

# **DIRECTIONAL RELATIONSHIP AMONG ONTOLOGY, EPISTEMOLOGY, AND METHODOLOGY IN SOCIAL SCIENCE RESEARCH: AN ILLUSTRATION WITH THE CONCEPT OF POWER**

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***Abstract:** One's views about the nature of reality and knowledge are likely to influence his sense of rationality, his idea of values and ethics, his understanding of institutions and their relation with human behavior, and the methods he thinks appropriate to study social phenomena to explain or predict human activity in social and political spheres. The paper, against this backdrop, aims at explaining how ontology and epistemology are related to methods (in terms of explanation and prediction) using example of how different ontological and epistemological perspectives affect the conception of power and the methods that are followed to study the nature and role of power in a society. Following Colin Hay and Jonathan Grix's theses of directional relationship among ontology, epistemology, and methods, the paper attempts at demonstrating how this relationship works in practice with an example of different conceptions of 'power' – understood differently in different ontological and epistemological traditions resulting in different methods of studying it. A sound comprehension of this relationship would help to be clear about the aims of our research, comprehend and indulge in theoretical debates and different approaches to social phenomena in our writings, and better understand internal inconsistencies in arguments of our own research and that of others.*

## **Introduction**

Concepts in social sciences are interwoven to bring forth different shades of social science fabric. One's position on a concept is shaped, if not determined, by his views on other concepts, and in

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turn, his position on that concept shapes his views about others. One's views about the nature of reality (ontology) and knowledge (epistemology) are likely to influence his sense of rationality, which, in turn, is likely to shape his idea of values and ethics (universal or contextual), how he understands power (one, two, three, or multidimensional), his understanding of institutions (set of formal rules or repetitive human behaviors prevalent in a society) and how human behavior relates to his conception of institutions, and the methods he thinks appropriate to study social phenomena to explain or predict human activity in social and political spheres. It is, therefore, unlikely that an anti-foundationalist, constructivist, post-modern scholar would like to develop a universally applicable predictive theory of crime; or a hardcore positivist would like to explore and 'explain' hidden structures in a society (e.g., patriarchy or informal power structures).

This paper aims at explaining how ontology and epistemology are related to methods (in terms of explanation and prediction) using example of how different ontological and epistemological perspectives affect the conception of power and the methods that are followed to study the nature and role of power in a society. In order to do that the paper would:

1. First, attempt at defining the concepts ontology, epistemology, and methods;
2. Second, try to explain how these concepts are interrelated following Colin Hay and Jonathan Grix's thesis of a directional relationship of ontology and epistemology with methods;
3. Third, try to demonstrate how this relationship works in practice with an example of different conceptions of 'power' – understood differently in different ontological and epistemological traditions resulting in different methods of studying it.

## Ontology and Epistemology

**Ontology:** Ontology is “theory of being.”<sup>1</sup> It is a central concern of metaphysics – a philosophy of reality or being. Parmenides, a pre-Socratic Greek philosopher, is considered the founder of the concept as he expressed his claim about universality of ‘being’ in his poem: “whatever you can call by any name, whatever you can think of, must be.”<sup>2</sup> For the purpose of this paper, we’ll take Norman Blaikie’s definition: “Ontology refers to the claims or assumptions that a particular approach to social [or, by extension, political] enquiry makes about the nature of social [or political] reality – claims about what exists, what it looks like, what units make it up, and how these units interact with one another.”<sup>3</sup>

Ontological position of any social scientist consists of his or her answers to these questions: What exists that we can know about? What is the nature of the social reality? Is social reality out there independent of our thought about it or does it depend on our knowledge of it? Answers to these questions result in a continuum of ontological positions ranging from essentialist, foundationalist, or positivists claiming existence of reality independent of our knowledge about it to anti-foundationalist that argue for social construction of social reality, having realists and others somewhere in between the two extremes.

**Epistemology:** Epistemology is “theory of knowledge.”<sup>4</sup> It is generally believed that the concept of epistemology was also first expounded by Parmenides by making systematic distinction between

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<sup>1</sup> David Marsh and Paul Furlong, “A Skin not a Sweater: Ontology and Epistemology in Political Science,” in *Theory and Methods in Political Science*, eds. David Marsh and Gerry Stoker (New York: Palgrave Macmillan, 2002), 18.

