

CRITICAL REALISM IN SOCIAL SCIENCE RESEARCH: AN EPISTEMOLOGICAL PERSPECTIVE

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Abstract

There are four distinct ways to understand philosophy of social science and these are all complementary: studying major schools of earlier period; reviewing issues and problems researchers and their counter parts address; studying specific movement of researchers that brings a viewpoint in philosophy; and analysing philosophical problems appear within each branch of social science. The article explicitly analyses how critical realism influences social sciences and how the works of researchers under this school influences social praxis. The analysis is mainly based on contemporary research reviews. The article concludes that there are at least three stand points which underlie the concepts of pursuing knowledge. First, knowledge – both scientific and everyday knowledge - is by nature tentative in its existence. Second, a progress in science in general is a result of trial and error practices. Finally, there is no single empirical research value-free and therefore, predisposition is unequivocally high.

Abstrak

Ada empat cara untuk memahami filsafat ilmu sosial dan cara ini saling melengkapi: mempelajari paradigma filsafat besar periode sebelumnya; mengkaji isu dan masalah yang dihadapi peneliti dan pesaingnya; mempelajari gerakan spesifik para peneliti yang membawa sudut pandang dalam filsafat; dan menganalisis masalah filosofis yang muncul dalam setiap cabang ilmu sosial. Artikel ini secara eksplisit menganalisis bagaimana arus realisme kritis mempengaruhi ilmu-ilmu sosial dan bagaimana karya-karya para peneliti di bawah arus ini mempengaruhi praksis sosial. Analisis ini terutama didasarkan pada tinjauan penelitian kontemporer. Artikel tersebut menyimpulkan bahwa setidaknya ada tiga sudut pandang yang mendasari konsep untuk mendapatkan ilmu pengetahuan. Pertama, pengetahuan - baik pengetahuan ilmiah dan pengetahuan sehari-hari - pada dasarnya bersifat tentatif dalam keberadaannya. Kedua, kemajuan dalam sains secara umum adalah hasil dari praktik coba-coba. Akhirnya, tidak ada penelitian empiris tunggal yang bebas nilai dan oleh karena itu, kecenderungannya untuk ditolak sangat tinggi.

Key words: Philosophy Of Social Sciences, Epistemological Tradition, Post-Positivism, And Critical Realism.

INTRODUCTION

By nature, social science is dynamic and complex. Therefore, to better understand its philosophy, Ruben (cited in Craig 2008) proposes four distinct ways but all complementary. First, one could approach social sciences *historically*. This approach allows researchers to study major schools and philosophers of the earlier period. The other way is to study issues and problems addressed by researchers in this school and their counterparts. The third approach is to study both contemporary movements of the schools of philosophy. In this context, one could study specific philosophers who bring a specific viewpoint to the current sub discipline. In addition, it is equally important to understand social science by investigating philosophical problems specifically appear within this field.

This analysis is to critically analyze *post-positivism*. This is interesting as the school has continuously influenced traditions of science. It is especially aimed to understand how critical realism affects social science and social praxis.

In this article, critical realism is chosen for two reasons. Initially, it is about the fundamental concept of revealing truth in science proposed in critical realism. The emphasis here is to relate truth and reality resulted in social science. For instance, when a researcher discusses about literacy, it is not easy to convince readers until conceptualization about nature of literacy; why such literacy problem happens; and how the problem occurs is made clear.

Secondly, the framework of critical realism provides a better solution to social phenomena that are prevalent today. The framework is aimed to address questions related to actual phenomena

happening in our society. Based on the framework, critical realism attempts to find a closer solution for unsolved social matters by providing recommendations for policy makers. In this context, critical realism is considered to have resulted in practical solutions and transform research discourses into social praxis. For example, educational research is not merely aimed to fulfil research requirements (to see how a particular strategy works on a particular circumstance) and thereby consumed by a small group of researchers and practitioners. Rather, the result of the research must be aimed to provide solutions for any problem faced by society.

In the first part of the discussion, the article presents an overview of post-positivism and its epistemological tradition. Here, it begins with short elaboration of the role of philosophy in social sciences in the attempt to solve social matters. It also deals with basic tenet of post-positivism in general. The next section is about demarcation of scientific, pseudo-scientific, and everyday knowledge. In this section, the article highlights the idea of falsification which is used to demarcate between scientific; pseudo-scientific; and non-scientific knowledge. As the central discussion of the article, critical realism framework is broadly elaborated especially how this school of thought evolves in scientific traditions. Finally, the article also discusses how critical realism as a school of thought is made applicable to social researches.

