

On the nature of social scientific research and argumentation, especially in World Politics & Economy

Heikki Patomäki

Part I

- Critique of the structure of a research field: problems of quantitative & qualitative empiricism

A popular misconception

- **Research = {data → analysis with a method → results}**
- It follows from this conception that the first question must always be: what is the data set I could use in my research?
 - ...the substance of research falls within the area of research one is interested in, e.g. country branding, or EU's relationship Russia, or oil and development in Nigeria from a global governance viewpoint, or whatever
- But what is data / data set?
 - " A **data set** (or **dataset**) is a collection of data, usually presented in tabular form. Each column represents a particular variable. Each row corresponds to a given member of the data set in question. It lists values for each of the variables, such as height and weight of an object. Each value is known as a datum. The data set may comprise data for one or more members, corresponding to the number of rows. [...It] may also be nominal data (i.e., not consisting of numerical values), for example representing a person's ethnicity..."
 - The method of analysis follows from this definition: statistical analysis.

Table 1 - Basic Indicators, 2010						
	Population (thousands)	Land area (thousands of km ²)	Population Density (pop / km ²)	GDP based on PPP valuation (USD million)	GDP per Capita (PPP valuation, USD)	Annual real GDP growth (average over 2002-10)
Algeria	35 423	2 382	15	234 572	6 622	3,9
Angola	18 993	1 247	15	115 805	6 097	12,3
Benin	9 212	115	80	13 833	1 502	3,6
Botswana	1 978	582	3	30 407	15 376	4,3
Burkina Faso	16 287	274	59	20 986	1 289	5,5
Burundi	8 519	28	306	3 176	373	3,3
Cameroon	19 958	476	42	45 971	2 303	3,2
Cape Verde	513	4	127	2 147	4 188	6,1
Central Afr. Rep.	4 506	623	7	3 341	741	1,7
Chad	11 506	1 284	9	17 469	1 518	8,4
Comoros	691	2	309	845	1 223	1,8
Congo	3 759	342	11	15 722	4 183	5,0
Congo Dem. Rep.	67 827	2 345	29	28 080	414	5,6
Côte d'Ivoire	21 571	322	67	36 652	1 699	1,2
Djibouti	879	23	38	2 131	2 424	4,1
Egypt *	84 474	1 001	84	501 752	5 940	5,1
Equatorial Guinea	693	28	25	18 355	26 472	12,9
Eritrea	5 224	118	44	3 432	657	0,0
Ethiopia*	84 976	1 104	77	91 304	1 074	8,6
Gabon	1 501	268	6	22 319	14 866	2,2
Gambia	1 751	11	155	3 525	2 013	5,2
Ghana	24 333	239	102	37 135	1 526	5,9
Guinea	10 324	246	42	11 672	1 131	2,5
Guinea-Bissau	1 647	36	46	17 693	10 740	1,5
Kenya	40 863	593	69	71 304	1 745	4,1
Lesotho	2 084	30	69	2 972	1 426	3,1
Liberia	4 102	111	37	2 266	552	1,7
Libya	6 546	1 760	4	93 233	14 244	5,2
Madagascar	20 146	587	34	18 454	916	2,4
Malawi	15 692	118	132	13 650	870	5,7
Mali	13 323	1 240	11	15 243	1 144	4,9
Mauritania	3 366	1 026	3	8 250	2 451	4,1
Mauritius	1 297	2	636	18 513	14 278	3,9
Morocco	32 381	711	46	156 306	4 827	4,6
Mozambique	23 406	802	29	26 386	1 127	7,7
Namibia	2 212	824	3	14 949	6 758	4,9
Niger	15 891	1 267	13	10 979	691	4,7
Nigeria	158 259	924	171	384 084	2 427	9,1
Rwanda	10 277	26	390	9 478	922	6,8
São Tomé & Príncipe	165	1	172	327	1 978	6,3
Senegal	12 861	197	65	22 009	1 711	3,9
Seychelles	85	0,455	186	2 303	27 222	2,6
Sierra Leone	5 836	72	81	5 128	879	8,7
Somalia	9 359	638	15
South Africa	50 492	1 221	41	521 779	10 334	3,6
Sudan	43 192	2 506	17	92 741	2 147	6,9
Swaziland*	1 202	17	69	6 389	5 315	2,4
Tanzania	45 040	945	48	63 549	1 411	7,0
Togo	6 780	57	119	6 289	928	2,5
Tunisia	10 374	164	63	100 606	9 698	4,5
Uganda	33 796	241	140	48 068	1 422	7,2
Zambia	13 257	753	18	22 571	1 703	5,6
Zimbabwe	12 644	391	32	3 238	256	-3,1
Africa	1031 472	30 323	34	3 049 131	2 956	5,5

Note: * Fiscal year July (n-1)/June (n)

Sources: United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects, The 2008 Revision*.

AfDB Statistics Department, Various domestic authorities and IMF *World Economic Outlook* (march 2011) and author's estimates and projections.

Empiricism – the problem of induction

- The point of statistical analysis is to find *correlations* between characteristics or events; or to determine how a variable is dependent on one or more of independent variables (*regression*):

"Whenever A, provided conditions {x, y, z}, then B follows, with probability p "

- Further idea: with meticulous empirical studies we can accumulate knowledge about correlations, some of which may be interpreted as causes of our *explanandum*, especially through regression analysis, though only under some circumstances; and thereby we can develop a fuller picture of the subject matter, e.g. politics / ir.
 - Hempel-Oppenheim: "the event under discussion is explained by subsuming it under general laws, i.e., by showing that it occurred in accordance with those laws, by virtue of the realization of certain specified antecedent conditions"
- An implication: while theory may in some ways be interesting, we can really learn only by doing empirical research (empiricism).
- A consequence is the emergence of the **problem of induction** = we are *not* logically entailed to assume that because a particular correlation or sequence of events has been observed to occur regularly (in the past) it will do so in all cases, including also in the future.