<sup>2</sup> Anthony Kenny, *A New History of Western Philosophy* (New York: Oxford University Press, 2004), 1:199.

<sup>3</sup> Norman Blaikie, *Approaches to Social Enquiry* (Cambridge: Polity, 1993), 6, quoted in, Colin Hay, *Political Analysis: A Critical Introduction* (New York: Palgrave Macmillan, 2002), 61.

<sup>4</sup> Marsh and Furlong, “Skin not a Sweater, 19.

knowledge and belief.<sup>5</sup> Some degree of belief is normally at play in what we know about the world around us. The relation between knowledge and belief can be either causal or constitutive.<sup>6</sup> Epistemological debates revolve around one or more of the following three questions: What is knowledge, what can we know, and how do we know what we know?<sup>7</sup> For the purpose of this paper, we'll again take Norman Blaikie's definition: Epistemology refers to "the claims or assumptions made about the ways in which it is possible to gain knowledge of reality."<sup>8</sup>

Epistemological position of a social scientist consists of the answers to abovementioned three questions and helps him prefer one explanation of social or political phenomenon over other available explanations. It determines the degree of certainty one claims for his analyses and conclusions. It also determines one's understanding of the extent of generalizability of his conclusions beyond the context of original study. The epistemological positions, like that of ontology, form a continuum ranging from positivists to interpretivists having realists and others in between.

### **Methods (Explanation vs. Prediction)**

Terms methods and methodology are interchangeably used in research literature for explicitly predefined ways of inquiry that supposedly earn validity for the findings. However, they are not synonymous; as "[Methodology] provides a sense of vision, where it is that the analyst wants to go with the research. The techniques and procedures (method), on the other hand, furnish the means for bringing that vision into reality."<sup>9</sup> In short, science or philosophy of

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<sup>5</sup> Kenny, *Western Philosophy*, 1:145.

<sup>6</sup> Keith Hossack, *The Metaphysics of Knowledge* (New York: Oxford University Press, 2007), 1–31.

<sup>7</sup> John Greco and Ernest Sosa, eds., *The Blackwell Guide to Epistemology* (Malden: Blackwell Publishers Inc., 1999), 1–32.

<sup>8</sup> Blaikie, *Social Enquiry*, 6–7, quoted in, Hay, *Political Analysis*, 62.

<sup>9</sup> Anselm L. Strauss and Juliet M. Corbin, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (New Delhi: Sage Publications, 1998), 8.

studying how a research is carried out ‘scientifically’ is known as research methodology.<sup>10</sup> Methodology is like deciding what is it that we want to make a building for (a cinema, hotel, school, or house); whereas methods are the techniques and skills that are required for woodwork, electric wiring, sanitary, and so on in a building for which methodology has already decided what it is going to be. For the purpose of this paper, we use the term methods as a synonym of methodology, and our main concern is the outcome of methodology in terms of predictive or explanatory theory.

The underlying purpose of following a research method is to make research ‘scientific’. This scientism is primarily understood as prevalent in natural sciences especially physics.<sup>11</sup> King et. al., while presenting the characteristics that they consider necessary for any research to be ‘scientific, declare that scientific research is “an ideal to which any actual quantitative or qualitative research, even the most careful one, is only an approximation.”<sup>12</sup> The characteristics they outline are:

1. goal of scientific research is inference,
2. procedures are public,
3. conclusions are uncertain, and
4. content is the method<sup>13</sup>

The concept of power is not being defined here because that is what last part of the paper would deal with. The following section attempts are demonstrating how these concepts shape and influence

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<sup>10</sup> Pradip Kumar Sahu, *Research Methodology: A Guide for Researchers in Agricultural Science, Social Science and other Related Fields* (New Delhi: Springer, 2013), 3.

<sup>11</sup> Fritz Machlup, “Are the Social Sciences Really Inferior,” in *Readings in the Philosophy of Social Science*, eds. Michael Martin and Lee C. McIntyre (Cambridge: MIT Press, 1994), 5–19.

<sup>12</sup> Gary King, Robert O. Keohane, and Sidney Verba, *Designing Social Inquiry: Scientific Inference in Qualitative Research* (Princeton, NJ: Princeton University Press, 1994), 3–31.