POST-POSITIVISM AND ITS EPISTEMOLOGICAL TRADITION

Philosophy of social science in its attempts to understand and explain human beings and its phenomena in scientific methodology needs a particular approach to address questions. The purpose is to distinguish knowledge resulted in this mode of inquiry from everyday knowledge. Klee (1997) observes that the main feature which distinguishes science from other modes of knowledge gathering is the use of observational experimentation. He claimed that what you found in this mode of knowledge, to be more exact, should come from a skilful combination of doing and thinking.

Some prevailing questions in social science appear in relation to the unsolved social matters today for which centuries might hardly be answered even in today's scientific traditions. However, the questions are absolutely important;

at least to remind us about how to deal with them and the most important thing is to come up with scientifically acceptable ideas to arrive at close solutions. For example, Why does society need social science?; What is the current understanding of social science?; And what is public role in social science? (Delanty & Strydom, 2003: 5).

The extending debates especially on the role of social science in a way to recognize social realities in a scientific way were pervasive. This means that matter encountered by human beings in their everyday lives cannot simply be resolved by methodology or philosophical reflections on epistemology alone; above all it is the question of public role of social science (Delanty & Strydom, 2003:5)

Post-positivism, usually called a school of post-empiricism is a meta-theoretical stance following positivism. One of the most influential supporters of this school of thought was Karl Popper. His stance was very clear in opposition to positivism and logical positivism as schools of thoughts. He also recognized most of criticisms addressed to positivism especially concerning its scientific methodology. His position was also clearly seen as a critical stance upon misconception of positivism itself.

Post-positivism paradigm emerged as a response to the fall in popularity of positivism at the end of the World War II. Unlike positivists who claimed truth of objects is substance of their positive transcendence (Holmwood, 2001), the main tenet of this paradigm is that the *knower* and the *known* cannot be separated, and the same way applies to the absence of shared, single reality (Phillips and Burbules, 2000). From post-positivists' perspective, this theory was understood to occur by '**reconstructing**' rather than '**accumulating**' truth (Holmwood, 2001). Post-positivists believed that human knowledge was not based on unchallengeable, rock-solid foundations; rather it was *conjectural*, but post-positivists thought that they did have real grounds, or *warrants*, for asserting their beliefs or conjectures, although these *warrants* could be modified or withdrawn in the light of further investigation (Phillips and Burbules, 2000).

This view is in line with what Popper has previously proposed that knowledge is objective. It means that being embodied in various substrates, it is not reducible to that what humans individually '*know*'. And therefore '*truth*' is objective in a sense of being real and having qualities. Consequently, it is not reducible to

whatever one prefers '*the truth to be*' (Popper, 1969). Popper also viewed '*criticism*' as all that can be done when attempting to differentiate claim to knowledge.

THE DEMARCATION OF SCIENTIFIC, PSEUDO SCIENTIFIC, AND EVERYDAY KNOWLEDGE

As an influential figure who strongly criticized positivism, in particular logical positivism, Popper did not abandon all aspects of positivism (Delanty and Strydom, 2003). What he did, was to refute that as a methodology of science, positivism in its inductive empiricist form was unable to explain principle rejection of evidence. The central thesis of his critical rationalism in the philosophy of science is that the principle of *verification* must be replaced by the principle of *falsification*.

Here, to draw on how scientific knowledge, pseudo-scientific knowledge, and everyday knowledge are different, it is presented an illustrative example of the refutation of theory which once was theorized by Adler and Freud. "*that of a man who pushes a child into the water with the intention of drowning it; and that of a man who sacrifices his life in attempt to save the child*". Each of these according to Popper (1969: p.35) can be explained with equal ease in Freudian and Adlerian terms. To Freud, the first man suffered from repression while the second man had achieved sublimation. According to Adler, the first man suffered from inferiority. That's why he wanted to prove that he dared to commit some crime. And so was the second man whose need to prove himself that he dared to rescue the child. It was precisely this fact - that they always fitted; that they always confirmed - which in the eyes of the admirers constitute the strongest argument in favor of these theories (Popper, 1969).

From the example presented, it can be inferred that to arrive at a scientific statement, refutability is certainly required. In other words, since the statements addressed to the men presented above are two competing statements in a sense both of them could be equally at ease. Popper explained that this would hardly be accepted as scientific truth. That's why Popper deems psycho-analysis to be pseudo-science because it can provide an account for every type of observed behaviour, and thus is not amenable to refutation (Silva, 2007).