Further problems of empiricism

- Despite more than a century of systematic work, we have found very few, if any, non-trivial, uncontested, stable, and non-local (universal) invariances in social sciences, whether probabilistic or not
 - in IR, the democratic peace hypothesis is probably the only main exception, and it too remains (i) contested, (ii) limited to a particular geohistorical era and (iii) subject to the problem of induction
- However, what may matter even more, is the series of tacit assumptions about the nature of our subject matter presupposed by the statistical analysis of 'data-sets'.
- The basic assumptions: numerical and nominal data → the world consists of separate things with simple properties → the world is quantifiable and, ultimately, atomistic.
- A related normative and practical problem: should our aim be to seek ,or to break, 'regularities'?; what is our practical interest?
 - e.g. 'causes' of war or, more generally, violence...

Ontological and epistemological assumptions of quantitative empiricism

- “Appendix: Realist Ontology and the Possibility of Emancipatory Social Science” (related to: Heikki Patomäki, ‘The Challenge of Critical Theories: Peace Research at the Start of the New Century’, *JPR* 38(6); ironically available at <http://www.prio.no/Research-and-Publications/Journal-of-Peace-Research/Replication-Data/#2001>)
- All relations are external and contingent → change occurring through qualitative transformations internal to objects is by definition – that is, dogmatically – excluded
 - a direct consequence of the assumption that the world consists of ‘atoms’ or, at least, that the inner structures of entities are given and constant
- Reductionist view of observation, often ‘secreted’ by the fetish of representing ideas by technical-looking symbols:
 - observations o_1, o_2, \dots, o_k about events e_1, e_2, \dots, e_k etc
 - this makes it possible to forget – or methodologically bracket – both conceptual work & difficulties of interpretation, concerning the typically complex and subtle differentiations both between and within the changes or objects that we, reductively, call ‘things’ or ‘events’
 - the problem is even more acute when the object of our study is itself meaningful (i.e. at least partly constituted by concepts and meanings)

A popular misconception, version 2

- **Research = {data → analysis with a method → results}**
- **The new context:** numerical and/or simple nominal data is not available, or is not considered relevant, or is preferred not to be used for other reasons.
- To gain scientific credibility & to follow the model of quantitative empiricism → appeal to **qualitative ‘methods’**
 - the original aim of (positivist) qualitative methods: “these researchers embraced a qualitative research paradigm, attempting to make qualitative research as ‘rigorous’ as quantitative research and creating myriad methods for qualitative research”
- Over time, especially in post-positivist contexts, the term ‘method’ has come to be used more and more metaphorically
 - analogy between statistical methods (Method) – discourse analysis (or some other similar approach to non-quantifiable analysis)
 - a typical metaphor: **Discourse Analysis is a Method**
- “Perhaps the most important thing to understand about conceptual metaphors is that they are used to reason with” (Lakoff & Johnson p.65)
 - typical mapping of one area (source-domain) is used to reason about another set of data (target-domain)

The logic of qualitative 'methods'

- The first idea imported from the source domain: **empiricism**
 - ❑ theory may be interesting in some ways, but mostly we can really learn only by doing empirical research
- The second idea: priority of (finding, creating) a **data set**
 - ❑ also the term 'data set' is increasingly often used only metaphorically
- The third idea : distinction between a general study / **case study**
 - ❑ however, because in post-positivist contexts there is no more any attempt to identify any general regularity or invariance (i.e. no attempt to develop inductive arguments), the idea of a **case as a case of something is easily lost**
 - positivism: “the *subject* of the inquiry will be an **instance of a class** of phenomena that provides an analytical frame — an *object* — within which the study is conducted and **which the case illuminates and explicates**” (G.Thomas)
- Indeed, the main aim of quantitative empirical studies is lost → no induction → there can be no accumulation of knowledge about (strict or probabilistic) regularities, invariances or laws...
 - ❑ and thus what is often also lost is the idea of accumulation of knowledge

The nature of qualitative 'methods'

- Most typically, the 'data set' consists of a collection of – up to hundreds or at most a few thousand pages of – texts (documents, transliterated interviews, notes from participatory observations etc).
- Sometimes the qualitative 'method' may have been – and in the US still often is – close to the actual practices of quantitative studies
 - coding, content analysis, computer-searches etc: counting words or other basic elements of texts possibly going as far as trying to find correlations or regularities of occurrence, perhaps by using regression analysis
 - ethnographic research, used for investigating cultures by collecting and describing data that is intended to help in the development of a theory -- but more often than not remains at the purely *descriptive* level
- Quite typically, however, at least in post-positivist contexts, the qualitative 'method' is in fact based on a few but complex organising concepts and rules or principles that guide the reading of the texts constituting the 'data set'
 - ❑ the choice among these is based on theoretical and ethico-political preferences (all too often the bottom line is simply: "this is *my* approach..." → subjectivism)
 - ❑ typically these kinds of concepts, rules and principles are closely associated with well-known philosophical or social-theoretical gurus:
 - Lacan or Derrida or Foucault or Kristeva...
 - Laclau & Mouffe or Butler or Hardt & Negri or Žižek ...
 - Perelman or Koselleck or Skinner or Palonen or Fairclough ... etc etc

Problems of qualitative empiricism, 1

- **Problem 1:** The metaphor **Discourse Analysis** is a **Method** (in its many variations) tends to be practically misleading in a number of ways:
 - ❑ positivist approaches may insist on being 'rigorous': counting words or other basic elements in a text and possibly analysing them by statistical means can be informative to a limited degree, but after a while tends to become rather trivial; and evidently, despite years of effort, there has been no major breakthrough...
 - ❑ the post-positivists have learned to be critical of the in-built assumptions and practical limitations of positivist approaches: reading texts is necessarily interpretative; understanding occurs always through language and concepts; and so on...
 - ❑ however, a reading of a few dozens or hundred pages of (at times rather miscellaneous) 'empirical' texts guided by some organising concepts, possibly connected with a few rules and principles of thinking about and organising the material, is hardly a Method resulting in intersubjectively reliable and scientifically falsifiable hypotheses about reality