<sup>13</sup> *Ibid.*, 7–9.

each other while they interact in theory and practice of social research.

For the purpose of this paper, we are concerned with only first characteristic of scientific research (i.e., goal of scientific research is inference). The inference of scientific research can be of explanatory or predictive nature. Those favoring predictive theory normally practice quantitative methods; while those who favor explanation, practice qualitative methods; and then there are those who are of the view that explanation is prediction – pattern prediction as against case prediction.<sup>14</sup> We, for the purpose of this paper, would divide methods in two types based on the form of their intended inference – explanation or prediction.

### **Philosophical Foundations and Methods: Interaction of the Concepts**

Ontology and epistemology serve as foundations for the whole edifice of social science. They provide core assumptions that underlie an academic research by informing the choice of research questions, methods of inquiry, ‘valid’ sources of information, and the form of theory produced as a result of research process. Research methods (explanation vs. prediction) are not only related to ontological and epistemological positions of the researcher but are supposedly, in most part, determined by them.

There are two approaches as to whether or not social scientists have specific ontological and epistemological positions which determine their orientation towards their subjects and thereby shape their choice of methods and their understanding of the function of theory. Clough and Nutbrown consider it ‘endlessly reinventing the wheel’ to elaborate ontological and epistemological background of one’s research. They remark, “In our work, we have – during the course of our research careers – worked within both positivist and interpretivist paradigms... The important point here is that we adopt

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<sup>14</sup> Carl G. Hempel, “The Function of General Laws in History,” in *Readings in the Philosophy of Social Science*, eds. Michael Martin and Lee C. McIntyre (Cambridge: MIT Press, 1994), 45–46.

research stances as they are appropriate to our work.”<sup>15</sup> Whereas, Marsh and Furlong are of the view that ontological and epistemological positions are “like a skin not a sweater: they cannot be put on and taken off whenever the researcher sees fit.”<sup>16</sup>

Colin Hay is of the view that these concepts are closely related and have a directional relation in the sense that “ontology logically precedes epistemology which logically precedes methodology.”<sup>17</sup> Jonathan Grix extends Hay’s directional relationship to include methods and sources (ontology – epistemology – methodology – methods – sources).<sup>18</sup> Based on philosophical issues in relation to choice of research methods raised by Guba and Lincoln,<sup>19</sup> John W. Creswell identifies and outlines practical implications of ontological and epistemological positions of a researcher. Guba and Lincoln compared philosophical assumptions of qualitative methods with that of positivist traditions of research; whereas Creswell compared philosophical assumptions of different facets of qualitative methodology among themselves (acknowledging that qualitative research was by then “legitimate in its own right and did not need to be compared to achieve respectability”<sup>20</sup>). He added philosophical assumptions of values and language to that of reality and knowledge (ontological, epistemological, axiological, rhetorical, and methodological assumptions) and presented an analysis of their practical implications for research methods.

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<sup>15</sup> Peter Clough and Cathy Nutbrown, *A Student’s Guide to Methodology: Justifying Enquiry* (Thousand Oaks, CA: Sage Publications, 2002), 30, quoted in, Jonathan Grix, *The Foundations of Research* (New York: Palgrave Macmillan, 2004), 57.

<sup>16</sup> Marsh and Furlong, “Skin not a Sweater,” 17.

<sup>17</sup> Hay, *Political Analysis*, 17.

<sup>18</sup> Grix, *Foundations of Research*, 57–9.

<sup>19</sup> Egon G. Guba and Yvonna S. Lincoln, “Do Inquiry Paradigms Imply Inquiry Methodologies?” in *Qualitative Approaches to Evaluation in Education*, ed. D. M. Fetterman (New York: Praeger, 1988), 89–115.

<sup>20</sup> John W. Creswell, *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (Thousand Oaks: Sage Publications, 2007), 16.