Related to this problem, Popper (1969: p.37) views the importance of criteria of scientific status in a theory such as falsifiability, refutability, and testability. According to him, the problem which he tried to solve by proposing criterion of falsifiability was neither a problem of meaningfulness or significance, nor a problem of truth or acceptability. It was a problem of drawing a line between the statements or statements systems of the empirical sciences, and all other statements - whether they are of a religious or of a metaphysical character, or simply pseudo-scientific (Popper, 1969: p.39). Later, Popper called this as a problem of demarcation and posited criterion of falsifiability as a solution, for it was said that statements or systems of statements in order to be ranked as scientific must be capable of conflicting with possible, or conceivable observations (Popper, 1969: p.39).

In contrast, (Kuhn, cited in Holmwood, 2001) argues against Popper's falsifiability criterion, claiming that scientific theories do not seem to offer themselves for critical tests and 'anomalies' are frequently explained away by adhered modifications rather than being allowed to falsify the theories in which they arise. In addition, Kuhn (1962) argues that falsifiability is inadequate to falsify whether a statement could be scientifically accepted after it be falsified through observations or series of observations since the paradigm which is supposed to help compare is under one paradigm. Therefore, falsifiability is unhelpful to understand why and how science has developed as it has. To Kuhn, in scientific practice, it is only possible for a theory after falsification accepted as a new science if a credible alternative theory that can be used to compare the former is available.

Nevertheless, Kuhn (1962) asserts that in principle, only three types of phenomena about which a new theory might be developed. First, phenomena have well been elaborated by an existing paradigm. However, these phenomena rarely provide either motive or point of departure for a theory construction. The second class phenomenon is that whose nature is indicated by existing paradigms. However, its details can only be understood through further theory articulation. The third type of phenomena is the one that recognised anomalies whose characteristic feature is their unreasonable refusal to be assimilated to an existing paradigm. This usually happens when the articulation of theory fails to be completed. On the basis of Kuhn's concept of theory

development, Blunden (1998) infers that in principle, a new theory does not have to conflict with any of its predecessors; a new phenomenon might emerge without reflecting destructively upon any part of past scientific practices; and again, new theory might simply be a higher level theory than those known before.

SCIENTIFIC FRAMEWORK OF CRITICAL REALISM

Trochim (2008) proposes that one of the most common forms of post-positivism is a philosophy called *critical realism*. He made mention that a critical realist believed that there is a reality independent of our thinking about it and that science could study. Similarly, Bhaskar (1998) made mention that critical realism splits the world ontologically into three levels; the real, the actual, and the empirical. The real refers to whatever exists whether or not we can perceive or understand. For example, the concept of God, people may associate it with what they believe but they will never be able to make it real. The only way to realize His existence is to perceive and understand His creations in every respect. Sayer (2000) believes objects that have structures and powers reside, no matter whether we can see or not.

The actual relates to what happens when powers of the real are activated (Bhaskar, 1998). He explained that the concept of identity can demonstrate the difference. We all possess latent physical and mental capacity to claim an identity (the real) but when we do we adopt a certain way of speaking, dressing and interacting (the actual) (Jonas, 2008). For example, Indian people, in reality, though they have been settling in the UK for more than three decades or even those who were born in England or in the UK still firmly maintain their Indian identity. Most of them still speak their mother tongue (Indian) when they meet their fellow Indian, though culturally in many ways it is inevitably influenced by western culture (white culture). For example, the ways they dress or interact in their social contacts in their daily life clearly show their Indian identity. Similarly, most of Middle Eastern people persistently hold their identity on the basis of their belief (Islam) when they come to and live in other countries like the UK. One of the attempts to maintain their identity is that they build mosque where they pray and gather together. They also form a kind of social gathering and social meeting

as a sign of their identity despite cultural turbulences might happen due to the influence of western cultures.

The empirical refers to a domain of experience which can refer to either real or actual. This is something to do with theory and practice. It is an active and a reflexive engagement in which we seek to achieve what we think rationally as well as reasonably good and worth for us both economically and psychologically. Our action - either good or bad - is indicated by inner truth or pulse of things and spot from which we must act (Bhaskar, 1993). This is in contrast to a subjectivist who would hold that there is no external reality (Trochim, 2008). We are each making this all up, claim subjectivists. In short, critical realism refers to any position that maintains that there exists an objectively knowable reality. It is a mind-independent reality whilst acknowledging the roles of perception and cognition of individual.