Problems of qualitative empiricism, 2

- **Problem 2:** A commitment to series of philosophical assumptions about the nature of our subject matter, which is *de jure* or at least *de facto* presupposed by most approaches to the qualitative analysis of 'data-sets':

❑ **ASSUMPTION 1:** Whereas for quantitative empiricists (positivists) the real is defined in terms of experiences/observations (*esse est percipi*), for qualitative empiricists it is for all practical purposes defined in terms of language/discourse (*esse est dictum esse*) → **ontological super-structuralism or super-idealism.**

❑ **ASSUMPTION 2:** If nothing exists outside of discourse, there can be *no causation* either; and the only regularities there may be can be found within discourses.; hence the world outside discourses ***must be non-existent or, even if existence is granted, at least indeterminate.***

❑ **ASSUMPTION 3:** If discourses construct the objects to which the discourses refer, then ***the discourse itself can never be wrong*** about the existence of its objects, in any meaningful or methodologically interesting ways → the meaning of critical science becomes unclear.

Problems of qualitative empiricism, 3

- **Problem 3:** A student or researcher puzzled with the meaning of the organising concepts risks getting lost in meta'theory', and more specifically in the difficulties and obscurities of poststructuralist language (after this critical turning point there is no empiricism left of course...)
 - ❑ a large part of these discussions concern **either** the hard-to-understand 'theoretical' post-structuralist concepts and ideas; **or** the controversial consequences of one's own super-idealist assumptions.
 - the former includes conceptions introduced from other fields, especially from science, which frequently do not make any sense (but the reader may nonetheless continue to assume that the problem lies in one's intellectual capabilities and that the underlying ideas are truly profound...)."
 - the latter includes rhetorical, often sarcastical denials of the random or arbitrary nature of this kind of research and related interpretations of the world; denials or dismissals of the paradoxes of relativism; and explorations in the ethico-political consequences of reading and writing anything
 - ❑ Alan Sokal – and simple computer programmes – can produce endless lines of post-structural-looking language with no intent of communicating anything....
 - ✓ "might the goal be to pass off as profound a rather banal philosophical or sociological observation, by dressing it up in fancy scientific jargon?" (A.Sokal & J.Bricmont; see also http://en.wikipedia.org/wiki/Postmodernism_Generator)
 - ✓ "...the continental philosophical game is mostly about deep reading and roundabout speech. By the time you have gone to the trouble of learning the relevant codes, you will have become an 'insider' capable of wielding a sort of esoteric power by virtue of that fact alone." (S.Fuller)

Problems of qualitative empiricism, 4

- **Problem 4:** The postpositivist approach to qualitative empiricism – with all its likely consequences – creates a tendency towards fragmentation, implying a slide towards minuscule and closed groups of insider researchers debating possible interpretations of a limited set of theoretical texts or some particular empirical ‘data-sets’, or a combination of them...
 - small fragments of ‘empirical’ areas of interests are often interwoven with almost equally fragmented conceptual sub-sub-fields revolving around particular Gs (‘G’ stands for a ***guru***) and G-studies
 - for instance, one may become a Lacanian or Foucauldian scholar in the field of studying Italian foreign policy, especially vis-à-vis Israel and in light of particular set of official documents and interviews
- Parallel tendencies towards fragmentation are apparent **also within the camp of quantitative empiricists** (including among those doing positivist case-studies) – this is in part, but not only, because no widely agreeable corpus of relevant, generic scientific knowledge about regularities / invariances has been found
 - rational choice theories and other imports from neoclassical economics have been used as a substitute in textbooks (some may even imagine that they really form the corpus of scientific truths)

Empiricism, Big Science and social sciences

- Of course, in any science – including philosophy – the deliberations of any particular school of thought change over time through on-going 'refinement': scholars address issues that have evolved from issues that emerged in the previous rounds of discussions, and so on...
 - "...sometimes **losing all sight of** that crucial guiding thread of relevance needed to preserve a connection with **the fundamental questions** that gave the whole process its start." (N.Rescher)
 - however, this, together with doctrinal allegiances (and related ethico-political commitments), also co-explains why many **schools of thought tend to persist**, particularly in philosophy and human sciences (note: pluralism as such is legitimate)
- Moreover, Big Science has increasingly provided the model for funding also in human sciences, the latter having an obvious vested interest in being seen on par with the developments in natural sciences (especially in a political context at least latently hostile to humanities and social sciences).
- Big Science: big physical investments, large research groups and organizations, highly elaborate division of labour, and complicated organizational relations → detailed specialisation.
- However, this external **stimulus to**, and encouragement for, **intrinsic tendencies towards scholasticism** is not good for learning in human sciences
 - ...often resulting in a fusion of dogmatism and focus on mere technicalities
 - integrative perspectives relevant to our fundamental questions are needed!

Some positive aspects of quantitative and qualitative empiricism

- **Research = {data → analysis with a method → results}**
- What is good about the original quantitative (positivist) version: attempt at systematic collective learning through testing various hypotheses and by screening out the unworthy ones
 - ❑ however, the learning process has turned out to be primarily negative, since after 50-100 years of systematic work, most if not all findings are now known to be *either* trivial *or* local, unstable (temporary) and contested
- And what is promising about the turn to post-positivist qualitative version is the explication of organising concepts and rules & principles, which has opened up a space for conceptual work
 - ❑ however, engagement with these kinds of (meta)theories and their complex language can easily become the main preoccupation of a student or researcher → tendency to replace substantial research with G-studies, where 'G' stands for the chosen *guru* (especially figures such as Lacan, Derrida, Foucault, Kristeva, Laclau & Mouffe, Butler, Hardt & Negri, Žižek ... etc etc)

The poverty of empiricism, part 1

- **Research = {data → analysis with a method → results}**
- Despite these positive aspects, both versions of empiricism are seriously misleading as a guide to social scientific research.
- They involve prioritising:
 - data (the first priority is to identify or create data sets)
 - Method (often in practice meaning: metaphorical 'method')
- “Research working within [the quantitative methods] paradigm are preoccupied with creating the conditions in which objective data can be collected” (F. Devine)
- The same applies equally well to qualitative empiricism: the main preoccupation lies in identifying or creating a ‘data set’ and then selecting a ‘method’.
- The result is data- and method-driven research; the meaning and relevance of research problems and questions are subordinate to the available ‘data’ and preferred ‘methods’
 - and in those post-positivist contexts where ‘data’ and ‘method’ are used only metaphorically, this often amounts to strategic deception or, even, outright lying (e.g. “morphological discourse analysis” may sound technical and convincing, but is not a Method in any sense; it consists merely of a few loose rules of thumb about searching for certain kinds of words in political texts....)

