
Philosophical Reflections on Research Methodology for Social Sciences

Sosyal Bilimler Araştırma Yöntemi Üzerine Felsefi Düşünceler

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Abstract: This paper aims at presenting the critique of both the quantitative and the qualitative research methodologies for social sciences in general and organizational sciences in particular. Quantitative and qualitative research models have been dominant over the second half of the twentieth century. Meanwhile, it has become a growing concern that a dichotomy between them should be overcome by combining them into a methodological pluralism. Positivism is the epistemological ground of quantitative methodology whereas phenomenology is the same with qualitative. It will be argued that for methodological pluralism, neither positivism nor phenomenology can suffice alone. This paper presents a comparison and analysis of both positivism and phenomenology with the intention of working out their fundamental presuppositions. The purpose of this investigation is to look for the possibility of outlining a theoretic paradigm for the practice of methodological pluralism.

Keywords: Qualitative, quantitative, research methodology, methodological pluralism, positivism, phenomenology.

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Introduction

Positivism and phenomenology have generally been considered as the two competing theoretic backgrounds which epistemologically substantiate the quantitative and qualitative research methodologies respectively for social and organizational sciences (McNeill & Chapman, 2005; Ulin, Robinson, & Tolley, 2005). However, when it comes to explaining them, i.e. positivism and phenomenology, it becomes quite complicated since none of them refers to any unified account. Pioneered by Auguste Comte (around 1864), positivist epistemology came to be classified into many different variations by late twentieth century. Nonetheless, meta-theoretically, they all had one thing in common. They all serve to be the ground for theorizing the concept of 'scientific explanation,' where the model example for 'science' is always the domain of natural science (e.g. physics, chemistry, biology, etc.) such that the object of this explanation is always presupposed to be ontologically inert (Ulin, Robinson, & Tolley, 2005). Similarly phenomenology, though founded by Edmund Husserl (around 1900), later differentiated from being transcendental—i.e. Husserlian—into its further radicalizing through the works of Karl Jaspers, Martin Heidegger, Merleau-Ponty, Jean-Paul Sartre, Gabriel Marcel etc. (Sanders, 1982). It is not the intention of this paper to present an exhaustive survey of positivist and phenomenological schools, but to account how any theoretic conceptualizing of 'scientific explanation' involves a time-topology as its fundamental presupposition. We take one principle representative from each school of thought. Following the lead of Susman and Evered (1978), we will take Karl Gustav Hempel and his formalist-empiricism to be one such representative from positivism and Husserl's transcendental phenomenology to be the same from phenomenology.

The main idea is to look for a fundamentally presupposed topology of time behind positivist and pure phenomenological schools of thought in order to work out an ontological and epistemological framework that could serve as the theoretic paradigm behind methodological-pluralism or mixed-methodology just the way positivism and phenomenology served as theoretic paradigms behind quantitative and qualitative research methodologies for social and management sciences. Until such a task is undertaken, methodological pluralism will keep working at the level of method



and will remain theoretically 'ad hoc' at the level of methodology.¹ Arguments for a theoretic nexus that could combine both qualitative and quantitative methodologies have already been made (for instance (Howe, 1988; McNeill & Chapman, 2005)). However, they lack a proper critique towards mixed-methodology or methodological pluralism. Much of what favors methodological pluralism tilts towards either positivism or phenomenology as far as their founding theoretic reasoning is concerned, and thus, ends up tacitly subsuming one methodology under the other. A proper critique means theoretically working out the fundamental presuppositions of both positivism and phenomenology separately. Let's call them P_1 and P_2 respectively. Then we have many different possibilities of which four of the following are most significant:

- (a) Both P_1 and P_2 are mutually refuting
- (b) One of P_i could derive the other ($i=1,2$)
- (c) Neither (a) nor (b)
- (d) Some of P_1 presumes some of P_2 and vice versa such that Some of P_1 also occludes some of P_2 and vice versa.