The post-positivist critical realist believes that the goal of science is to hold steadfastly the goal of getting it right about reality, even though we can never achieve that goal. Because measurement is fallible, post-positivists emphasize the importance of multiple measures and observations, each of which may possess different types of error, and the need to use triangulation across these multiple error sources in the attempt to get a better bead on what's happening in reality (Trochim, 2008).

Post-positivists also believe that all observations are theory-laden and that scientists are inherently biased by their cultural experiences, world views, and so on (Trochim, 2008). For example, Popper proposed an illustration in relation to universality use such as 'glass' and 'water' in a sentence "*Here is a glass of water*". This sentence, argued Popper, necessarily yielded transcend experience since in describing *glass* and *water* there were innumerable tendencies to behave in innumerable ways under various conditions (Hempel, cited in Fetzer, 2001). In other words, suppose the glass was mistakenly for water but contained alcohol whereas you expected it to water plants; to quench your thirst; or to extinguish fire. That's why post-positivism rejects relativist's idea of the incommensurability of different perspective, the idea that we can never understand each other because we come from different experiences and cultures.

CRITICAL REALISM AND SOCIAL RESEARCH METHODOLOGY

The ideas surrounding modernity, epistemology, quantitative and qualitative methods and grounded theory are something important to understand and become key issues for post-positivist research which entails discourse, power, narrative and reflexivity.

As one of school of thoughts after the downturn of positivism, critical realism is understood to have made indispensable contributions to current scientific tradition especially in philosophy of social sciences. Sayer (2000) claims that critical realism is able to bridge the gap between positivist material conceptions of reality, hermeneutic, and social constructionist version. It is also claimed to be able to explain effectively duality of agency and structure in social world (Jonas, 2008). Jonas (2008) further illustrates relationships of agency and structure in social world in terms of social capital and ethnic identity in a case study of a Latin American Carnival in London. He argues that social capital and identity are two things which cannot be isolated. He also reveals that isolating social capital and ethnic identity would not be viable as they are in part constituted by environmental factors. This viewpoint is supported by Sayer (2000) that critical realism emphasizes the notion that social systems are open to context. Jonas (2008) asserts that combination of agency and structure is central to critical realism. Any intentional action necessarily required social structures and therefore they must pre-exist these actions, claimed Jonas (2008).

Though it is described differently, Ryan (2008) pointed out that post-positivist research principles emphasizes meaning and creation of new knowledge, and were able to support committed social movements, that is, movements that aspired to change the world and contributed towards social justice. In line with this view, Holmwood (2001) states that science continued, for the most part to be seen as progressive and successful in a sense of generating new extensions, new insights, and new explanatory resources. As Bhaskar (cited in Pratschke, 2003) insists on possibility of choosing rationally between rival theories linking with the concept of 'explanatory power'. He argues that the most powerful theories are those that explain the widest range of phenomena. Although generative mechanism, frequently refers to unobservable

entities and processes, critical realists argue that explanatory adequacy of our hypotheses about these mechanisms can be observed by investigating their observable effects (Pratschke, 2003). Social researches are expected to provide meaningful contributions to equality regardless social economic status. The struggle for meaning, and the construction of new meanings and knowledge have been emphasized. Ryan (2008) demonstrates that the concept of discourse shows how meaning is never a neutral act, but always privileges certain interests.

Feminism and its movement was one of the signs where we could clearly see social structures. The feminist movement was basically triggered by an inequality treatment which had long lasted in western civilization especially where capitalism took place as a powerful economic system. Sayer (2000) reminds us several questions that have been debated in sociology concerning with whether capitalism and patriarchy consist of one or two interacting systems; and whether it is necessarily patriarchal or just contingently so; whether bureaucratic organization gendered or just contingently so; and whether such institutions together with market are neutral with respect to identities. According to Sayer (2000), these were not academic, instead of considerable practical questions; indeed political significance and therefore, the answers may be different in ranges and possibilities in practice. This implies that if capitalism in fact gendered in a sense that in a practical level there is a subordination of women compared to men, there should be progress taken up to end this situation. In other words, capitalism as an economic system must be replaced by another radical system. Sayer (2000) also argues that the market in capitalism is not as neutral as it has to be towards women.