The poverty of empiricism, part 2

- **Research = {data → analysis with a method → results}**
- In quantitative studies, easily available data sets include:
 - basic social indicators (age, sex, location, income etc), many aspects of voting and elections, basic economic indicators (population, GDP, income distribution, trade etc), a variety of derived compound indicators (PISA, competitiveness, human development etc)
 - in addition, it is possible to create data sets by systematic coding of things and events; the best-known example in IR being: **The Correlates of War project** (<http://www.correlatesofwar.org/>); another sophisticated example is **Varieties of Democracy (V-Dem)** that aims to produce better Indicators of Democracy (<https://www.v-dem.net/en/>)
- In qualitative studies, easily available data sets include:
 - available official documents (may cover a time-span, but are limited otherwise)
 - interviews, participatory observations etc, which are limited to here and now (they are synchronic and while the location of 'here' may vary, doing interviews in other countries is expensive and often requires long-term investments in languages etc)
- Empiricism guides us to pose only questions that are at least in principle answerable in terms of (potentially) available data sets and by using the preferred Method (or mere metaphorical 'method')
 - moreover, all the limitations of quantitative / qualitative empirical methods are tacitly accepted at the outset → **alternatives**: the search for local, unstable and contested regularities; **OR**: unreliable (or even subjectivist) case studies with short time span and no inductive implications or little relevance to substantial theory

Part II

- **An alternative account:
social scientific research
aiming at collective
learning and better
arguments about society**

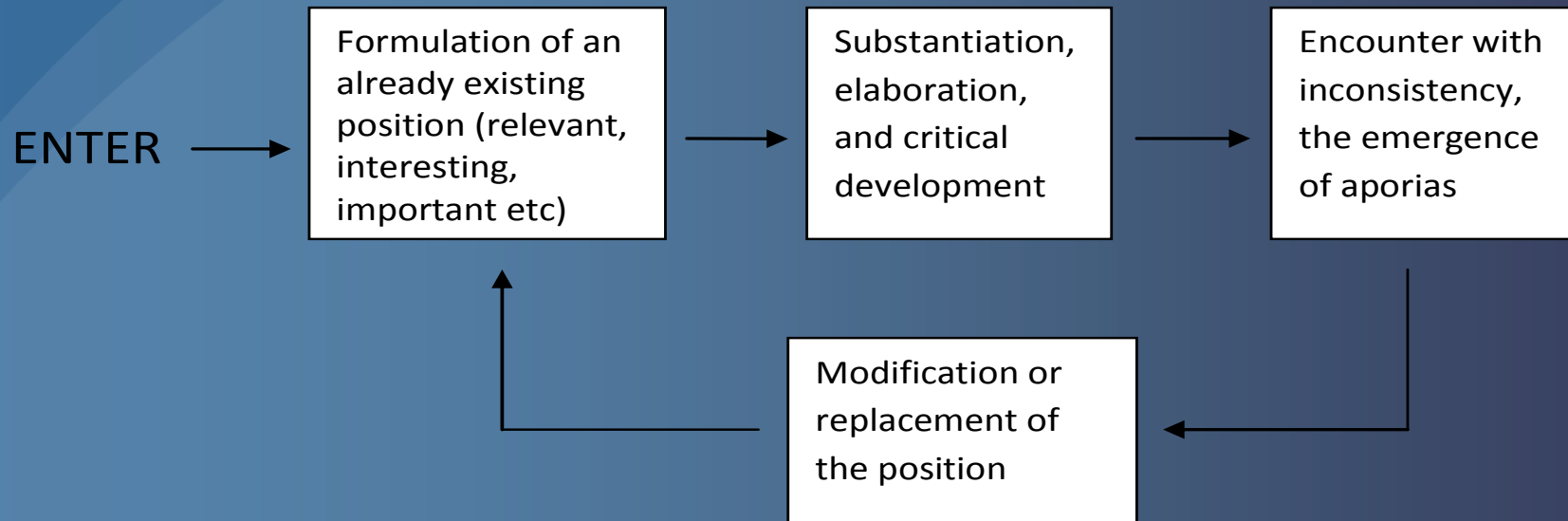
Questions – answers – arguments

- We don't start from *tabula rasa*; rather we have long traditions of thinking and arguing about society, ethics and politics.
- These traditions are constituted by, and involve a wide variety of claims, at different levels of depth and abstraction.
- A claim can best be conceived of as a potential answer to a question
 - the horizon of the question makes the claim understandable
 - but what would other possible answers be like?
- Every problem, whether practical-political or more theoretical, has a set of presuppositions
 - put together – to the extent that there is some consistency – these presuppositions form a **theory** and give rise to a characteristic set of problems and plausible answers to them → theory/problem-field solution set, or in short, a problematic
- Arguments are about claims that form parts of geo-historically evolving theories and problematics
 - argument: giving reasons or evidence to criticize or support a claim that is questionable or open to doubt
 - arguments may concern questions, possible answers or their presuppositions

The dialectics of conceptual developments given an observed contrast that needs explanation