If (a) is true then methodological pluralism is theoretically a fallacy. It is a mistaken methodology and should not be permissible. Any research done using mixed-methodology (involving both quantitative and qualitative methods) is scientifically invalid. If (b) is the case then methodological pluralism reduces to either quantitative or qualitative research methodology since in this case either positivism is a special case of phenomenology or vice versa. In other words, it becomes redundant. If (c) is true then we have a situation of relativism—a kind of theoretic 'limbo.' Since in this case, no definite evaluation about the usefulness or soundness can be made in favor of it. As will be shown in the following sections, none of (a)-(c) is the case. It is the (d) that is true. I will explicate its meaning in the following sections and discuss its consequences in the final section of conclusion.

In the following section two mutually competing theoretic structures of time are presented. I have called them two competing time-topologies. Section 3 shows that both positivism and phenomenology

¹ Cf. (Kirsch & Sullivan, 1992) for a detail of the distinction between the concept of 'method' and 'methodology'



have these time-topologies as their respective fundamental presupposition. That is to say, the two competing time-topologies are the P_i 's ($i=1,2$) corresponding to positivism and phenomenology.

1. Two Competing Time-Topologies in Western Thought

By a time-topology (or topology of time), we mean a theoretic account that structurally explains the nature of existence of time. Paul Ricoeur, a hermeneutician and a phenomenologist, worked out two apparently competing conceptions of time in the history of Western thought. He called them the cosmological and the phenomenological time (1984, 1988). Though he never used the word 'topology' in explaining the structure of time that results as a consequence of such conceptualizings, but as I have explained elsewhere,² his account of 'cosmological-time' and the 'phenomenological-time' are primarily the two ways time is accounted as having a structure. The word structure is more apt when it comes to the cosmological structure of time for it admits an analogy with Euclidean geometric line possessing the continuum which only 'real analysis'—a branch of modern mathematics—could account.³ This conceives time as having a linear-structure with every 'now-instance' and its passage from present into past behaves very much like a moving point on the 'real Euclidean line'. This is how time is both 'one' and the 'many,' in the sense as we speak of time having a past, a present and a future, yet it is still one time that is always referred as being so. Past-present-future correspond to the movement of point on the line, whereas the 'time-in-itself—as a unity—is the very structure so modeled. Contrary to this topology of time, there seems to be no such simple one-to-one correspondence with the conception of time characterized as phenomenological even though it still has a structure (Ricoeur, 1988, pp. 23-44, 60ff). This structure is so complicated that it does not admit a mathematical model as such, though there have been several attempts to explain it geometrically, especially in context of Husserl's transcendental phenomenology (Zahavi, 2003). In case of cosmological structure, the representative texts in Western history of ideas which expounded this topology are Aristotle's *Physics* and

² This explanation was part of author's PhD thesis.

³ Cf. (Bloch, 2011) for a detail of the idea of continuum and the mathematical account of 'real Euclidean line.'



Kant's *Critique of Pure Reason*, whereas in case of phenomenological, it is Augustine's *Confessions* and Husserl's *Phenomenology of Internal-Time Consciousness* (Ricoeur, 1988).

Following a very scrupulous and rigorous hermeneutic investigation of Western thought, Ricoeur arrives at a very radical critique of these two time-structures. Going through some of the major thinkers and their representative texts, he arrives at the conclusion that the two time-topologies involves basic theses which must presume each other. So for instance, if $P_1 = \{S_1, S_2, S_3, \dots, S_m\}$ and $P_2 = \{T_1, T_2, T_3, \dots, T_n\}$ are the set of basic theses from the two time-topologies then there are some theses from P_1 which becomes acceptable only once we accept some of the theses from P_2 and vice versa. But this does not exhaust all possibilities, for there are some theses from P_1 and P_2 which mutually refute each other (Ricoeur, 1988, pp. 12-96).⁴

2. How Time-Topology is a Fundamental Presupposition of a Quantitative or Qualitative Explanation?

If we analyze the structure of any scientific casual explanation that explains a phenomenon or a thing, i.e. its explicandum, it must involve the explicans as forming the explanation. However, neither explicandum nor explicans is internally simple. In fact, in every causal explanation both explicandum and explicans are themselves complex structures such that the structure of every causal explanation is nothing but an organization of this complex (explicandum, explican). Therefore, different causal explanatory structures are different organizations of these two terms. We illustrate it with two examples (3.2 & 3.2 below), one that has a causal explanatory structure of positivistic kind and the other which has a phenomenological kind (i.e. P_1 and P_2 respectively—cf. section 1 above) and exemplify them from applied research in social and management sciences.

