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# **NEURO-RESEARCH METHOD: A SYNTHESIS BETWEEN HERMENEUTICS AND POSITIVISM**

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## Neuro-research method: A synthesis between hermeneutics and positivism (Article)

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### Abstract

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In the history of philosophy, we know that hermeneutics and positivism are two main currents paradigms which have always contradicted in an effort to find the truth of science. Hermeneutics priority to the principle of interpretation of a text studied. While quantitative positivism path to get the truth based on the reality itself. Hermeneutics applying qualitative elements, while positivism applies quantitative elements in studied. The question is whether these two methods can be synthesized? Neuro research method assumed to reconcile between the hermeneutic perspective (qualitative) and positivism (quantitative). Neuro research done by taking three (3) main processes, namely: exploration research (qualitative), then explanatory research (quantitative) and finally confirmatory studies (quantitative). This method can be applied to search for scientific truth for the social sciences humanities. This paper is a philosophical reflection on neuro research method was being developed at several universities in Indonesia, especially at Bina Nusantara University of Jakarta. © 2016 American Scientific Publishers. All rights reserved.

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# Neuro-Research Method: A Synthesis Between Hermeneutics and Positivism

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In the history of philosophy, we know that hermeneutics and positivism are two main currents paradigms which have always contradicted in an effort to find the truth of science. Hermeneutics priority to the principle of interpretation of a text studied. While quantitative positivism path to get the truth based on the reality itself. Hermeneutics applying qualitative elements, while positivism applies quantitative elements in studied. The question is whether these two methods can be synthesized? Neuro research method assumed to reconcile between the hermeneutic perspective (qualitative) and positivism (quantitative). Neuro research done by taking three (3) main processes, namely: exploration research (qualitative), then explanatory research (quantitative) and finally confirmatory studies (quantitative). This method can be applied to search for scientific truth for the social sciences humanities. This paper is a philosophical reflection on neuro research method was being developed at several universities in Indonesia, especially at Bina Nusantara University of Jakarta.

**Keywords:** Neuro-Research, Mix Method, Synthesis, Hermeneutic, Positivism.

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## 1. INTRODUCTION

Rationality encourages people continue to question himself and his world. By asking questions, human entered the space to discover the nature of philosophical reflection there is (being) in reality. By asking questions, people satisfy curiosity as a rational subject or *animal rationale*, citing the term of Aristotle. To satisfy the curiosity, we humans need the ways. Thus, the discourse on the method to be important.

The main question of this paper are: is there a synthesis between the method of qualitative and quantitative methods in the search for truth collaborative science? If anything, such as whether the method? Can the methods referred to a benchmark seek truth in scientific discourse generating new knowledge to enrich the vocabulary of science? Answering the questions above, neuro research method assumed to be the answer. This paper was developed by using the method of philosophical reflection.

## 2. RATIONALITY OF HERMENEUTICS IN SOCIAL RESEARCH

Hermeneutics is meaningful only for an estimate of the doctrine of Holly Scripture. Therefore, in the beginning of hermeneutics is more of a technical understanding of biblical texts. This understanding of the technique is more an 'art' understanding rather than a 'theory' or 'science' of understanding.<sup>1</sup>

The term hermeneutics comes from the Greek word *hermeneuo* or *hermeneuein* which refers to the problem of interpretation which was originally an exclusive term to theoretically interpret the meaning behind specific scriptural text.<sup>2</sup> Hermeneutic or hermeneutics derived from English hermeneutics means to express thoughts in words. When a person express his/her thoughts in words, at that time the person is making efforts on the interpretation context.

Data analysis using hermeneutic techniques into the category of philosophy of mind. Philosophizing hermeneutic method is an approach to find the meaning behind the text. Hermeneutics is a qualitative method of seeking truth for the social sciences humanities are substantially different from the method work of natural sciences such as mathematics which emphasizes the principles of seeking the truth according to quantitative-positivistic perspective.