- A typical question that prompts an empirical empirical-theoretical enquiry: a comparative 'why' question: 'why x rather than y'.
- Pragmatics of an explanation: a mechanic, a lawyer and a doctor would pursue quite different aspects and emphases in regard of a death in a motor accident, each presupposing their own perspective
 - the cause of interest and statement of that cause could be: a defect in the breaks, the negligence of the driver subsequent to the vulnerability of the breaks, or severe head trauma...
- The why question form involves contrasts in terms of specifying possible alternatives to X happening, providing a **contrast-space**.
- There is a contradiction between an expectation of how things should happen, and how they are actually happening.
- The explanatory factors selected must be relevant, they must be subject to evaluation, and they must be accepted as good

The dialectical cycle of conceptual complexification in theoretical-explanatory discourse

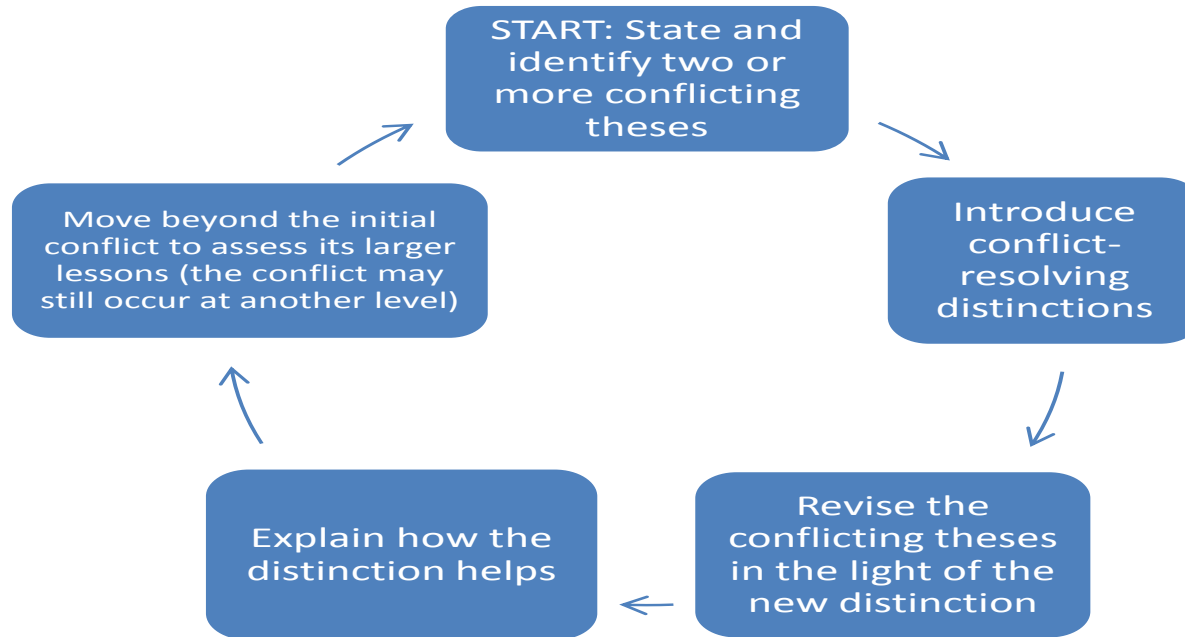


- The starting point is a relevant problematic and an already existing position
- That position has to be understood, also in terms of its question-horizon and in accordance with the principle of charity; and then it can be further substantiated, elaborated and critically developed...
-until one encounters an inconsistency or an aporia (a contradictory set of claims or statements)
 - these contradictions may also stem from empirical considerations (i.e. evidence either supportive or critical of particular claims or statements)

Aporia

- An **apory** is a group of contentions that are individually plausible but collectively inconsistent – the things we are inclined to maintain, or are maintained in the literature, issue in contradiction.
- For example, claims about balance of power:
 - 1) Power-balancing is analogical to Newton's third law: when two bodies interact by exerting force on each other, these forces (termed the *action* and the *reaction*) are equal in magnitude, but opposite in direction.
 - 2) Balance of power is a law-like regularity; it means that balance will be automatically restored: if one power rises, others will *react* and ally against it.
 - 3) A bipolar system is the simplest possible system; thus the law of power-balancing must work most effectively in that kind of system.
 - 4) A multipolar system allows for several possibilities for different alliances and thus for prompt balancing; therefore a multipolar system must be the most efficient structure in restoring balance.
 - 5) Empirical evidence seems to cast a shadow of doubt on both (4) and (5), as well on other possible articulations of what (2) may mean.
 - 6) There is evidence that in many contexts bandwagoning is more common than attempts to ally against the dominant power; and in some contexts neither option seems to make sense.
- At least one and possibly two or more claims must be abandoned.