2.1. The Case of Positivism

This example is primarily motivated by the work of MacKenzie and House (1978) where they explained how Hempel's positivism is applicable

⁴ A detailed account of these theses and how Ricoeur derived them is beyond the scope of this paper. For the detailed derivation, see (Ricoeur, 1988, pp. 12-96). It suffices here how these theses stand in relation to each other.



to social sciences in general and organizational or administrative sciences in particular. It involves reasoning with Hempel's Covering Law Model which has two formulations, (1) Deductive-Nomological (DM) and (2) Inductive-Statistical (IS). Both DM and IS are structures of positivistic causal explanations (i.e. organizations of the two-term-complex). DM consists of an explicandum (E), but its explicans itself consists of two parts: the set of general laws, say $L=\{L_1, L_2, \dots, L_m\}$ and the set of initial conditions, say $C=\{C_1, C_2, \dots, C_n\}$. If both L and C are known then the DM-reasoning follows the structure of $\{L, C\} \rightarrow \{E\}$ where the bold right arrow corresponds to the principles of deductive logic. It 'predicts' the occurrence of 'E'. On the other hand, if 'E' is observed already and both 'L' and 'C' are provided afterwards, then DM-reasoning follows the structure of $\{E\} \rightarrow \{L, C\}$ where the bold right arrow still corresponds to the principles of logic,⁵ but here it 'explains' the occurrence of 'E'. The IS model of scientific reasoning follows the same pattern, the difference is that the principles of logic are now replaced by principles of statistical analysis (Salmon, 1971). This is why IS model does not predict anything with certainty and has thus been considered to be more apt for modeling quantitative research methods in social sciences in general where the phenomenon or the thing to be explained is social and thus involves all kinds of uncertainties as a result of human intentions with possible unintended effects. Unlike 'L_i' in the set 'L' corresponding to DM-model which are deterministic laws, 'L_i' corresponding to IS-model are only probabilistic presumptions. The drawback with Hempel's DM/IS-model is that it presumes its explicandum to behave either deterministically or with considerably high probability. In order to correct this deficiency, Jeffrey (1971) introduces a modification of Hempel's IS-model which allows its 'L_i' to be the basic model equations of a stochastic process.⁶

⁵ In this case, if the occurrence of 'E' is observed such that $\{L, C\}$ did not exist as established scientific propositions, then this arrow would correspond to the principles of inductive logic. If $\{L, C\}$ was already known as established scientific propositions then this arrow corresponds to the usual principles of logic which distinguishes an argument from an explanation (Copi, Cohen, & McMahan, 2014, pp. 18-20)

⁶ In order to keep the line of argument of this paper lucid, the cumbersome notations involving a conversion from DM-model to IS model and then to Jeffrey's proposed corrections are avoided. The context can make it clear that in DM-model, 'L_i' would correspond to the strict determining laws, and in IS-model (respectively in Jeffrey's correction) it will correspond to statistical regularity (respectively stochastic regularity)



Under this modification, one can use most advanced mathematical/statistical tools to explain or predict any phenomenon from social science or business management disciplines. For example, in order to explain and predict the price movement of any financial commodity (e.g. oil, stocks, etc.) Nguyen Tien Zung (2017) used stochastic modeling which primarily consisted of a set of differential equations with initial conditions. The set of differential equations forms the 'L' together with descriptive sentences explaining the basic presumptions behind the notation and variables used in the equation and initial conditions corresponding to these equations become the {C}. Similarly, for application to social problems, Bloom et al. (2007) showed how statistical models can be developed to explain and predict demographic changes.

