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PHILOSOPHICAL PITFALLS: THE METHODS DEBATE IN AMERICAN POLITICAL SCIENCE

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Abstract

Positivism dominates research in U.S. political science. I will show that even though critical realism is virtually unknown in the discipline, realist concepts have found their way into debates among qualitative methodologists. The analysis begins with a juxtaposition of positivist and realist foundations. Next, I will trace the methodology debate that has unfolded in the U.S., examining in what ways it reflects these foundational assumptions. Over the last number of years, I demonstrate, qualitative methodologists have engaged in philosophical hybridity, because they have drawn on realist concepts while continuing to adhere to an empiricist ontology. This kind of cherry-picking is a perilous strategy, and I suggest that methodologists examine their ontological assumptions, especially their views on causation. To do so, they need to engage critical realism. This exercise would benefit political science, because it would provide scholars with exciting new research possibilities. Moreover, critical realism is well-suited to support the discipline's central quest: gaining insight into the world by using few examined cases to draw inferences to larger sets of unexamined cases.

Keywords: Political science, methodology, case study research, philosophy of science, qualitative research methods, positivism, critical realism.

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INTRODUCTION

Because of the hegemonic status which the U.S. enjoys, the American discipline of political science influences the ways in which its sister disciplines in other countries study politics. First, due to strong links between the discipline and U.S. policy makers the analyses of U.S. political scientists affect societies abroad and encourage their intellectuals to familiarize themselves with the American policy debates. Second, because international communication is carried out in English, scientists all over the world follow the U.S. scientific discourse and integrate it into their own national discussions. As a result, American academics are especially well represented in the international publishing market. Third, as a consequence of these trends, American political science conferences – especially the annual convention of the International Studies Association – attract many international participants, exposing them to scholarly standards that are largely shaped in the U.S. At the same time, however, hegemony makes it safe for U.S. political scientists to ignore debates that unfold in other countries. Nowhere is this clearer than in the subfield of methodology, where a gap as wide as the Atlantic Ocean separates American methodologists from their peers in Britain. While British scholars know about the research strategies that their American colleagues employ, most methodologists in the U.S. are unaware that critical realism has emerged as a force influencing the study of politics in Britain.

Critical realism, according to Andrew Sayer (2000),

> offers great promise for social science and theory. . . . In the philosophy and methodology of social science, critical realism provides an alternative to both hopes of a law-finding science of society modeled on natural science methodology and the anti-naturalist or interpretivist reductions of social science to the interpretation of meaning (pp. 2-3).

Very few American Ph.D. seminars, if any, discuss this philosophy's methodological implications. The Consortium on Qualitative Research Methods, which attracts some of the leading U.S. methodologists and serves as the organizational outlet for cutting edge inquiry into qualitative research practice, has not addressed this paradigm.[1] Recently I found myself in a discussion with several American methodologists, and I critiqued this omission. One of the responses given to me was: 'That's Britain. We're in the U.S.'

On the following pages I want to discuss this state of affairs. For that, some background information is in order. The philosophy that dominates U.S. political science is a form of positivism (Lindblom, 1997, p. 249). This means four things, which shall be explained in greater depth later on. First, many political scientists are empiricists. They assume that there are 'hard' facts, which can be gathered and analyzed in an

unproblematic fashion. That observations are value-laden is acknowledged, but this statement has only minor implications for actual research practice. Second, when political scientists say that they aspire to theory, they have in mind law-like statements that reflect correlations among facts. Third, theoretical, law-like statements are expressed in the form of variables that co-vary across cases. Any good theory must therefore contain independent and dependent variables. Fourth, most political scientists place heavy emphasis on assessing theories by means of hypothesis tests. These tests can potentially refute, but never verify, a theory.

Positivism came to political science with the behavioral revolution. By the end of World War II, political science was descriptive and unsystematic. In the 1950s American political scientists complained about this, without, however, knowing what kind of methodology to pursue (Lane, 1997, p. 14). This changed in 1960, when Angus Campbell and his colleagues published *The American Voter*, a groundbreaking study that relied on the latest survey research methods, expansive data collection, and the statistical analysis of the gathered data (Campbell et. al., 1960). According to Lane (1997), *The American Voter* 'redefined political science permanently' (p. 26). It was at that time that the discipline turned towards positivism.

The political environment in which political science departments found themselves supported this trend. The Cold War competition with the Soviet Union privileged the physical sciences and their contribution to economic progress (Lindblom, 1997, p. 245), and it induced something akin to an inferiority complex in social scientists, who felt compelled to live up to the 'scientific method' of physicists or chemists. In addition, the rising influence of foundational and governmental sponsors of the academe after World War II, as well as the political witch hunt that unfolded in the McCarthy era pushed social scientists towards an emphasis on objectivity and value neutrality, which has since characterized American political science (Bender, 1997, pp. 28-29).

Today, a central goal of the discipline is the maximization of analytical leverage. That is, political scientists seek to produce a maximum amount of knowledge about the political universe, given a limited set of cognitive, financial, and human resources. A key question that has preoccupied methodologists is therefore how one can draw inferences from a small number of examined cases to a larger number unexamined cases or observations.

Quantitative theorists have solved this problem with ease: they collect a large number of observations and combine them in a sample to which they apply inferential statistics. Qualitative theorists, however, – all those in whose data analysis statistics plays either a small part or no part at all – have struggled with the discipline's quest for leverage. What complicates their lives somewhat is the fact that philosophically, the qualitative camp is more diverse than that of the quantitative theorists: it contains a minority of scholars who do not seek to draw inferences but engage in idiographic research. That is, they study a case for its own merit. Another minority are those who

reject the positivist paradigm and engage, for example, in post-structural analysis. Most qualitative researchers, however, are firmly embedded in the positivist mainstream. They do seek causal inference from examined to unexamined cases, and they base their inference on the detailed study of few cases. I will refer to this group as 'case study researchers' (George & Bennett, 2005).[2]

An issue that has troubled case study research is the 'small-N problem,' where N stands for 'sample size.' The minimal sample size for inferential statistics is thirty. If a sample is smaller, it does not lend itself to quantitative techniques. Hence, when researchers talk about the small-N problem, they refer to the difficulties that arise when a sample is so small that it cannot yield robust covariations. Because of this problem case study methodologists have been under pressure to explain how one can examine a handful of cases and still arrive at robust causal inferences. Note that the small-N problem is peculiar to positivism. Because critical realism conceptualizes the scientific endeavor in a very different way, realists do not have to contend with it.

In this essay, I will show that case study researchers have tried to solve their dilemma by importing concepts from critical realism. However, they have done so without embracing the realist ontology from which these concepts have arisen. This is a dangerous strategy, for judged on the background of a positivist ontology, these concepts are inadmissible and weaken the scientific claims of researchers. More broadly, this paper seeks to contribute to what Steinmetz (2005) calls the opening of the social sciences: admitting new research strategies and results. Doing so, as Steinmetz points out, is possible only if we make explicit the epistemological stakes and assumptions that form the basis for methodology.

I will begin the discussion by examining the philosophical foundations that undergird positivism and juxtapose them to those of critical realism. Among others, I want to show how positivism and critical realism differ in their understanding of causation. Next, I will review the debate on qualitative methodology in American political science. Drawing on the foundational discussion of the previous section, I will show that while the dominant paradigm is positivism, case study researchers have increasingly introduced alternative concepts, which are aligned with critical realism and have no place in positivism. This practice does the discipline a disservice.

A solution to the small-N problem is available. It consists in engaging critical realism as a philosophy of science position, investigating its methodological implications and its ability to support causal inference from examined to unexamined cases. This potential exists, but the nature of inference in critical realism differs from that under positivism.