One's answers to questions like what exists, what is its form, what are its units, how they interact, what is the nature of social reality (ontological assumptions) are bound to shape and influence the answers to questions like what and how we can know about the world (epistemological assumptions). One's position on these questions affects his choice of methods that he would like to employ to know what he thinks exists and can be known. It is rather one's position on ontology and epistemology that shapes the very questions he may ask in the first place, how he poses them, and how he sets about answering them. Foundationalists, essentialists, or positivists are primarily predictive in nature when it comes to methods of inquiry – evaluating and estimating relationships between variable X and Y; testing whether X statistically significantly affects Y; and predicting value of Y for a given value of X as well as forecasting future values of Y keeping all else equal. It is because they believe there is an absolute reality out there independent of one's thoughts about it, and that all they have to do is to find ways to get to that reality. Anti-foundationalists, interpretivists, and constructionists, on the other hand, do not aim to predict anything. They, at best, try to explain in detail the context of a social phenomenon and how it constructs human identities. It is because they do not believe in any reality independent of social construction. There is another version which claims that explanation is itself prediction but that is not our concern here for this paper.

Let's take an example of how ontological and epistemological perspectives affect methods (in terms of explanation vs. prediction). Can Western theories of criminal behavior among youth be applicable in Eastern societies like Pakistan? The answer depends on ontological and epistemological position of the person answering the question. Foundationalist ontology and positivist and post-positivist epistemologies identify youth as a natural category of population in any country. They consider deviant behavior a function of biological composition, psychological functioning, or social settings of youth committing crimes; and therefore, would consider these Western theories applicable as well as capable of making 'predictions' about youth in Eastern societies. On the other hand, postmodern traditions question universal occurrence of age categories and consider youth a socially and culturally constructed category. They offer historical

explanations of socially constructed and culturally sustained attributes or expectations attached to age groups and trace social constructions of ‘normal’ as a function of powerful discourses.<sup>21</sup> For them, the answer to our question is in negative. To them, indigenous context of the issue needs to be ‘explained’ in detail to highlight cultural representations of youth and crime in any given society.

### **Power: An Illustration of the Directional Relationship**

In order to further clarify the interplay of abovementioned concepts, let’s take the example of the concept of ‘power’ as it lends itself particularly well to illustrate the importance and impact of ontological and epistemological positions on research methods. It is because power has been understood and defined in myriad ways in commensuration with ontological and epistemological assumptions of the social scientists defining it. On one side of the continuum are positivists or methodological individualists or behaviorists and on the other side are social constructivists or post-modernists. There are many in between the two but for this paper we’ll only discuss the two extremes.

Methodological individualists and behaviorists (having individualist understanding of power) normally have foundationalist ontological position and believe in positivist epistemology. They argue for powerful role of human agency (structure-agency is an ontological concern) and propagate individualist theories of politics conceptualizing power as an ability to do or get things done. Their definition of power has an individualistic orientation as a legacy of modernism. To them, power “influences people to pursue particular objectives or adopt particular norms that direct or order their collective lives.”<sup>22</sup>

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<sup>21</sup> See, for example, Sheila Brown, *Understanding Youth and Crime: Listening to Youth?* (Berkshire: Open University Press, 2005), 4–25. Also see Jock Young, *The Exclusive Society* (London: Sage Publications, 1999).

<sup>22</sup> Leslie Paul Thiele, “Modernity and Postmodernity,” in *Thinking Politics: Perspectives in Ancient, Modern, and Postmodern Political Theory* (New York: Chatman House, 2003), 69.

These individualist theories of power aim at explaining social phenomena as result of actions of individual agents motivated by their intentional states. Their ontologically position is that the degree and form of power held by individuals and institutions is independent of their thought about it and that there are values that “can be rationally and universally grounded.”<sup>23</sup> They are, therefore, mainly concerned with i) individuals wielding power; (Prime Ministers, Presidents, etc.); ii) formal institutions (cabinets, parliaments, etc.) and political processes (elections) that distribute power; and iii) moral and rational standards that individuals ought to observe while exercising their powers (rights and duties).<sup>24</sup>

David Easton’s system analysis, Max Weber’s methodological individualism, and Harold Lasswell’s *Who Gets What, When, and How* are examples of individualist understanding of power. They are ‘ontological atomists,’ and believe that “basic human needs, capacities and motivations arise in each individual without regard to any specific feature of social groups or social interactions.”<sup>25</sup> They are not interested in the role of social interactions, processes, or structures in constructing human identities. Methodological individualism proposes a method that accounts for social phenomenon in terms of individual choices and acts. Therefore, the methodology they normally follow is primarily quantitative and comparative. The basic underlying ontological assumption behind comparative studies is that nature of social phenomena (in other words their ‘reality’) is independent of one’s thought about it and is same across states or systems; and by comparing institutions and structures, we can make reliable predictions and thereby can develop better institutions in future for authoritative allocation of values and resources.