Apparently, there seems to be no connection with a time-topology of cosmological type (i.e. P_1) for the above epistemological grounding of quantitative methodology. What is required is a critique into what renders this entire epistemological edifice possible. All these conceptions of modeling scientific explanations involve propositions which are primarily presumed to be of either, synthetic type, analytic type or synthetic a priori type, thereby lending them to the epistemological critique of Kant's transcendental philosophy. Husain (2018) worked out—following the lead of Paul Ricoeur (1988)—that all these conceptualizings finally produce meanings which are universals connected with particulars under Kant's 'determining judgment'. Kant's critique into the possibility of these judgments yields them to be the result of transcendental schematism—an operation performed in the depth of human soul—such that these transcendental schemata are nothing but fundamental determination of time of cosmological type. Therefore, as far as the primordially of presuppositions are concerned, Kant's critique of the possibility of synthetic a priori judgment establishes the cosmological type time-topology to be the fundamental presupposition of positivistic epistemology which itself is the fundamental presupposition of quantitative research methodology.

2.2. The Case of Phenomenology

As early as second half of twentieth century, phenomenology became the guiding theme for qualitative research methods in social sciences in general and management or administrative sciences in particular. After



Berger & Luckman's (1971) pioneering text that bridged pure phenomenology and research approaches for social sciences, there have been proposed numerous models of social or organizational research which are characterized qualitative and connect research methods and problems within these fields with phenomenology (Susman & Evered, 1978; Sanders, 1982; Darlington & Scott, 2002). The most significant element of these qualitative research models is Husserl's concept of intentionality. As Freeman and Vagle (2003) has shown, intentionality is one of the most difficult, challenging and to some extent still a very obscure concept of phenomenology of any kind (transcendental, hermeneutic, existential etc.). It may appear that this was abandoned by Heidegger and others later in their critique of Husserl's transcendental phenomenology, but on contrary, much of Husserl's later critics' works involve radical vocabulary which requires mastering this concept. One of the main confusion involves the very equivocation of the term intentionality which causes it to confuse with psychological awareness or psychological consciousness. Neither 'consciousness' nor his concept of 'intentionality' is equal to its psychological equivalent. On contrary, intentionality is what by virtue of which we have a world out there. It captures our immersion into this world at the deepest level. This paper's scope can't allow going into the depth of its richness. The main idea is to explicate the sense in which an understanding of phenomenological presupposition of qualitative research methodology involves a time-topology of phenomenological type (i.e. P.). This means showing how and to what extent, taking Husserl as our representative figure, intentionality and Husserl's phenomenology of time correlate in context of human action. Freeman and Vagle's exposition (ibid) sufficiently establishes the correlation of intentionality and human action as long as human act is socially significant. One might contest that there are acts which are not intentional even from Husserl's point of view, for instance an act of experiencing a pure sensation of pain or anxiety etc. However, a pure sensation of pain or anxiety that is not socially significant is itself highly contestable. Since this analysis presumes that human acts in which we are interested are social, no such objection is valid. So what remains is the correlation between intentionality and phenomenological-time or human act and phenomenological-time (assuming that