FOUNDATIONAL DIFFERENCES BETWEEN POSITIVISM AND CRITICAL REALISM

All methodology rests on foundational commitments. These include ontological suppositions about the entities and objects that fill the world, as well as epistemological assumptions of *what* we can know about these objects we believe exist (Hall, 2003). Once these questions are answered, methodology offers us particular strategies to know what we think we can know about the objects we think exist. Ontology therefore grounds epistemology. Epistemology in turn grounds methodology. Because of this layering, it is legitimate to critique a specific research method for the extent to which it is true to the ontological and epistemological commitments to which it adheres. It is *not* legitimate to critique a method for the degree to which it matches an ontology and epistemology to which it does not adhere. Nor is it permissible to critique a method for the extent to which it meets the methodological standards that prevail in a discipline, if those standards arise from an ontology and epistemology to which the critiqued method is not committed. What does this mean in plain English? A study that professes to be critical realist can be critiqued for the degree to which it corresponds to the foundational assumptions of critical realism. It cannot be critiqued for failing to reflect a positivist ontology. Of course, the same is true vice versa. The only way in which positivists and critical realists can critique each other is by arguing that their own foundational assumptions are superior to those under scrutiny.

In what follows, I want to give an overview of the positivist foundations and juxtapose them to those of critical realism. Specifically, I want to point out the differences that mark their view of causation.

Positivism

What constitutes positivism is a matter of contention. According to Leach (1966),

> Positivism is the view that serious scientific enquiry should not search for ultimate causes deriving from some outside source but must confine itself to the study of relations existing between facts which are directly accessible to observation (p. 39).

This definition captures the idea that scientific inquiry differs from ordinary human inquiry in that it discards the unexamined assumptions which humans typically apply to the world and adopts instead the value-neutral lens of the scientist. To the positivist researcher, there are facts or, as I call them, events.[3] These are directly observable. Having purged her pre-conceived notions that human beings bring to bear on the world in their ordinary inquiry, the researcher is to let the facts 'speak for themselves.' The goal of inquiry is to discern relations between facts.

In their discussion of positivism in sociological research, Gartrell and Gartrell (2002) focus specifically on that version of positivism which the theory construction movement embraced. The authors argue that seven principles characterize positivist research. I want to extract those which I believe mark positivism in political science.

First, theories consist of concepts that are related in law-like statements. An example is: 'If a country is hit by a hunger crisis, it will experience revolution.' Statements of this kind can be rendered precise by applying scope conditions. According to Goertz and Mahoney (2006),

> Scope conditions refer to the parameters within which a given theory is expected to be valid . . . The need for scope conditions grows out of the fact that social scientists rarely formulate universal propositions that hold across all times and places; rather, they formulate conditional propositions that apply to specific contexts (p. 193).

An example of applying a scope condition is the following reformulation of the previous example: 'If an *agrarian* country is hit by a hunger crisis, it will experience revolution.'

The relationship among concepts is expressed in the form of variables that co-vary across cases. In the present example the case is the agrarian country, which may or may not suffer hunger and may or may not experience revolution. The independent, or causal, variable is 'hunger crisis.' It can take on the values 'yes' or 'no.' The dependent variable is 'revolution.' It can take on the values 'yes' or 'no.'

Second, a theory is to be assessed empirically, either through observation or experiment. Before the theory's law-like statements can be tested, its concepts must be defined in two steps. The first consists of a nominal definition, in which 'a "meaning space" is outlined in such a way that the theoretical definition is open to unanticipated empirical and theoretical possibilities' (Gartrell & Gartrell, 2002, p. 644). The second step consists of an operational definition. This definition yields empirical indicators that take on specific values and can therefore be measured empirically. What this means in practice is that before we can test the law-like statement 'If an agrarian country is hit by a hunger crisis, it will experience revolution', we must define what exactly is meant by 'hunger crisis' or 'revolution.'

Third, to assess a theory, hypotheses are derived. These are expectations that should be met if the theory was true. Like theories, hypotheses are expressed in the form of interrelated variables (Gartrell & Gartrell, 2002, pp. 644-645). In our example, we might use Ethiopia in 1984 as a test case. At that time, Ethiopia experienced famine, so the variable 'hunger crisis' is set to 'yes.' We then hypothesize that the variable 'revolution' also will be 'yes.' If that turns out not to be the case, we reject our

hypothesis, which undermines the theoretical statement that in agrarian countries, revolution always follows a hunger crisis.

Gartrell and Gartrell (2002) define theory as 'linkages among concepts [that] specify reasons (theoretical rationales) why concepts should be linked in a particular way' (p. 644). Perhaps because it is not the focus of their research, they do not point out that the empiricist ontology on which positivism is based leaves little room for formulating such linkages. Sociological positivism has strongly been shaped by empiricism, which only admits the existence of discrete, visible, events, and by an empiricist epistemology which only admits that we can know what we can see. These aspects of empiricism admit that we can observe that events appear linked in constant conjunction: if there is consistent co-variation among variables, they are likely related, and the researcher has grounds for formulating a law-like statement. However, empiricist assumptions do not guide us toward ways of theoretically linking concepts that go deeper than constant conjunctions. If only facts that covary may count as evidence, everything else – and this includes arguments about *why* facts should be expected to covary – must remain speculation. Empiricist thought thus gives us no way of distinguishing between good and bad explanatory linkages. This generates contradictions in the positivist research program. If explanatory linkages cannot count as evidence, positivist research that rejects speculation must confine itself to law-like statements about covariations and stray no further.

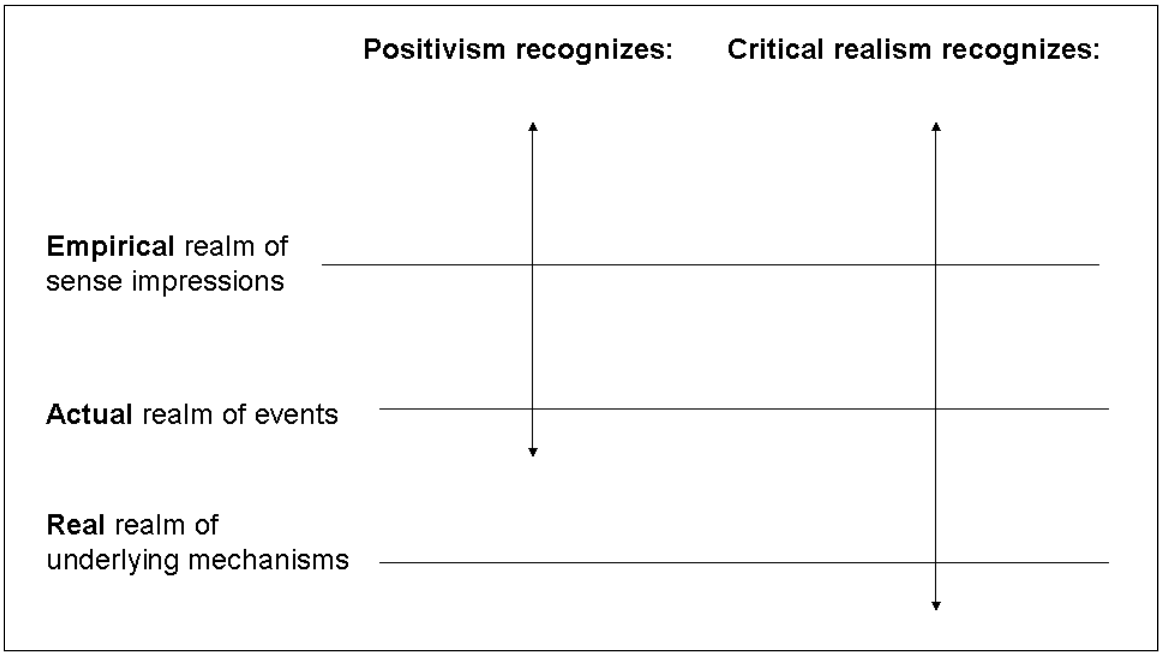
Critical realism in contrast

While positivism is well-established in American political science, critical realism is at home in Great Britain. Closely associated with the writings of Roy Bhaskar (1979), it is one specific school within the broader paradigm of scientific realism. According to Boyd (2002),

> Scientific realists hold that the characteristic product of successful scientific research is knowledge of largely theory-independent phenomena and that such knowledge is possible (indeed actual) even in those cases in which the relevant phenomena are not, in any non-question-begging sense, observable.

To flesh out the differences between positivism and critical realism, it helps to refer to a simple taxonomy developed by Andrew Collier (1994, p. 44). He distinguishes three layers that together encompass what either positivists or critical realists consider the raw material for knowledge about the world. At the highest level is the empirical, that is, that realm which consists of sense impressions. Beneath it is the actual, that is, that realm which consists of events that give rise to sense impressions. At the deepest level is the real, that is, that realm which contains the mechanisms that bring forth events (see figure 1).

