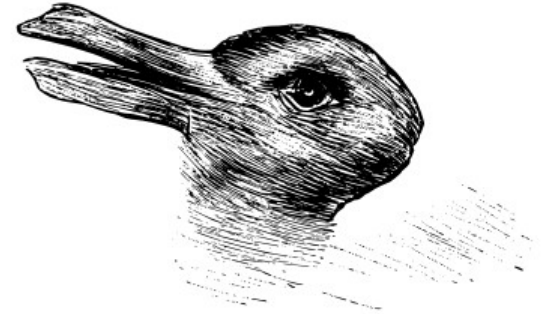
Inquiries: Series and singularities

- Description can be totally positivist
 - Especially :
 - Quantitative history
 - Quantitative surveys producing sociography of a society.
- Not causal. Not interpretative :
Rigorous description of facts.
 - Evolution. Structures, etc.
 - Establishing stylized facts that can serve as elements of future scientific puzzles
- Descriptions will focus on series, on aggregate figures.
- How to use a singularity?
- Going to the archives (doing a fieldwork) you code stuff in a prespecified design prices, database, etc.
- You find a single document, a hapax, a single event, which doesn't fit the database.
 - Positivist. Nothing. It's not in the research design
 - Interpretativist: Something. Super interesting as revealing the deep structure of the object you are studying.
 - Contextualize. Create relation with other regularities or singularities, in order to give meaning to the event

Limits of interpretivism: proofs

- Multiplicity of ways of making connections
- Difficulty of proving an interpretation based on an idiosyncratic connection of singular elements, when alternative interpretation.

Welche Thiere gleichen ein-
ander am meisten?



Kaninchen und Ente.



Limits of interpretivism: anti-causal?

- Often claims for not being causal... but micro-causality claims unavoidable in any description
 - A man runs in a station. Police-men run behind him
 - Interpretation : This robber is trying to escape the police.
 - Robbing → police purchase → running
- The global thesis of the research could be implicitly causal (without claiming to be so)
 - Weber, 1905: Calvinistic doctrine of predestination favors the development of the spirit of capitalism
 - Foucault, 1961: The affirmation of a new form of (Cartesian) rationality leads to the confinement of mad people

Ways of conducting inquiries

- 1/ Totally confirmatory
 - Reality and main facts already known
 - Building theoretical hypothesis before inquiry
 - Setting up a research design (experiment, survey, a special use of an administrative data) that will be able to confirm/infirm the theory
 - Quantitative demonstration mainly.
 - Writing resembles an experimental protocol
- 1b/ Confirming a post inquiry hypothesis
 - Reality and main facts not really know prior the inquiry
 - Inquiry leads therefore to 1) describing and establishing facts, 2) finding that the topic is the case of unsolved scientific question
 - Based on this knowledge of results, establishing hypotheses that could explain the result
 - Finding in the data elements of proof of the hypothesis
 - Writing may mimic strategy 1) although this is not true in terms of research protocol
 - Writing could combine a great deal of description, and proofs of hypothesis.
 - Limit: HARKing ? (Hypothesizing after results are known)

Ways of conducting inquiries

- 2-a/ Canonical 2 steps mix-method research
 - Reality not known and needs to be described
 - 1. Qualitative research.
 - Through interpretation of the results, setting up hypothesis
 - 2. Quantitative research design
 - Through surveys, experiments, exploitation of administrative databases, confirming or infirming these hypotheses.
- Ex.
 - M. Prasad, 2012. *The land of too much* ;
- 2-b/ Common mix-method research
 - Qualitative and quantitative research are done simultaneously with no temporal and logical order.
 - Because both elements contribute to describe, hypothesize and eventually provide some proof.