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<sup>23</sup> Bent Flyvbjerg, *Making Social Science Matter: Why social inquiry fails and how it can succeed again* (Cambridge: Cambridge University Press, 2001), 130.

<sup>24</sup> Thiele, “Modernity and Postmodernity,” 70.

<sup>25</sup> Brian Fay, “Do We Need Others To Be Ourselves?, in *Contemporary Philosophy of Social Science* (Oxford: Blackwell Publishers, 1996), 131.

On the other hand, constructivists or postmodernists do not even agree with Latin origin of the word ‘power’ (*potere*) that means ‘to be able,’ suggesting inherently present potentiality in the word. They are of the view that the notion that power means ‘an ability to do things’ is misleadingly oversimplified. “In its emphasis on concerted agency, the Latin root obscures the significance of power’s dispersion, circulation, and microphysical mechanics, its often automatic rather than intentional workings, and its detailed imbrication with knowledge, language, and thought.”<sup>26</sup>

They are ‘ontological structuralists’,<sup>27</sup> and the idea of existence of universal human needs, capacities, and motivations does not appeal them. They are, therefore, not much concerned with the nature and degree of power held and exercised by individuals over other individuals in a society. They are rather concerned about the power that social environment exercises on individuals in constructing their identities.<sup>28</sup> They do not conceive power in traditional sense of rule-giving or domination, but embedded in a variety of domains and discourses, equated with knowledge, dispersed everywhere ensuring voluntary obedience.

Ontological position in this case is clearly anti-foundational and interpretivist as postmodernists do not recognize any kind of universality and permanence in the nature of individual power in pursuits of interests; they do not even “take for granted the unchanging nature of the social structures that shape individual human behavior.”<sup>29</sup> They rather insist that human identities are continuously constructed and developed through interactions of different forms of power. With these ontological and epistemological assumptions, they insist on explanation as a function of research method and theory. They do not intend to predict anything rather aim at understanding and explaining the social configurations of power in

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<sup>26</sup> Wendy Brown, “Power after Foucault,” in *The Oxford Handbook of Political Theory*, eds. John S. Dryzek, Bonnie Honig, and Anne Phillips (New York, NY: Oxford University Press, 2006), 65.

<sup>27</sup> Fay, “Do We Need Others, 131.

<sup>28</sup> Thiele, “Modernity and Postmodernity,” 72.

<sup>29</sup> Thiele, “Modernity and Postmodernity,” 80.

a given society. The two extreme positions on power make it clear that how positions on ontology and epistemology shape one's choice of methods in terms of its goal as prediction or explanation.

### **Concluding Remarks**

Implications of this interaction of the philosophical foundations with research methods are both theoretical and practical in nature. First, we must know that different ontological and epistemological positions exist so that we can appreciate different types of researches and be able to recognize others' positions and also to defend our own positions. Because without recognizing the existence of different ontological positions, one might end up criticizing a research without realizing the ontological tradition the research is grounded in. Therefore, it is important not only to be aware of existence of different ontological positions but also to address one's own ontological and epistemological assumptions before choosing appropriate methods to study social phenomena. "Reluctance to address these issues (often) stems from vagueness, imprecision, or a failure to understand that there is more than one ontological perspective."<sup>30</sup>

Any organized study about social phenomena should have to have a commitment to some sort of social ontology, because it should be based on a clear picture of what is social being. A sound comprehension of the relationship between philosophical foundations and the methods of research helps a researcher be clear about the aim of his research. It helps comprehend and indulge in theoretical debates and different approaches to social phenomena in one's writing. An understanding of this relationship helps understand internal inconsistencies in arguments of our own research and that of others. One can easily point out when an argument is not consistent with or embedded in ontological tradition that a particular research is based on.

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<sup>30</sup> Jennifer Mason, *Qualitative Researching* (London: Thousand Oaks, CA: Sage, 1998), 12–13, quoted in, Grix, *Foundations of Research*, 61.