Figure 1. The ontological levels in positivism and critical realism



Positivists admit the existence of the empirical and the actual, and they believe that empirical sense impressions provide direct, unmediated, access to the actual. But they deny the existence of the real. Critical realists admit the empirical, the actual and the real. Unlike positivists, they doubt that sense impressions provide direct and unmediated access to the actual, as observations are heavily theory-laden. Consequently, critical realists are quite skeptical about the central positivist claim that science can be objective or value neutral. Also unlike positivists, they believe that the real can be investigated, if the right questions are posed.

In practice, therefore, positivists privilege findings about covariation over statements providing explanatory linkages for the emerging pattern, as linkages do not have the status of evidence. Critical realists, on the other hand, place less evidential emphasis on the discovery of covariation. This is true, first, because they believe that facts never speak for themselves, since observations about events are fraught with theoretical biases. Second, and this will be discussed below, the goal of realist analysis is the discovery of causal powers, and these do not always manifest themselves in clear patterns of events. At the same time, realists place greater emphasis than positivists on generating explanatory linkages. These possess evidentiary status.[4]

Generative or causal powers and structure: Unlike positivism, which, as Patomäki (2002) argues, has an atomist perception of the objects that populate the world and does not inquire into their internal structure, critical realism is keenly interested in

the inner make-up of objects, or their structure, for realists believe that this structure determines what generative powers objects have.

Internal structure provides the object with the ability to impact the world around it in numerous very specific ways. This potential to impact the world is called 'generative' or 'causal' power (Collier, 1994, p. 62). Each object usually has several different generative powers. It also has 'causal liabilities', that is, the vulnerability to be impacted by the world in various ways (Sayer, 1992, pp. 104-105).[5] Because these powers and liabilities emerge from the object's structure, they are an intrinsic aspect of the object's being.

Critical realists also embrace the notion of 'causal' or 'generative' mechanisms. A causal mechanism, in Collier's account, exists as the causal power of a thing. It will operate once something triggers it (Collier, 1994, p. 62).

In my view, this definition of a causal mechanism has too much overlap with the definition of a causal power. Furthermore, it fails to provide room for Sayer's notion of causal liability and does not acknowledge the relational character of power. The alternative definition of a causal mechanism that I want to offer here goes therefore as follows: a causal mechanism is the interlocking of one object's exercised causal power with the target object's causal liability.

This begs the question what is meant by an object's exercised power. Critical realists distinguish between the exercise of power and its actualization. An object that possesses a causal power may do so without ever exercising it, that is, without ever directing it towards a target or, to use a different expression, triggering the corresponding causal mechanism. For example, Nelda has the causal power to apply physical force to the door that leads into her room. The door in turn has the causal liability of responding to physical force by giving way. Even though Nelda has her causal power, she does not exercise it, because she does not want to enter her room.

Whether or not the object exercises its power depends on external, contingent, events. For example, the alarm clock rings, reminding Nelda that she needs to get something out of her room. Prompted by this thought, Nelda steps to the door, reaches for the knob and pushes it.

Once something stimulates the object to exercise its power, this power may nevertheless remain unactualized, that is, it may fail to have the impact it could have had, had the causal mechanism worked unimpeded. How is it possible for the causal power that object A has over object B, to be exercised but not actualized? Another object, which I will name object C and which has its own generative powers, may interfere with the mechanism that connects A with B. For example, Nelda's younger brother is in her room. Intent on preventing her from entering, he presses against the door, canceling out its liability to give way when pushed by Nelda. So even though Nelda applies her causal power to the door, it does not actualize itself in the event she intended to bring about: the opening of the door.

Finally, once a power is actualized, it results in an event, or, as Leach (1966) called it, a phenomenon. The idea that objects have generative powers and that these can give rise to mechanisms is entirely absent from positivism, but it is central to critical realism. By inquiring into the inner structure of objects, critical realists argue, we can come to understand their generative powers and mechanisms and not just the events to which they give rise.

A stratified world: Another difference between positivists and critical realists is their stance on the potential of stratification in the world. Positivist researchers do not engage the notion of stratification. The term 'methodological individualism', which is commonly used to characterize game-theoretic research in political science, reflects this stance. It suggests that any social event can be explained by reference to the individual actor. Individuals may act in groups or as aggregates. If they do, their impact is considered to be the same as the sum of their individual impacts.

Critical realists, on the other hand, believe that the world is stratified. That is, the multiple mechanisms that generate events are layered in a more or less orderly fashion. Collier (1994, p. 49) discusses mechanisms at the physical level, which are layered beneath mechanisms at the chemical level. These are layered beneath mechanisms at the biological level, and these in turn are beneath mechanisms at the social level. Lower level mechanisms explain but do not replace higher ones.

As we move from lower to higher levels of complexity (e.g. from the chemical to the biological level), new causal powers and therefore mechanisms emerge. Thus, an object that exists at a higher stratum has powers and liabilities which are based on the object's lower-level components but differ from the sum of the components' powers.

An example of emergent power that I use in my own work is the distinction between the individual and the organization. Organizations are social actors that cannot be reduced to the individuals that populate them. An organization has an organizational interest that is derived from its distinctive internal structure. This structure is given by the articles of association and incorporation, the hierarchical ordering of positions within the organization, as well as the individuals that staff the various positions. A corporation, for example, has the overriding organizational interest of maximizing monetary return for shareholders. If we simply took all the individuals that staff the organization and asked them what their overriding interests are and aggregated these, we would likely not arrive at the idea of maximizing return for shareholders. An organization therefore exists at a different level than an aggregate of individuals, and it has emergent powers that differ from sum of these individuals' powers.

Causality: The ontological differences between positivism and critical realism imply a differential understanding of causation (Halfpenny, 1987, pp. 33-36). The positivist understanding is decisively shaped by David Hume's empiricist account of causation as constant conjunction and Hempel's idea that a statement can be considered explained if it is derived from a covering law. How does Hempel's idea work? According to White (1971), a covering law account of causal explanation goes as follows:

> On this account, an explanation of an event E is causal if it consists of (1) sentences describing the antecedent causal conditions for E, and (2) sentences expressing scientific laws covering E, i.e. laws stating that if such-and-such antecedent conditions obtain, then events of the same kind as E will occur. To be counted as an explanation, these sentences must be given after E has occurred. If they are given before the occurrence of E, they are said to be a prediction of E. Thus the difference between explanation and prediction is said to be only 'of a pragmatic character' (p. 239).

Explanation, on this account, is nothing other than prediction after the fact. Note also that this account does not necessitate the explanatory linkages of which Gartrell and Gartrell (2002) talked. Causation is therefore identical with constant conjunction.

Two variants of this covering law explanation exist. The first is deterministic and states the causal explanation in the following form: if the antecedent conditions are met, then E will always occur. This is the deductive-nomological (D-N) model of causal explanation. The second variant is probabilistic and states the causal relationship in the following form: if the antecedent conditions are met, then E will occur with such-and-such a probability. This is the inductive-statistical (I-S) model of causal explanation (George & Bennett, 2005, pp. 132-133).

This understanding of causality as constant conjunction, be the constancy of a deterministic or probabilistic fashion, has implications for the kind of research that is needed to impute, or establish, causality. In order to discern covering laws, research must focus on the discovery of patterns, understood as regularly conjoined events. In fact, the discovery of such patterns and the testing of their robustness is the sole focus of textbooks on quantitative methodology. Theory, however defined, is typically neglected.

And how does critical realism view causality? For this it is best to turn to Andrew Sayer (1992), who explains,

> On the realist view, causality concerns not a relationship between discrete events ('Cause and Effect') but the *'causal powers'* or *'liabilities'* of objects or relations, or more generally their ways-of-acting or *'mechanisms'* (pp. 104-105).

Hence, I would argue that causation is the process whereby the causal power of one object interlocks with the causal liability of another, thereby forming a causal mechanism. The process of causation therefore subsumes the causal mechanism, but it also takes into account surrounding events. For example, at the moment when Nelda's causal power to apply force interlocks with the door's causal liability to give way to force, a causal mechanism is triggered, and the door swings open. The process by which this event is caused includes the mechanism, but it may also include the ringing of the alarm clock, which prompted Nelda to apply her causal power.