correlation is logically an equivalence relation). Any one of the two will suffice. By phenomenology of time, a phenomenologist means determining most primordial signs and expressions by virtue of which time shows itself in any act of human experience. Determining the noematic-noetic relations through this phenomenology of time means determining the structure of time as it shows itself through itself. It is this relational structure that Ricoeur had called the phenomenological-time (Ricoeur, 1988). Ricoeur accounted this structure in his explication of Husserl's phenomenology of time. As I have already remarked above, this structure does not admit a straight forward mathematical intuition. Freeman and Vagle came very close to it via their depiction of the structure of intentionality (2003) (see also (Zahavi, 2003)). Its description involves thickening of the present-moment into a past that is not separate from the present unlike a point of now-instance in cosmological time-topology where a present moment could be separated from other present moments like points on real Euclidean line through Dedekind cuts (Bloch, 2011). This shows how there is an immediate past that is not separate from it immediate present which itself is not separate from its immediate future. The separation occurs with what Husserl called Secondary Remembrance and it is here from which we obtain the possibility of all historical/hermeneutic sciences (which includes social sciences, arts and humanities) (Ricoeur, 1988). This shows how the phenomenological-time (i.e. P_2) as what is obtained after working out a phenomenology of time is the fundamental phenomenological presupposition for any phenomenological endeavor. Since qualitative methodology has already been remarked above to presume phenomenology as their epistemological presupposition, the time-topology I have called phenomenological time (or P_2 in section 1 above) is the fundamental presupposition of qualitative research methodology as well.

Following the founding work of Berger & Luckman (1971) which explicated how phenomenological thought is applicable to research in social sciences, there was a surge of qualitative research models based on phenomenological reasoning. Most exemplary of this approach includes the collected works Darlington and Scotts (2002) which involves—instead of surveys through questionnaires viewed under statistical infe-



rences—taking an in-depth approach by going through field observations, unstructured intensive interviewing, etc. in order to gain a more subjective insight into their object of investigation. However, Darlington and Scotts' (2002) suffers a deficiency for they never bother to properly lay down their phenomenological foundations. For this purpose, their work requires to be seen under (Freeman & Vagle, 2003; Howe, 1988; Sanders, 1982) and a more classical but still very relevant work of Susman & Evered (1978). This is important for if a phenomenological connection of qualitative type research (e.g. ethnographic or ethnomethodological etc.) is not clearly stated, the research suffers the positivistic type quantitative criticism upon its research value of 'reliability'.

Conclusion

So we finally have the following situation. Cosmological-time-topology (P_1) is the fundamental presupposition of positivism which itself is the fundamental presupposition of quantitative research methodology and similarly, phenomenological-time-topology (P_2) is the same in case of qualitative research methodology. Ricoeur sufficiently established that these two are not the most primordial time-topologies since the relationship obtained between P_1 and P_2 alludes to a possibility of a more fundamental time-topology that itself is the presupposition of these two. I propose that this time-topology is the fundamental presupposition of what can dissolve the dichotomy of phenomenology and positivism once and for all. The theoretic paradigm that would immediately presume this more primitive time-topology would stand in the same relation to mixed-methodology or methodological pluralism as positivism or phenomenology stands in relation to quantitative or qualitative research methodologies respectively. Once we work out this paradigmatic nexus, it will help methodological pluralism stand far better chance in confronting the challenges of both reliability and validity simultaneously, which all research methodologists know, is hard to find in equally optimum proportion either in quantitative or in qualitative models of research.

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Öz: Bu makale, genel olarak sosyal bilimler ve özel olarak örgütsel bilimler için nicel ve nitel araştırma yöntemlerinin eleştirisini sunmayı amaçlamaktadır. Nicel ve nitel araştırma modelleri, yirminci yüzyılın ikinci yarısında hakim olmuştur. Bu arada, aralarındaki ikilemin metodolojik çoğulculuk haline getirilerek aşılması gerektiği giderek artan bir endişe haline gelmiştir. Pozitivizm, nicel metodolojinin epistemolojik temelidir, oysa fenomenoloji aynı şeyi nitel olarak yapar. Metodolojik çoğulculuk için, ne pozitivizm ne de fenomenolojinin tek başına yeterli olamayacağı iddia edilecektir. Bu makale, temel varsayımlarını hesaplamak amacıyla hem pozitivizm hem de fenomenolojinin bir karşılaştırmasını ve analizini sunmaktadır. Bu araştırmanın amacı, metodolojik çoğulculuk uygulaması için teorik bir paradigmanın altını çizme imkanını araştırmaktır.

Anahtar Kelimeler: Nicel, nitel, araştırma yöntemi, metodolojik çoğulculuk, pozitivizm, fenomenoloji.