Conceptual, theoretical and empirical dialectics

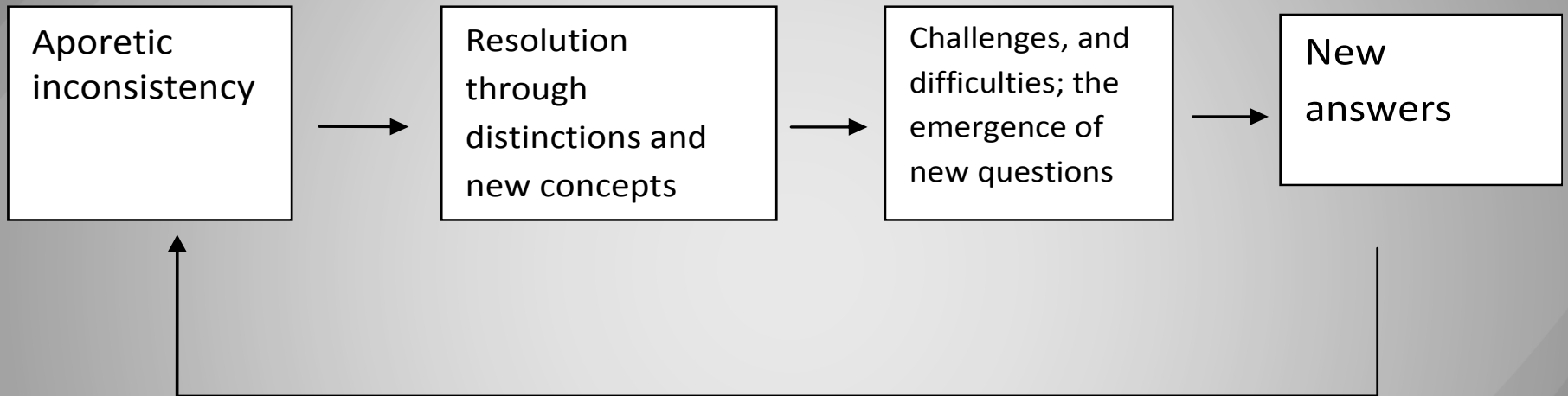


- ❑ Conceptual and theoretical developments occur through conflicts and attempts to resolve them either (i) through empirical or theoretical criticism of one or more of the conflicting theses and/or (ii), more progressively, through new conceptual distinctions.
- ❑ In empirical social sciences, one or more of the conflicting theses can be empirical (including outcomes or contrasts that go against expectations of a dominant theory or an entire problematic), but this is far from necessary.
- ❑ At any and every stage we have no more than a rough, imperfectly developed project on which further work needs to be done by way of overcoming difficulties and removing inexactnesses.

Trying to resolve an *aporia* through criticism and distinctions

- Someone willing to defend the main tenets of the power-balancing theory – theses (1) and (2) – may be resolved to show that theoretical reasoning does not support, say, (3), while empirical evidence is not as ambiguous as claimed by (5) but in fact gives reasonable support to (4)
 - in other words, one tries to re-establish consistency by abandoning (3), (5) and possibly (6)
- This is a possible but conservative strategy, aiming at overcoming the *aporia* by showing how some of the particular and more empirically based contentions are simply wrong, while rescuing the more general claims and the core of the problematic (theses (1) and (2)).
- Another possibility: to introduce new distinctions that may make the inconsistencies disappear or at least appear much less severe:
 - distinctions between contexts: the law is applicable only in global great power contexts when security concerns are primary, not e.g. in regional contexts (to counter the relevance of e.g. Walt's study on actions-reactions in the Middle East in 1955-79)
 - a distinction between different types of laws: Newton's laws are deterministic, social laws are probabilistic; thus there may be instances where the *reaction* does not occur
 - a distinction between natural and social *reaction*: Newtonian *reactions* occur **instantly**, in society they may take time, sometimes up to 20-30 years

The problem-dialectic of social sciences, involving conceptual innovations



- Not only new distinctions but also new consistency-restoring concepts, which form part of a *theory* and give rise to a characteristic set of problems and plausible answers to them.
- Conceptual distinctions and innovations give rise to new questions.
- New questions require new answers → at some point it will be realised that a new aporetic inconsistency has arisen.

Resolving aporia through **conceptual and theoretical innovations**, leading to new questions

- Newton's law is not probabilistic and is applicable in all contexts relevant to our everyday experiences; and it does not involve any delayed effects



perhaps we should abandon the direct analogy to Newton's third law?; ... but what could be an alternative interpretation?

- **An idea:** historical studies suggest that actors' themselves have conceptualised power-balancing as analogical to Newton's law
 - the concept was used for the first time in the 1713 Peace Treaty of Utrecht
 - Newton's *Principia* was published in 1687 and became immensely popular in the European courts, i.e. among actors dealing with diplomacy and questions of peace & war → power-balancing was seen as an application of the theory
- A new concept: power-balancing is **a geo-historical social practice** constituted, at least in part, by an analogy to Newton's third law.
- This raises new questions; e.g. what have been the causal effects – including quasi-Foucauldian effects of power – of this practice?
 - e.g. it may have been associated with peace treaties of the past, but has it generated **peace** in any sense – or rather, is it liable to **war-making**?

Further layers of dialectical argumentation

- The power-balance *aporia*: the shift *from* direct analogy to Newton's law *to* a conception of historical social practice co-constituted by that analogy is far-reaching
 - it is a major **ontological** shift involving numerous considerations and arguments both *pro* and *con*
- As long as one holds the contention 'power-balancing is analogical to Newton's third law' there is no room for normative discourse about it
 - Kant in 1793: balance of power is in reality like "Swift's house, whose architect built it so perfectly in accord with all the laws of equilibrium that as soon as a sparrow lit on it, it fell in"
- Actions, rules, principles and practices can be assessed normatively, in terms of moral and ethico-political arguments
 - apart from J.Rawls' *Theory of Justice* (1973), M.Walzer's *Just and Unjust Wars* (1977) served to make normative discourse legitimate again
 - this is another meaning of post-positivism

Some ontological considerations on the dialectics of being

- This is not a neutral question but arises immediately once atomism is abandoned: **how would it be possible to see, analyse, and explain qualitative transformations internal to objects?**
 - for instance, we may ask: to what extent is power-balancing still practiced in the early 21st century?; what kinds of transformations may have occurred in this concept, practice and institution since the early 18th century?
- If entities are structured, there must also be necessary and internal relations to them, not only contingent external relations
 - causal powers are *necessary* – for instance powers of nuclear weapons or powers of those positioned actors playing a role in strategies of nuclear deterrence – given the structure of the entity and its systemic context
 - only the exercise and effects of those powers are contingent
 - power balancing constituted by inner structures -- "can the end of power politics be part of the concepts in which its story is told?" (H.Alker)
- Moreover, entities contain their history and possible futures, i.e. they are processual; or more precisely: entities are geo-historical processes-embodied-in-product(-in-process)
 - these geo-historical processes involve a number of elements, many of which are internally related → analysis must move between parts and whole
 - power-balancing practices have been internally related to: international law – state sovereignty – private property rights (sovereign ownership) – possessive individualism – capitalist market society
 - internal relations change with structures (concepts, rules, practices)