Given that causation rests on causal powers, liabilities and mechanisms, the focus of critical realist scholarship does not rest on the discovery of constant conjunction, but on the investigation of causal powers. This does not mean that realists view the observation of correlations as an entirely futile preoccupation. After all, to the extent that such patterns are expressions of causal mechanisms at work, we can use them to retroduce the underlying powers and liabilities that gave rise to mechanisms. However, while the search for correlations is at the heart of positivist research, critical realism assigns this search a rather minor role in scientific inquiry.[6] In fact, because critical realist analysis does not seek correlations, it does not employ the language of variables (Pawson, 2000, p. 307).

In the absence of variables, how do critical realists investigate causal powers? While positivists give priority to quantitative observations that lead them to possible patterns, critical realists employ qualitative techniques, such as hermeneutic analysis.[7] A central element of their inquiry is the posing of transcendental questions. A transcendental question is one which refers to a phenomenon and then asks for the structures that make it possible (Collier, 1994, p. 20): what is it about the corporation that enables it to influence government decisions? What is it about the United States Trade Representative that enables it to dictate the terms of multilateral trade negotiations?

In addition, Sayer (1992) suggests that we engage in a process whose technical name is 'retroduction.' That is, we ask a number of specific questions:

> To ask for the cause of something is to ask what 'makes it happen', what 'produces', 'generates', 'creates' or 'determines' it, or, more weakly, what 'enables' or 'leads to' it. As soon as we reflect upon such words, it becomes clear that they are metaphors which allude to or summarize an enormous variety of means by which change can occur (p. 104).[8]

As is the case for positivism, the critical realist understanding of causation has implications for its research practice. First, because the critical realist ontology is more complex than that of positivism, there is heavy emphasis on questions of conceptualization, and therefore a closely integrated relationship between theory creation and theory testing. Second, while positivist standards for judging scholarship are rather

iron-clad, critical realists adopt a more open approach towards evaluating theory. Sayer (1992), for example, holds that analysis can be considered good if it is 'practically adequate' (p. 69). That means it must give rise to expectations about the world which are then realized. He cautions, however, against concluding that anything goes:

> While there are similarities between realist and instrumentalist [i.e. positivist] criteria the realist criteria are more demanding; characteristically instrumentalists only worry about the outputs (usually predictions) of their theory, not the inputs (assumptions, categories), and hence instrumentalists are wholly undisturbed by the possibility of getting the right answers for the wrong reasons (p. 70).

Table 1 summarizes the key differences between positivism and critical realism.

Table 1: Key differences between positivism and critical realism

	Positivism as practiced in U.S. political science	Critical realism
What is the ontological status of facts or events? Do facts or events exist?	Facts or events are the material of which social life consists.	Facts or events exist. But they are merely actualizations of underlying causal mechanisms. If an event occurs, this is because an underlying causal power interlocked with an underlying causal liability and launched a causal mechanism.
What is the epistemological status of facts or events? Can facts or events speak for themselves?	Yes. The researcher's sense impression gives him or her direct access to facts or events.	No. Between a fact or event and the researcher's sense impression are cultural lenses that condition the way in which the researcher interprets the event. The researcher must therefore be on the lookout for the ways in which cultural conditioning shapes his or her research.
	Note that this distinction between positivists and realists is a matter of degree. There are positivist researchers who are very meticulous about noting that they may have cultural biases. However, in critical realism the influence of cultural lenses is addressed much more forcefully than is the case in positivism.	

What is the ontological status of causal mechanisms, causal powers, and causal liabilities? Do they exist?	Causal mechanisms, causal powers, and causal liabilities do not exist.	Causal mechanisms, causal powers, and causal liabilities exist, and they are the determinants of facts or events.
What is the epistemological status of causal mechanisms, causal powers, and causal liabilities? Does their investigation advance scientific knowledge of the world?	Since causal mechanisms, powers, and liabilities do not exist, they play no part in the scientist's acquisition of knowledge.	Causal mechanism, powers, and liabilities are the primary focus of scientific investigation.
What is the ontological status of stratification? Does stratification exist?	Stratification does not exist.	Stratification exists. Thanks to stratification, the world exhibits emergent causal powers and liabilities. An organization, for example, has causal powers that its component parts – the individuals in the organization – do not have even when aggregated.
What does theory look like?	Theory expresses correlations among facts or events in law-like statements	Theory explains the conditions under which causal powers, liabilities, and mechanisms give rise to facts or events.
What is the explanatory goal of the researcher?	Create a theory, that is, express correlations among events in law-like statements.	Create a theory, that is, explain what causal powers and liabilities give rise to events.
To what extent to researchers focus on theory creation? To what extent to they focus on theory testing?	There is very little attention to theory creation. The training of political scientists focuses primarily on theory testing.	There is heavy emphasis on theory creation. There is – as yet – little focus on theory testing.

CASE STUDY RESEARCH IN AMERICAN POLITICAL SCIENCE

Political scientists in the U.S. employ numerous methodological approaches to do original research, including ethnography and post-structural.[9] Nevertheless, it is possible to discern a paradigm that clearly dominates the discipline. Based on a positivist ontology and epistemology, it ranks research projects by the extent to which they produce knowledge about laws governing the world (King, Keohane & Verba, 1994).

Researchers who apply quantitative techniques are held in high regard. In fact, a majority of political scientists believe that quantitative analysis is more credible than case study research. This perception may be due to the fact that case studies under the deductive-nomological model are difficult to realize, whereas inferential statistics is guided by highly standardized and seemingly straightforward prescriptions. It may also have to do with a bias toward large numbers: given that positivism has an atomist understanding of objects and cares little about their unique, internal make-ups, a research project that bases its conclusions on a sample size of one thousand must be superior to one that is derived from a small sample of three, even if the latter examines the internal workings of each case in depth. It should come as no surprise, then, that most Ph.D. programs make inferential statistics an obligatory part of their curriculum. Meanwhile, qualitative methods are taught much more rarely.

Within the qualitative camp, those studies that employ variables, discern patterns and explore covariations are held in higher regard than those that opt for hermeneutical analysis or the deconstruction of texts. By the same token, studies that use examined cases to shed light on other, unexamined cases are considered superior to studies that analyze a case simply to understand it better. Flagship journals such as the *American Political Science Review* reflect these disciplinary values.

In the following sections, I will discuss the state of qualitative methodology in greater detail. To order the discussion, I will distinguish case study research that falls under the deductive-nomological (D-N) model of scientific inquiry from that research which implements the inductive-statistical (I-S) model. [10] I will also show that in recent years authors have imported a number of concepts into their works that are integral parts of critical realism. Nevertheless, they continue to stress their grounding in the dominant, positivist, paradigm. This, I will argue, is a perilous strategy.

The Deductive-Nomological Model

According to the Encyclopædia Britannica Online (2009),

> as originally applied to history by Carl Hempel, [the deductive-nomological theory of explanation] amounted to the claim that explaining a given historical occurrence in terms of some other event or set of events necessarily involves an appeal, which need not be more than tacit, to laws or general

> propositions correlating events of the type to be explained with those of the kind cited as its causes or conditions.

John Stuart Mill, a nineteenth-century scholar, provided political scientists with a template for arriving at such laws. Mill developed five distinct methods for drawing conclusions about the causal connection among variables. Two of these, the method of agreement and the method of difference, have become a staple of comparative politics, thanks in part to the work of Przeworski and Teune (1970), who advanced their practice considerably.[11]

The method of agreement goes as follows. Specify a set of variables that might cause change in the dependent variable of interest. Try to find two cases that have the same value on the dependent variable but differ on all independent variables except variable x_1. If such a case can be found, we have reason to infer that variable x_1 is the cause of change in the dependent variable.

The method of difference proceeds as follows. Specify a set of variables that might cause change in the dependent variable of interest. Try to find two cases that have a different value on the dependent variable and have the same value on all independent variables except variable x_1. If such a case can be found, we have reason to infer that variable x_1 is the cause of change in the dependent variable.