Sayer (2000) further argues that his critique of feminist research is concerned with wider issues in the nature of social inquiry. It means that he defends realist ontology for social inquiry where social structures are understood in relation to causal powers. To understand the causal powers in a pure form needs a comprehensive understanding of other structures that exist there which in normal operation is not quite clear. What he criticizes in feminist research is the form of analysis significant to empirical associations or regularities according pervasiveness rather than according to necessity which is resistant to abstraction in social sciences. This viewpoint is in line with what Popper has previously stated in

relation to falsifiability that it is not a matter of how many 'white swans' the researchers have observed 'white' but the possibility of finding other than 'white swans'; that is, a *black swan* tends to happen. Kitcher (cited in Pratschke, 2003) argues that realists can rely on our everyday methods for correcting our perceptions of the world around us, taking success of our physical, physiological, and psychological theories to reveal limitations of our perceptual powers. In this position, I strongly agree that there is innate perceptual power boundary in human beings which in every respect limits our ability to make accurate judgments. Therefore, judgements we make on this basis are of course, fallible.

Another example that what we can clearly see today especially in the global economic situation is the collapse of giant companies like Wall Street and Dow Jones. The sudden fall of these companies is not simply a matter of the downturn of global situation in business but it is more beyond than that of what people generally assume. It has something to do with discourses in political and power level. In this case the role of media is very crucial. It can influence people's perspectives about real situations. In these circumstances, discourse is responsible for this sort of reality and not a mere reflection of it. Thus, the question of what discourses prevail and whose interests they serve are most important (Weedon, 1987: 11). He further argues that this was not to discount the importance of material issues, economics or law, but to emphasize equal importance of culture and discursive power. The production of knowledge is political and has real effects.

The following characteristics of post-positivist critical realist research in general are presented. Firstly, research is broad rather than specialized – lots of different things qualify as research. For example, realist social scientists do not ask questions about regularities but explore necessary preconditions for a mechanism to function and qualities of real objects that enable them to act as they do (Sayer, 2000).

Secondly, theory and practice cannot be kept separate. We cannot afford to ignore theory for the sake of 'just the facts'. What this accounts for is that the connection of theory and practice is a necessity. The facts alone are not adequate to picture truth unless they are supported by basic principles of how to come to truth. Bhaskar (1993) points out in his third level of development which he calls 3L (three level of development)

that the inner truth and the spot from which people must act is based on motifs of totality, reflexivity, concrete universality (subjectivity and objectivity), autonomy, reason and rationality, practical wisdom and unity of theory and practice.

Finally, researcher's motivations for and commitment to research are central and crucial to this enterprise (Schratz and Walker, 1995: pp. 1-2). It has been stated above that motifs of totality is one of the keys to allow for success of research. It has something to do with reasons why researcher is interested in or motivated to conduct a research. The idea that a research is concerned only with correct techniques for collecting and categorizing information is now inadequate (Schratz and Walker, 1995: 3). Basically, correct and rigorous technique for collecting information is important. However, to achieve a high convincing research quality, rigorous technique alone is not enough. Fischer (1998) examine that social sciences have no apparent significant impact on public issues. Rather, it has been absorbed in contemporary political discourse. In a sense, its role is more about to stimulate political processes of policy deliberation than to provide answers or solutions to problems facing modern society. Therefore, it is suggested that building continuing research dimension into work of research is necessary (Schratz and Walker, 1995: p.3). The aim of this is to lead to new ways of thinking; new possibilities for actions; and sometimes a new sense of direction.

CONCLUSION

Based on the explanations about critical realism as a school of thought, the article concludes that essentially there are at least three stand points which underlie their concepts of pursuing knowledge. First, knowledge - either scientific or everyday knowledge - remains tentative in its existence. The nature of knowledge is uncertain and imperfect. The type of knowledge resulted in this perspective is likely to have changes and that is why it is provisional. As such, falsification is a needed in order to explain scientific knowledge (see Sayer, 1984). The flaw of an ideal type of knowledge is a built-in protection from refutation. Second, progress in science is a result of trial and error approach. Social praxis is an adequate fact to claim that science generally deals with problems people in general pervasively encounter. In many ways, however, it does not necessarily work for a

number of reasons - especially in social sciences where human being are always subjects of research. People keep changing and are dynamic both in thoughts and actions; beliefs as transcendental features of any form of social life; political power; and economic pressures. The competing fight of real and actual is plainly seen. Therefore, building continuing research work is a necessary action to maintain the quality of knowledge resulted in scientific tradition. Finally, there is no single empirical research value-free. Therefore, possibility to be bias is significant. Last but not least, essentially, science and philosophy should be concerned with human liberation.

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