Summa summarum: types of relevant evidence and argument

- In resolving *aporias*, there are always several possibilities, and each of them involves a variety of types of evidence and genres of argumentation
 - **historical evidence**, possibly involving going back by hundreds or thousands of years (second-hand evidence is good enough for many purposes of making a plausible and convincing argument; but first-hand research may be required)
 - **case-study style evidence**, e.g. Walt's study consists of several Middle East cases (but prioritising data and data sets would be an obstacle, e.g. interviews or participatory observations hardly relevant for 1955-79)
 - **quantitative evidence**: claims about associations between x and y can be checked and criticised also in terms of quantitative evidence (even if the evidence tends to be only, or at least primarily, negative)
 - **methodological arguments**, e.g. questions whether standard statistical analysis techniques, based on the assumption of stable frequencies and non-ambiguous data, are relevant & adequate in context C, and whether there are more realistic alternatives to those assumptions
 - **philosophical arguments (ontology, epistemology, ethics)**: conceptual distinctions & innovations occur typically, and at least partly, at the level of philosophy
 - **normative arguments** concerning what is good (e.g. peace, democracy, justice, rights) and what ought to be or should not be (e.g. just and unjust wars).
 - **conceptual arguments through distinctions & innovations**, leading to new challenges and difficulties, but also to new questions → new problematic

Part III

- **Models and principles of rational and open-minded social sciences**

Scientia – knowledge – method

- Politics and political science are similar in their form of public argumentation; both revolve around arguments about society.
- Practices are knowledgeable; for instance, in the early 21st century, many politicians have a degree in social sciences, and some of them may even have a PhD in political science ...
- So what is it that distinguishes social sciences from politics as *praxis*? And more generally: what is it that distinguishes scientific knowledge from other kinds of beliefs and contentions?
- Over the course of the 19th century, the word ‘science’ became increasingly associated with ***the scientific method***
 - typically characterised by: the use of mathematics (quantification, measurements), and testability (reproducibility → closed systems)
- **It is this meaning and the related method-fetishism that still haunts social sciences**
 - from quantitative empiricism to qualitative empiricism...

A false model

- A mathematical proof is an argument with premises and a conclusion
 - there may be many proofs for a single theorem, and they use different concepts and mean different things, although the conclusion appears the same
- Also a conclusion drawn from a repeatable laboratory experiment or, say, an astronomical observation, is a fallible argument with premises and a conclusion
 - history of science is full of examples whereby scientists have misunderstood the results of their experiments; the full meaning emerges only following new distinctions, conceptual complexifications and innovations → a new theory and problematic
- In open systems such as society it is nonetheless highly problematical to try to follow the model of those sciences that deal primarily:
 - ❑ with (relatively) closed systems
 - ❑ with those layers and aspects of reality that are (relatively) non-ambiguously measurable in quantitative terms
 - ❑ and follow laws that are (mostly) beyond human influence

Better models and analogies

- There are better models and analogies for scientific argumentation about society, based on systematic research.
- Social sciences are like **earth and life sciences**
 - many sciences have become increasingly historical; often their object of study consists of a rather particular historical episode or process such as the development of our solar system and planet Earth, the latter involving plate tectonics, climate changes etc.
- Social sciences come often very close to **detective work & argumentation in trial**
 - these provide particularly striking metaphors for social sciences, not least because the source of these metaphors comes from society
- Social sciences follow, in part, the **methodology of philosophy**
 - philosophy is only a moment in social scientific research, but what matters are the principles and methods **OF** philosophy (adequacy, cogency, economy, validation)

Social sciences are like **earth and life sciences**

- The ways in which the planets in our solar system came together involved random collisions that cannot be predicted solely from an initial set of conditions; yet given the narrowness of the habitable zone in a solar system and the specificity of many other celestial conditions of life, these have been decisive for the possibility of life.
- Yet all **explanations must be compatible with the laws of nature** and mechanisms of lower levels of reality (physics and chemistry).
- Explanations in earth and life sciences consist of an inferred sequence of events to construct a historical narrative of what must have taken place in order to leave the **empirical evidence** that we see today
 - “what must have taken place or be in order for X to be possible...”; this is the most typical scheme of argumentation both in open-systemic sciences and philosophy
- We know of only one case of biological evolution as a whole
 - nevertheless **systematic comparisons of subsystems** can reveal something about the nature of this process; for instance, complex multi-cellular life has often, and quite spontaneously, generated common solutions to general problems across wide spans of time and space

Social sciences involve **detective work & argumentation in trial**

- Sometimes we must seek for **any empirical clues**, even remote and indirect ones, to establish elements of causal complex and to construct a proper explanatory story; or, more generally, to find evidence to support or criticize a relevant contention or thesis
 - there may be only a few empirical traces of the relevant processes available, for instance because of spatio-temporal distance, or because of practices of diplomatic secrecy, and for many other possible reasons
- When both evidence and interesting candidates for endorsement are abundant, a trial seems a more appropriate metaphor.
 - the prosecutor and the counsel for the defence have to be given **sufficient time to investigate and bring in all available evidence – both theoretical and empirical – to make their case**
 - a time of making a judgement: is candidate X plausible enough to be endorsed further? ; or should we abandon it?
 - after the screening-out of interesting but also conflicting (hypo)theses, a consistent – as consistent as the subject matter allows – picture of the subject matter will emerge

Social sciences as **philosophy**

- Philosophical argumentation is **only a type** among many relevant types of argumentation in social sciences (at least seven different); and **only a moment** in social scientific research process.
- However, the **methodology of philosophy** is highly relevant in social sciences, involving: identification or establishment of *aporias*; problem-dialectics; conceptual and theoretical dialectics; and the dialectical cycle of conceptual complexification.
- What are the principles of honest, courageous and open-minded inquiry, requiring sustained work over a period of time?
- Basically there are three kinds of principles
 1. Principles of **informative adequacy** to facilitate understanding
 2. Principles of **rational cogency** to assure convincing argumentation
 3. Principles of **rational economy** to avert needless labour in production and avoidable difficulty in consumption.