Mill's method, which imputes causality by observing constant conjunction, has come under some criticism from within the positivist paradigm. For even if one believes that constant conjunction can be equated with causality, Mill's method, if applied to causal relations of equifinality, multifinality, conjunctural causation, or other kinds of causal complexity, may mistake a spurious correlation for one that is truly causal in the positivist sense.[12] Furthermore, generalization using this method is only possible to other cases that meet the scope conditions of the test case. [13]

Lijphart (1971) introduced an extension of Mill's method, which leverages the lapse of time.[14] Here the researcher splits one case into two by taking temporality into account. Let us assume that we are interested in the causes of revolution in authoritarian countries. As potential independent variables, we specify external financial shocks, ethnic cleavages and size of the agricultural sector. Let us further assume that country A just experienced an external financial shock. The method of difference can therefore be applied by treating country A as two cases: the first case is country A before the shock, the second case is country A after the shock. This variation on the method of difference has the advantage that all potential independent variables remain constant, leaving only the variable of interest, 'external financial shock,' to vary. If country A experiences a revolution shortly after the financial shock has occurred, we have reason to conclude that for authoritarian countries, external financial shocks cause revolution.

Being an extension of Mill's method, the before-after design suffers from the same weaknesses as the standard version of the method. Similar critiques apply to another extension of Mill's method, the counterfactual case or mental experiment.[15]

Charles Ragin developed yet another extension of Mill's method. It is called 'Qualitative Comparative Analysis' (QCA). QCA relies on a small number of cases, which are understood as 'configurations of aspects, conceived as combinations of set memberships' (Ragin, 1999, p. 1225). The researcher plots various possible combinations of conditions, together with the number of cases that conform to each combination, in a truth table, then extracts those combinations of factors that are sufficient for bringing the outcome about.

A recent modification of Ragin's QCA is his fuzzy set analysis (2000). While in QCA a case is either in a set or out of it (e.g., a country either is a middle-income country or it is not), membership in a fuzzy set may be partial (e.g., a country is either fully democratic, or it is more democratic than not, or it is more non-democratic than democratic, or it is not democratic at all).

The advantage of QCA is that unlike the standard version of Mill's method, it allows for equifinality and conjunctural causation. According to Ragin (1999), use of QCA is not confined to deterministic models of causation, but it can be used probabilistically as well (p. 1233). George and Bennett (2005), however, argue that Ragin faces 'the same problem that Mill confronted: the challenge of reconciling his nondeterministic view of causality with the determinism necessary to make QCA effective' (p. 162).

The Inductive-Statistical Model

The D-N model controls all variables but the one that may cause an outcome. In doing so, it seeks to isolate the causal variable with certainty. In a successful D-N explanation, the conclusion is therefore certain if the premise is met. The I-S model is a different beast. It employs statistical generalization to gauge the probability of generating the conclusion if the premise is met. The I-S model dominates American political science in the guise of quantitative research.

Within the qualitative camp, Gary King, Robert Keohane and Sidney Verba set out to improve the state of case study research. Published in 1994, their influential book *Designing Social Inquiry* transposes statistical concepts such as 'standard deviation' or 'multicollinearity' from quantitative to qualitative research. Under the heading 'two styles of research, one logic of inference,' the authors assert that the difference between qualitative research and inductively-statistical quantitative research is one of style and technique, but that causal inference follows the same underlying logic (p. 3). The approach they suggest for getting at causal relations consists in estimating the mean causal effect independent variables have on the dependent variable of interest (pp. 78-82). Alternatively, they suggest hypothesis tests that evoke regression analysis.

Not surprisingly, the advice that the authors offer to case study researchers parallels that given to scholars engaged in inferential statistics. Most importantly for the purpose of this discussion, they urge the analyst to maximize the number of observation points. Because causal inference is strictly based on the observation of covariation, a research design in which the number of independent variables exceeds the number of observation points will remain indeterminate (p. 119). In other words, King, Keohane and Verba warn us of the small-N problem.

Their approach to qualitative methodology has had profound effects on discussions about qualitative methodology, and their book quickly became a staple in doctoral programs. For the first time, it seemed, did political scientists have a systematic yardstick for judging qualitative research. Meanwhile, those scholars who believed that the in-depth analysis of cases had merits that could not be reduced to regression coefficients voiced their dissatisfaction. Not only did they find that King, Keohane and Verba misconstrued the challenges that their specific kind of inquiry faced. In addition their emulation of quantitative techniques reinforced the prevailing belief that inferential statistics was the model of sound social science research, and that qualitative methodology was at best an inferior substitute.

In 2004 a number of methodologists responded to *Designing Social Inquiry* with a book that was fittingly titled *Rethinking Social Inquiry* (Brady and Collier, 2004). Contributors to the volume critiqued King, Keohane and Verba from numerous angles. To name only one example, Brady refers to their book as a good 'homily' for graduate students. He then explains that inferential statistics had been designed for experimental research, where the analyst could ensure independence of observations (Brady 2004, pp. 59-60). The social sciences, however, are largely non-experimental and social scientists have no way of making sure that the independence requirement is met. Consequently, inferential statistics as it is practiced by political scientists is deeply flawed, and qualitative researchers should not be pushed to abide by its standards. [16] In my own view, one of the greatest shortcomings of *Designing Social Inquiry* is that the authors have failed to define causation.[17]

Hybridity: Causal Mechanisms with an Empiricist Ontology

Positivist works that seek to glean causal inference from constant conjunction continue to dominate thinking on case study methods (Lieberman, 2005; Gerring, 2007; Coppedge, forthcoming). Over the recent years, however, findings about causal complexity have challenged the ability of covariationally-inclined research to arrive at constant conjunctions that can claim to be non-spurious. In addition, new works on path dependence have questioned the ability of the social sciences to arrive at laws that apply across large numbers of cases (Mahoney, 2000; Pierson, 2003).

This has led to frustration among leading qualitative methodologists. In his introduction to the 2006 special issue of *Political Analysis*, Goertz (2006) captures their sentiments when he says,

> This special issue is centrally concerned with the theme of causal complexity. There is widespread feeling cutting across both qualitative and quantitative methods that standard, additive-linear-in-variables statistical methods often do a poor job (p. 224).

Seeking to overcome the problems that qualitative inquiry faced, several scholars organized a section on qualitative research at the American Political Science Association.[18] Its purpose was to legitimize, promote, and improve qualitative research. In addition, they established the Consortium on Qualitative Research Methods. Housed at Syracuse University, its centerpiece is an annual training institute, at which Ph.D. students from high-ranking research universities are exposed to the cutting edge in qualitative political science methodology.

Through this venue, methodologists have debated ways of systematizing qualitative inquiry that transcended *Designing Social Inquiry*. A growing number of scholars have proposed that researchers leverage information about the context in which a case is embedded and strengthen causal inference by supplementing traditional cross-case research by means of within-case analysis. Cases are no longer strictly viewed as data points that allow the investigator to measure the value of a variable. Instead, the internal make-up, or structure, of a case is to be examined. The goal is to understand what it is about the case that makes it perform in such-and-such a way.

The result of this has been philosophical hybridity. The literature that has grown from the debate continues to profess its grounding in the positivist ontology of the mainstream. But it uses concepts that are not at home and have no place in positivist philosophy. Terms that mark hybrid scholarship are ‘within-case analysis’, ‘causal process observation’, ‘causal process tracing’, and, importantly, ‘causal mechanism.’ In the following, I want to discuss a few of these works and examine in what sense they constitute hybrids.

Case Studies and Theory Development in the Social Sciences: The first study that I want to discuss is the volume *Case Studies and Theory Development in the Social Sciences* by George and Bennett (2005). Among those works that seek alternatives to *Designing Social Inquiry*, it is in many ways the most innovative.

To begin with, the volume is motivated by the authors’ dissatisfaction with the D-N model of inference. In its stead they suggest theories of causal mechanisms (George & Bennett, 2005, pp. 128-129). What are causal mechanisms in their view? George and Bennett define them in a rather rudimentary fashion as ‘independent stable factors that

under certain conditions link causes to effects' (p. 8). In a strange move, they locate these mechanisms at the level of epistemology rather than that of ontology (p. 129).

To get at causal mechanisms, they advance the method of typological theorizing. A combination of the traditional cross-case comparison and the newer idea of process tracing, typological theorizing is said to lend itself both to testing and to building theories about such mechanisms (p. 129 and p. 149).