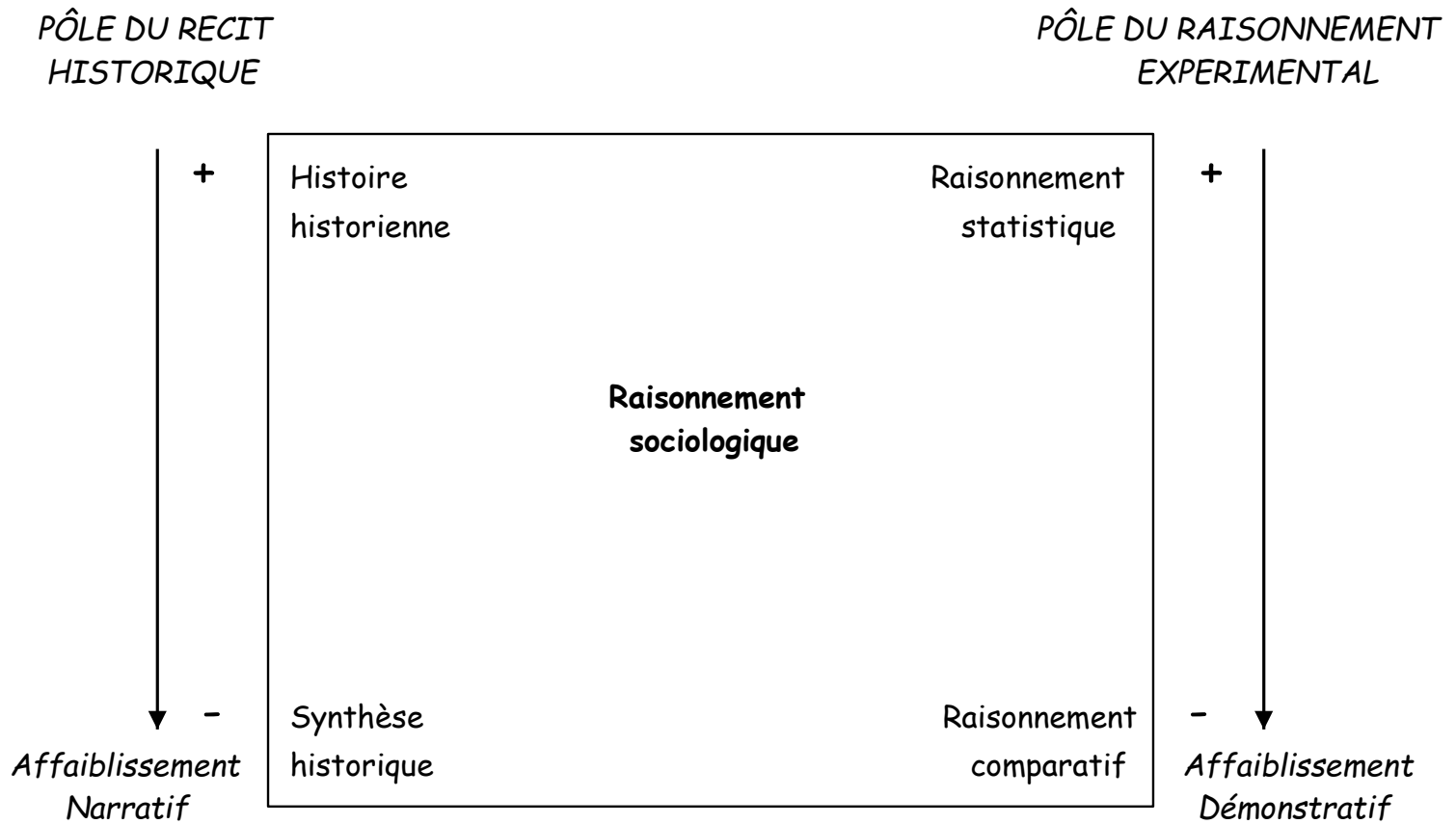
Ways of conducting inquiries

- 3/ Describing reality and suggesting causality relations
 - Little prior knowledge
 - Heavy description of the facts
 - Discovery of a puzzle
 - Elements of interpretation of the puzzle
 - Which could be causal but do not claim to be so...
 - I would call a “Verstehen causality”
 - Confirmation left to others
- Ex : Weber, 1905
- 4/ Describing reality and creating meaning
 - Little prior knowledge
 - Creation of meaning
 - A new way of qualifying, understanding, seeing things.
 - No causal-like mechanism
 - Little meaning in “confirming” those research
- Ex:
 - Callon, 1984, “Some elements ...”
 - Boltanski, Esquerre, 2020, *Enrichment*
 - The collection logic of as a way of giving value to things...

Summarizing: Steps of inquiries

- 1. Motivation : An intriguing puzzle
- 2. Reading scientific and unscientific literature
- 3. Preliminary research question
 - 3. bis. Preliminary working hypothesis (if possible)
- 4. Research design for field exploration
- 5. Exploration and description of the phenomenon. Collection of descriptive data (quantitative and qualitative)
- 6. Reformulation of the puzzle
- 7. Reformulation of the research question
- 8. Research hypothesis
- 9. Setting of the research design that will prove the hypothesis
- 10. Collection of the data
- 11. Data analysis. Confirm or infirm the hypothesis.
- 12. Writing of the results

L'espace des raisonnements sur la phénoménalité historique



(Schéma proposé par Passeron p. 74)