Principles of **informative adequacy**

1. NEVER BAR THE PATH OF INQUIRY

- “Never adopt a methodological stance that would systematically prevent the discovery of something that could turn out to be true.” (C. Peirce)
 - yet this is exactly what the data- and method-fetishisms of quantitative and qualitative empiricism tend to do
 - the same applies also to much of rational choice and post-structuralist theorisation, albeit in different ways

2. ALL AFFIRMATION IS NEGATION

- We can only clarify what a theory or thesis asserts and maintains if at the same time we become clear about what it denies or rejects.

3. NO ENTITY WITHOUT IDENTITY

- Whatever is to be meaningfully discussed needs to be identified – that is, specified in such a way as to distinguish it from the rest.

Principles of **rational cogency**

1. NOTHING IS WITHOUT REASON

- Especially: maintain nothing substantive without good reason!

2. NOTHING COMES FROM NOTHING

- Just as causation must hold everywhere and substance must come from substance, so substantive conclusions cannot be rationally supported without invoking substantive contentions in their support (this is close to (1) above).

3. A CHAIN IS NO STRONGER THAN ITS WEAKEST LINK

- A conclusion requiring a mixture of premises is no more plausible than the weakest premise required for its derivation.

4. OPT FOR THE LEAST UNACCEPTABLE ALTERNATIVE

- One can substantiate a position by showing that all of its alternatives encounter problems and difficulties (close to “Sherlock Holmes rule”).
 - one must first know well and consider many different contentions and (hypo)theses and then eliminate the weaker ones one by one

Principles of **rational economy**, 1

1) **THAT WHICH CANNOT BE HAD SHOULD NOT BE DEMANDED**

- To show that it is either absolutely or practically **impossible** for a certain problem to be solved on the terms in which it is posed suffices to release us of any obligation to deal with it on those terms
 - in social sciences it is **irrational to demand** the **certainty** of a mathematical proof or repeatable laboratory experiment
 - universal generalizations are only possible about internal relations and the nature of geo-historical structures and powers; but not about observable actions, events or outcomes
 - even inductive generalizations fall typically under the category of non-statistical generalizations, especially if we are talking about standard statistical analysis presupposing stable frequencies and non-ambiguous data
 - also claims about about internal relations and the nature of geo-historical structures and powers are typically **presumptive defeasible generalizations** (i.e. they are far from being absolutely certain and are subject to exceptions)

Principles of **rational economy**, 2

2) CONTRADICTION IS A CATASTROPHE THAT HAS TO BE ADDRESSED

- “Desparate times need desparate measures” → one may have to consider abandoning even those contentions that appear as basic or fundamental in one’s system of beliefs
 - further distinctions & conceptual complexification and innovations may rescue the situation

3) NEVER EXPLAIN WHAT IS OBSCURE BY SOMETHING YET MORE SO

- A satisfactory explanation must, of course, render matters clearer than they were to begin with.
 - an explanation that violates this principle will succeed at nothing other than obscuring the matter (e.g. Lacan’s, Kristeva’s, Lyotard’s, Latour’s et.al. systematic misuse of mathematics and science)

Principles of **rational economy**, 3

4) NEVER MAKE MATTERS MORE COMPLICATED THAN THEY HAVE TO BE

- "Never employ extraordinary means to achieve purposes you can realize by ordinary ones."
 - for instance, there is no point in developing a complicated mathematical model to "prove" a point that can be expressed in a couple of ordinary sentences and is at best a presumptive defeasible generalization and at worst a factual impossibility

5) ENTITIES ARE NOT TO BE MULTIPLIED BEYOND NECESSITY

- Do not posit a plurality when a single item suffices and is in accordance with the available evidence

Principles of **rational economy**, 4

6) **DO NOT BELABOUR THE OBVIOUS**

- “Once your point is made or once your argument is developed with sufficient cogency for all practical purposes, call it a day.”

7) **NEVER FLOG A DEAD HORSE**

- “Do not argue against that which nobody maintains.”

❑ Metaprinciple: Keep your principles consistent!

❑ Another meaning of the metaprinciple of consistency:
Avoid informal / practical fallacies by all means!

- arguments that are fallacious for reasons other than structural (formal) flaws and which usually require examination of the argument's content; see e.g. : D.Walton: *Informal Logic. A Handbook of Critical Argumentation*
- e.g. *ad hominem* (attacking the arguer instead of the argument), *argumentum ad ignorantiam* (argument from ignorance), *petitio principii* (circular reasoning), fallacy of composition (assuming that something true of part of a whole must also be true of the whole) etc etc

Part IV

● Conclusions

On the nature of social scientific research and argumentation, 1

- By now, it should be clear why the empiricist scheme is misleading:

Research = {data → analysis with a method → results}

- The appeal of quantitative empiricism was based on a false model of science and the related 19th century idea of scientific method (by the 2010s already anachronistic).
- Social scientific research moves always within the already established fields of theories and problematics
 - the first task is to learn to know these and their historical paths of development well
- Inconsistencies, conflicts among (hypo)theses, contradictions and aporias are the dialectical driving forces of research and argumentation that aims at systematic collective learning.

On the nature of social scientific research and argumentation, 2

- Empirical evidence plays crucial role in most research processes, but contrasts, conflicts, contradictions and aporias are typically resolved through conceptual and theoretical work:
 - through distinctions & conceptual complexification and innovation
- Different types of evidence and modes of arguments are relevant, depending on the research path taken
 - it is irrational to let a pre-chosen data set or method to decide the best way to tackle an inconsistency or aporia (or worse: to be used as an excuse for ignoring theories and problematics entirely)
- Adequate analogies and models for social sciences include:
 - social sciences are like earth and life sciences
 - social sciences resemble detective work and argumentation in court
 - social sciences follow, in part, the methodology of philosophy