At least when building theory, the goal of typological theorizing seems to be the creation of typological theories. These are defined in the following two statements:

> Typological theories . . . seek to identify the various causal mechanisms and pathways that link the independent variables of each 'type,' or cell in a typology, with its outcome (p. 234).

> [A typological theory is defined] as a theory that specifies independent variables, delineates them into the categories for which the researcher will measure the cases and their outcomes, and provides not only hypotheses on how these variables operate individually, but also contingent generalizations on how and under what conditions they behave in specified conjunctions or configurations to produce effects on specified dependent variables (p. 235).[19]

Since the method of typological theorizing subsumes process tracing, the question arises what process tracing is all about. Here, George and Bennett state that it is a strategy that

> attempts to trace the links between possible causes and observed outcomes. In process-tracing, the researcher examines histories, archival documents, interview transcripts, and other sources to see whether the causal process a theory hypothesizes or implies in a case is in fact evident in the sequence and values of the intervening variables in that case (p. 6).

This sketch tells us a number of things. First, typological theorizing aims at identifying causal mechanisms. Second, process tracing is part and parcel of typological theorizing. Third, process tracing aims at identifying causal processes.

Case Studies and Theory Development in the Social Sciences contains several very interesting ideas that are worth exploring in greater depth. As things stand, however, the work expresses the philosophical hybridity that marks the current methodology debate in the U.S., and it may well hinder its progress. The main weakness of the book is that the authors transpose causal mechanisms from scientific realism into a disciplinary debate that is avowedly positivist, and they fail to explain how mechanisms can fit into

the positivist paradigm. This contradiction manifests itself in various guises, of which I want to discuss two.

First, George and Bennett fail to make clear how variables, mechanisms, and processes relate to one another. Frequently, such as on page 111, they mention realist mechanisms and positivist variables in one and the same sentence. But then, when is a thing a variable, when is it a mechanism? Can mechanisms turn into variables and vice versa? And given that process-tracing is designed to get at causal mechanisms yet uncovers causal processes, are causal processes one and the same as mechanisms? Or are causal processes variables? None of this is explained. The authors' dual definition of typological theories (see above) leads to similar questions. According to the definition, a typology consists of variables, yet the goal is to discern mechanisms.

Second, George and Bennett confuse questions of methodology with those of epistemology and ontology. For example, they explain that their volume draws on advances in scientific realism (p. 8). In doing so they allude to the existing debate in the philosophy of science that concerns the ontological and epistemological foundations of scientific inquiry. They go on to draw distinctions between positivism and realism when they say that causal mechanisms are epistemologically (why not ontologically?) different from positivist laws (pp. 128-129). Epistemology arises on top of ontological foundations, and methodology arises on top of epistemological assumptions. Therefore, if paradigms differ epistemologically, we should conclude that their methods will differ as well. Contradicting this rule of thumb, however, George and Bennett assert that the case studies that are used to impute the epistemologically distinct causal mechanisms share a similar epistemological logic with the statistical methods that search for laws (p. 6). How can this be?

By confusing matters of methodology with those of epistemology and ontology the authors create the false impression that the difference between mechanism-oriented case study research and statistical research is really not all that great. This leaves positivist scholars in the comfortable but mistaken belief that truly realist research that employs causal mechanisms can be judged by the same measuring rod that positivist scholars apply to their own work. For critical realists this belief is fatal. The conception of science to which the positivist majority adheres bases causal inference on the detection of covariation and, as a consequence, variables. Since positivist research without variables cannot lead to inferences of any kind, it must be considered poor. Realist causal inference, however, is not based on covariation but the discovery of causal powers, liabilities, and mechanisms. Hence variables are of little use. If positivist scholars are convinced that mechanism-oriented research is just about the same as D-N or I-S research, they will discard realist work, simply because it does not contain variables!

All in all, the idea of causal mechanisms forms an integral part of scientific realism, and in particular critical realism. It emerges naturally out of this paradigm's ontology and gives rise to methodological prescriptions that are quite different from

positivist hypothesis tests. How mechanisms can fit into an empiricist ontology that does not admit the existence of powers and liabilities at the level of the real, is not clear. George and Bennett try to combine philosophical ideas which may just be incompatible.

Other Studies: There are numerous other studies that share the hybridity of George and Bennett. An example is Munck (2004), who first agrees with the positivist idea that there is such a thing as a 'small N problem', but then goes on to talk about realist causal mechanisms and causal processes (pp. 106-112).

Another hybrid is the essay 'Sources of Leverage in Causal Inference' (Collier, Brady & Seawright, 2004). Meant to summarize the message contained in *Rethinking Social Inquiry*, it states that 'a causal-process observation is an insight or piece of data that provides information about context or mechanism and contributes a different kind of leverage in causal inference (p. 252).' In introducing mechanisms without explaining exactly where they have a place, the authors run into the same pitfalls that characterize the work of George and Bennett.[20]

It seems that many qualitative methodologists put their hope in causal process observations. Yet, trying to hold on to their empiricist roots, they define these observations as chains of intervening variables that link the primary independent variable of interest with the dependent variable that forms the end of the chain. What would John Stuart Mill or Carl Gustav Hempel say if they heard of this? They might point out that in order to be certain that each of the intervening variables actually causes the variable that follows, we must use the comparative method. Unless we do this, we can never be certain that the correlations we observe among the links in the causal chain are indeed causal and not spurious. The fallacy of affirming the consequent looms.

Sneaking good concepts into a philosophy that leaves no room for them is a dangerous strategy. The scholars who follow this practice make themselves vulnerable to criticism from those peers who remain true to their philosophical foundations and call the hybrids on their inconsistency. Nathaniel Beck is one of those peers. He finds that *Rethinking Social Inquiry* fails to dislodge *Designing Social Inquiry* from its eminent position in the discipline, because it does show how causal processes can be observed (Beck, 2006, 350). Beck's charge is on the mark. If measured by positivist standards, talk of causal processes and mechanisms is inconsistent.

CASE STUDY RESEARCH UNDER THE REALIST PARADIGM

The above is an overview of the research strategies that qualitative methodologists in political science recommend to their colleagues in the discipline. As I showed, concepts of critical realism have found their way into the otherwise positivist paradigm, generating confusion rather than clarity. This begs the question how causal inference is done in realism. It should come as no surprise that realist inference differs markedly from inference under positivism.

Its goal is to glean the causal powers, liabilities, and mechanisms of objects or actors. For this purpose, within-case analysis is central. When studying a case – which may be an individual, a state, a society, or a political party – the researcher poses the transcendental question: to what causal powers or liabilities does the object's internal structure give rise? Answering this question provides him or her with the causal powers and liabilities that apply to the case under study. Inference to other, unexamined, cases proceeds by locating cases whose internal structure is identical to that of the case we examined. Because their internal structure is the same, the causal powers and liabilities the object has should also be the same.

An Example from Paleontology

This inferential strategy is not unique to social scientists. It is also practiced in paleontology, a discipline where researchers generate knowledge of prehistoric life forms by investigating fossils. Paleontologists use a range of strategies to learn about bygone ages. For instance, they place fossils into the ecosystem which they know existed at the time and use their understanding of this context to glean the environmental factors that constrained their research object. They also glean a life form's behavior from its internal structure.

Take the example of *Thylacoleo carnifex*. It is called a marsupial lion, because like the (marsupial) kangaroo, it carried its offspring in a pouch. At the same time, it was as big as today's African lion. The *Thylacoleo* lived in Australia during the Pleistocene. Over the recent decades researchers unearthed pieces of fossil, which gave them clues about the shape of the animal. In 2002, a number of experts made a remarkable find. They discovered a complete skeleton of the animal in a cave underneath Nullarbor Plain in Southern Australia. Using various dating techniques, they determined that the skeleton was between 400,000 and 800,000 years old (BBC News 2007). This, however, was only the beginning of their investigation. In 2007, the documentary series NOVA chronicled the analysis of the Nullarbor fossils. According to Rima Chaddha, assistant editor of NOVA Online,

> *Thylacoleo carnifex* held great strength in its legs, but scars indicating that muscles attached low on its thighbones suggest that it probably lacked the flexibility to move at high speed. This has led some paleontologists to posit that the animal carefully stalked its prey like Tasmanian devils and large cats do today, possibly dropping onto its victims from trees (Chaddha 2007).

This excerpt demonstrates that paleontologists used transcendental questions to learn about *Thylacoleo's* causal powers and liabilities. Thanks to the theory of evolution, we know that the animal was not unique but belonged to a large population. Because the internal structure of other members of that population was identical with that of the

specimen found in Nullarbor, we know that they had the same causal powers and liabilities. Note that even though we are dealing with a single case study, where one skeleton is used to draw causal inferences to thousands of animals, the small-N problem that troubles qualitative research in political science does not arise. The reason is that inference is not based on the discovery of patterns, but on the discovery of powers and liabilities, followed by their generalization.

Analysts in political science can appropriate this strategy for their own purposes. Once they have gleaned the causal powers and liabilities that attach to components of a social system, they can proceed to draw conclusions about trends that inhere in the system.

An Example from Political Science

To demonstrate how realism can work in political science, I want to introduce my own study. It is titled *Third World Citizens and the IT Revolution (*Saleh, forthcoming*)*. A central claim of the study is that globalization has had a tendency to change the Third World state in a way that perpetuates global relations of dependency. To support this claim with evidence, I first constructed a theoretical framework. Secondly, I applied it to the development of the IT revolution. In a third step, I applied the concepts of the theoretical framework and of the empirical study of the IT revolution to the case of Egypt. Finally, I drew causal inferences from the Egyptian case to other, unexamined, cases.

From Theory to Case: *First, the theoretical framework.* I developed a theoretical framework that looked as follows. Building on the research of neo-Gramscian scholars of global political economy, I conceived of globalization as the transition from Fordism to flexible accumulation; and I conceived of the information technology (IT) revolution as part and parcel of that larger globalization process. Relying on Berger and Luckmann's (1966) volume *The Social Construction of Reality*, I explained that relations of dependency are mediated by social structure, that is, the combined set of rules and cultural norms that create social roles and the accompanying role prescriptions for individual actors. For example, an individual who plays the role of 'mother' in the United States is expected to protect her child from bodily harm, clothe and feed him, immunize him, ensure that he does not engage in activities that society labels as crimes, and ensure that he is educated in the subjects that society has prescribed as mandatory. By filling the role of mother, an individual thus stands in specific relations to the rest of society. These relations become dependency relations to the extent that the individual who is urged to fill societal roles[21] has disproportionately little input into the shaping of societal roles, for in that case the terms of the human being's engagement with other members of society are disproportionately set by other social actors.

Society may forge roles for individual actors, but how does it ensure that individuals live up to their role expectations? Berger and Luckmann (1966) elaborated on this question. They explained that social structure hails social actors to become role compliant, i.e., fulfill the expectations that are tied to their respective roles. This happens both through the simple presence of societal norms which, as norms, possess compelling character. Enforcement mechanisms that are tied to social structure strengthen the compelling call for role compliance.[22] To use our example, most individuals play the role of mother as required, simply because they know that they are expected to do so. Cases of non-compliance may occur, however, and they will be sanctioned. For example, Child Protective Services will punish the individual who plays a mother role if she neglects her duty to nourish her child.

Second, the development of the IT revolution. In the late 1990s the IT revolution yielded new global rules for administering telecommunications and digital communication networks such as the Internet. My theoretical framework, which stated that dependency is mediated through societal rules, demanded that I trace the development of IT rules, which became part of the world's social structure, and then investigate the kind of dependency they produced. The questions that interested me in particular were these: Which actors had been responsible for developing the new rules of the game? What kind of coercive (or causal) powers did these actors possess? What role prescriptions did the new IT rules entail for Third World states?

After inquiring into the politics of the IT revolution, I found that the new IT rules had largely been forged by states and corporations from the core economies. The rules demanded that states privatize hitherto state-owned telecom operators, abolish national monopolies on telecommunication, and open their telecom sectors to foreign competition. With respect to Internet governance, I found that the new rules of the game privileged the needs of large corporations, encouraging states to put corporate concerns for brand-name protection above free speech rights. The newly emerging rules for IT assigned Third World states the role of IT facilitators. States were to enable private and foreign investment in their IT infrastructure. By properly regulating the IT sector, they would ensure that companies intent on investing in their economy could harness the necessary connectivity.

Third, the case study. The next question to be answered was this: What were the causal mechanisms by which Third World states were pushed towards role compliance? To answer that question, I conducted a case study of Egypt. This case study proceeded in two analytical steps. First, I looked for linkages and interactions of two kinds.

(a) *Linkages or interactions between the Egyptian state and other states or international organizations that had stakes in the enforcement of the IT regime.* For example, the European Union (EU) had professed that it sought to open foreign markets to European exports. The European Commission viewed Internet connectivity and

telecom reform in third countries as important aspects of this process. I therefore investigated whether the Commission and the Egyptian state had any interactions that had to do with the opening of the Egyptian market, with the reform of the Egyptian telecom sector, or with the promotion of Internet connectivity. Among others, I found that Egypt and the European Union were negotiating an association agreement. This agreement promised to open the Egyptian economy to European industrial exports over a period of twelve years. One of the articles of this agreement provided for technical assistance and cooperation on matters related to telecom.

(b) *Linkages or interactions between organizations that operated inside the Egyptian economy and the Egyptian state, on the one hand, and international actors with stakes in the IT revolution, on the other.* For example, Egypt's International Forum, an association of prominent Egyptian entrepreneurs, actively cultivated ties with global corporations and foreign diplomats, and it professed an interest in bringing the IT revolution to Egypt. At the same time, this organization maintained close connections to Egyptian cabinet members. I was interested in such linkages, because domestic actors in Egypt might draw on financial support from international organizations that were responsible for administering the new rules of the game and use this support to lobby the state to obtain IT reform.

In the language of critical realism, my reason for seeking out these kinds of interaction was that such an interaction might constitute an actualization of an underlying causal or enforcement mechanism. To see whether this was indeed the case, I took a second step and asked transcendental questions about the causal powers and liabilities of actors that were involved in these interactions. For example: 'What was it about the European Commission that enabled it to make Egypt promise to open its markets to European exports?' The answer I found lay in the economic dependence of the Egyptian economy on the economy of the EU, which threatened to close its market to Egyptian exports if cooperation was not forthcoming. As the EU market was much larger than that of Egypt, European negotiators had more bargaining power than was the case for their Egyptian counterparts. In the language of critical realism, I could say that the EU's ability to withhold access to its large market (causal power) together with Egypt's need to access the EU market and the indebtedness of the state (causal liability) enabled the EU to pressure the state into signing an association agreement that would open Egypt's market to European exports (causal or enforcement mechanism).

Using this two-step procedure, I discovered a variety of enforcement mechanisms. They pressured the indebted Egyptian state to open its economy to the world market and to become compliant with its new role as IT facilitator. In 1999 the Egyptian state created a ministry for IT. I concluded that this event was to a large extent the actualization of several enforcement mechanisms that operated at the same time. Conjointly, I inferred,

they motivated the state to create a new ministry for IT that promoted foreign investment in the country's IT infrastructure, provided global corporations with one-stop-shopping for their communication needs and ideologically supported Egypt's integration into the global economy.

Generalizing from the Case: The question that arose next was the following: How can findings from the Egyptian case be generalized to other cases? As Berger and Luckmann (1966) explained, social structure creates roles and role expectations not for individual actors, but for types of actors ('girl', 'woman', 'Third World state'). Therefore, social structure addresses individual actors to a large degree as members of a category, or type, and only to a limited degree as unique individuals. It then hails them to fulfill the role expectations that are associated with their type.

As my own methodological innovation, I decided to invert this logic and thereby arrive at generalization or causal inference from the examined case to other, unexamined, cases. The four-step procedure which I devised entailed the following prescriptions. First, study one single member of a type. Examine the connections that exist between it and social structure and that have the potential of constituting an actualized causal mechanism. Then glean the causal mechanism by asking transcendental questions about the causal powers and liabilities of the actors involved. This process was discussed above.

Second, ask yourself: As member of what type is the enforcement mechanism addressing the actor? For example, in negotiating an association agreement with the Egyptian state, the European Commission addressed the state as a member of the type 'Southern Mediterranean partner of the EU.' Very likely, the Commission would approach other members of the type in the same manner it approached Egypt.

Third, ask yourself what other members the identified type contains. For example, the type 'Southern Mediterranean partner of the EU' contained the following other members: Algeria, Tunisia, Morocco, and about seven other states. All of these states signed association agreements with the EU. These agreements resembled one another closely, as the Commission was working from a template agreement, which it then fine-tuned for the particular circumstances of each partner country.

Fourth, draw the inference that the specific enforcement mechanism gleaned from the one case you studied will apply to the other social actors whom you have identified as members of the same type. To the extent that their membership in the type is imperfect, the mechanism will apply only imperfectly.[23] With respect to our example, we can conclude that for each of the Southern Mediterranean states, the EU's ability to withhold or curb market access (causal power) together with the need for access to the EU market of the Southern Mediterranean state and the indebtedness of the state (causal liability) enabled the EU to pressure the state into signing an association agreement that would open its domestic market (causal or enforcement mechanism). We can also say that the

mechanism applied more perfectly the greater the debt of the Southern Mediterranean state was.

In sum, it is entirely possible to study one member of a type and learn a great deal about all other members. The kind of generalization is different from the kind that is possible under positivism. A positivist generalization contains variables, and it consists of correlations, often of a probabilistic character. A realist generalization, on the other hand, contains mechanisms and statements about the context in which they can be expected to operate. Together, these mechanisms denote tendencies that are inherent in the social system under study. My research, for example, discovered that globalization and the IT revolution had the tendency to perpetuate relations of dependency by pushing peripheral states to comply with rules of the game in the making of which they were not involved.

CONCLUSION

Critical realism presents a paradigmatic alternative to positivism. Instead of cherry-picking this philosophy's ideas and transposing them into a context in which they do not make sense, qualitative methodologists ought to question their ontological foundations and their views on causation. Once this is done, they will be in a position to decide whether they want to hold on to causal mechanisms or to the positivist measuring rod. Both is not possible.

Putting effort into understanding critical realism will pay off, because it will yield interesting new research strategies and methodological insights. Those scholars who prefer the ideas of Mill, Hempel, and Popper, will continue to engage in correlational analysis. But those colleagues whom positivist assumptions do not satisfy will have access to an alternative philosophical position that can guide their inquiry.

Importantly, by carrying out realist work, they do not need to depart from the discipline's central quest for leverage through causal inference from examined cases to unexamined cases. Critical realism lends itself to this kind of research. At the same time, it can support idiographic analysis. It is superior to positivism in providing analytical tools for those projects that conceive of the world as an integrated system and seek to explain its trends.

Although the preceding analysis has focused on a debate that is at home in political science, it offers a number of lessons to those scholars who are active in its sister disciplines. To begin with, the invitation to engage with critical realism is not an exclusive one. If political scientists accept it, this will be progress. If scholars from related disciplines – such as sociology, anthropology, globalization studies, history – decide to explore the possibilities that realism has to offer, that will be even better. In fact, the more academics engage with realism – building on its foundational assumptions, critiquing its concepts, honing the methodologies that flow from it – the sturdier this paradigm will become, yielding rich, new research advice. Keep in mind that realism is

still young and its promise still partly hidden. It will benefit from the labor of minds committed to its development.

At a more general level, this study asks that the social sciences do a better job tying the discussion of philosophical foundations to their graduate methodology training. In political science, and quite possibly in its sister disciplines, methodology is taught without reference to the ontological premises that legitimate it. Because of this omission, doctoral students and junior academics often fail to understand that in order to critique a method that operates within a new philosophical framework, they need to attack the philosophical framework. They cannot apply the methodological standards that make sense in their own, established, philosophical position to the new method. And yet, that is what so frequently happens.

Lastly, this study is a call for the openness of the social sciences. As I just stated, methodology must be evaluated by the extent to which it reflects the foundational assumptions that gave rise to it in the first place. These assumptions, however, can typically not be proven or refuted. Because this is the case, social scientists should practice epistemological pluralism and allow different paradigms to exist side by side. At least, that is, until the philosophers of science have figured out what the one, true, position is.

Footnotes:

1. A lesser known American methodologist who discusses critical realism is Lane (1996). Critical realism is also discussed in Topper (2005). Some of Bhaskar's ideas are mentioned in Wendt (1999, p. 69).

2. Following their approach, I define a case study as a study that seeks to draw causal inferences from examined to unexamined cases.

3. George and Bennett (2005, pp. 17-18) embrace this positivist outlook when they define the object of their research as events. Specifically, they define a case as 'an instance of a class of events. The term 'class of events' refers here to a phenomenon of scientific interest, such as revolutions, types of governmental regimes, kinds of economic systems, or personality types that the investigator chooses to study with the aim of developing theory (or 'generic knowledge') regarding the causes of similarities or differences among instances (cases) of that class of events.' Later in this essay, I will argue that their study exhibits philosophical hybridity.

4. These linkages are generated by asking transcendental questions and engaging in retroduction. How this is done is discussed below.

5. Note that while Sayer talks about causal liabilities, Collier (1994) does not.

6. One reason for this is that in the open systems that form the subject of study for the social sciences, patterns, or correlations among variables, do not necessarily tell us what mechanisms are at work producing the observed outcome. Moreover, causal powers and liabilities may co-exist without ever giving rise to patterns. For a discussion of these points, see Patomäki (2002, p. 76).

7. For examples of such analysis, see Patomäki (2002, chapters 7 and 8).

8. Collier (1994) quotes Bhaskar as saying, 'Typically . . . the construction of an explanation for . . . some phenomenon will involve the building of a model . . . operating under the control of something like a logic of analogy and metaphor, of a mechanism, which *if* it were to exist and act in the postulated way would account for the phenomenon in question.' (p. 163). According to Collier (1994), Bhaskar calls this movement of thought 'retroduction.'

9. An example of ethnography is Laitin (1986). An example that combines ethnography and poststructural analysis is Wedeen (1999).

10. Some works, such as that of Charles Ragin, offer inferential strategies both under the D-N and the I-S models. I have subsumed Ragin's contribution under the D-N model.

11. See also Hall (2003). A good example of a work that uses the comparative method is Anderson (1986).

12. Equifinality exists when change in the dependent variable can be caused by various independent variables. For example, wealth may be caused by a high level of education, but alternatively, it may be caused by hard work. See King, Keohane, and Verba (1994, p. 87). According to George and Bennett (2005), multifinality exists when an independent variable can cause several different values on the dependent variable (pp. 9-13). Another kind of causal complexity, which combines elements of conjunctural causation and equifinality, is the so-called INUS cause. See for this Mahoney and Goertz

(2006). They say that an INUS cause 'is neither individually necessary nor individually sufficient for an outcome. Instead, it is one cause within a combination of causes that are jointly sufficient for an outcome' (p. 232). For a good discussion of Mill's method and its limitations, see George and Bennett (2005, pp. 153-157).

13. For a definition of scope conditions, see Mahoney and Goertz (2004, p. 660). Scope conditions can be understood as a subset of the antecedent conditions mentioned by White (1971) in his definition of a covering law.

14. Following established practice in experimental research, George and Bennett (2005) call it the before-after design (p. 166).

15. For a discussion of the counterfactual case, see George and Bennett (2005, pp. 167-170).

16. For a similar argument in sociology, see Goldthorpe (2001).

17. Even though an entire chapter in *Designing Social Inquiry* is dedicated to causality and causal inference, and even though a section in this chapter is titled 'Defining Causality,' the authors fail to give a definition of causation. Instead, they define what they mean by 'causal effects.' See King, Keohane and Verba (1994, section 3.1).

18. In the fall of 2007, the section received a new name. It is now the section on qualitative and multi-method research.

19. Note that typological theories, according to these two statements, consist both of (positivist) variables and of (realist) causal mechanisms.

20. Bennett and Elman's (2006) study on complex causal relations also combines concepts from positivism and realism.

21. Note that each individual plays various different roles at once. For example, an individual can at once be mother, student, employee, and daughter.

22. If we translate the language of Berger and Luckmann into the language of critical realism, an enforcement mechanism becomes a causal mechanism.

23. Even though the EU has named Israel a Southern Mediterranean partner of the EU, the state enjoys a special relationship with the EU. The EU may therefore have addressed Israel as a unique individual rather than a member of a type. Consequently, the enforcement mechanism may not have been at work in the case of Israel.

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