Hermeneutical thought as a method of experiencing a great development when Friedrich Schleiermacher, Friedrich von Schlegel and Wilhelm Dilthey develop the scope of hermeneutics as a basic character in the application practices hermeneutics. By the end of the 19th century, hermeneutics appears as a method closely related to the decoding of meaning and truth claims on a text studied.<sup>3</sup> By using the hermeneutic method, the researchers discovered a new meaning enlightenment in the form of synthesis between the views of the author with the text interpreter to find a synthesis of views to find the true meaning of the text. Rationality of hermeneutics as a method urgent in promoting rational thinker subject (researcher) to reveal things

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unclear becomes clear with a weight of representative meaning. Hermeneutical method is dismantling the content of meaning still hidden in the structure of human thought in the interaction with the text is interpreted. Hermeneutic is characteristic of humans, because humans can not free itself from its basic tendency to give meaning<sup>4</sup> on the object thought. The reality of a very materialistic interpreted humanely by the subject thinkers through hermeneutical rationality. By giving meaning to the text (the object of study), then one understands his world is distinctive, unique and specific. Humans use hermeneutic how to do the explanation (*erklaeren*) and rational tactics to reach an understanding (*verstehen*) will object contemplated.<sup>5</sup>

### 3. RATIONALITY OF POSITIVISM IN SOCIAL SCIENCES RESEARCH

The term of positivism was first introduced by the two thinkers are Henry Saint Simon (1760–1825) and his pupil Auguste Comte (1798–1857).<sup>6</sup> Positivism is a response to metaphysical traditional way of thinking that is considered far from the reality. Comte filed three (3) stages of the history of human thought: the theological stage, the metaphysical stage, and positivistic stage.<sup>7</sup> Many social thinkers such as Thomas Flow, Robert Maltus, John Stuart Mill, Jeremy Bentham, Pierre Joseph Proudhon, Friedrich Jodl, etc. which promotes the use of the methods and results of knowledge to organize social organization.<sup>8</sup> So names like Charles Darwin, Herbert Spencer, Ernst Haeckel, and William Wundt belong to the evolutionary positivism. Until the 20th century emerging school of logical positivism in Austria known as the Vienna Circle (*der Wiener Kries*) supported by influential figures such as Bertrand Russell, Ludwig Wittgenstein, Rudolf Carnap, etc. who submitted a thesis statement that social progress post world war I should be styled by applying the laws of positive science of social reality is chaos. The task to organize the social reality of the ideal society should be constructed based on the scientific language which should apply universally to all fields of science. Scientific language in question is a positivistic scientific language.

Positive means “that which is based on objective facts.”<sup>9</sup> Positivistic thinking affects the constellations reflection field studies of philosophy anyway. Characteristics of science in accordance with the principles of positivism that knowledge is only considered valid and objective facts must correspond with human knowledge. Positivism claims that philosophy does not have a method that is different from the science and philosophy of science, and the philosophy task is to find the general principles of any science that is guiding people to build the foundations of social organization. Thus, the main principle is the school of positivism emphasizes the unity of the sciences based on things that are definite and real.

Positivism claim indicated in the methodological scientific arguments:<sup>10</sup>

- (1) All knowledge must be proven through a sense of certainty (sense of certainty) guaranteed by systematic observation intersubjective (*le reel*);
- (2) Methodical certainty as important as the sense of certainty. The validity of scientific knowledge is guaranteed by the unity of method (*le Certitude*);
- (3) The accuracy of our knowledge is guaranteed only by building theories formally sturdy that the deduction of hypotheses that resembles the law (*le precis*);

(4) Scientific knowledge must be used technically. Science allows technical control over the processes of nature and social... power of control over nature and society can be multiplied only by recognizing the principles of rationalist and not through blind expansion of empirical research, but through the development and unification theories (*le'utile*);

(5) Our knowledge in principle is never finished and the relative, according to the relative nature and spirit of positivistic (*le relative*).

The rationality of positivism stand firm above the laws of realism in real life. Positivism explained truths knowledge acquired by the ontological reality. This is similar to the view of empiricism which claims that everything is true as far as can be experienced in objective reality that can be observed by the senses. This assumption brings positivism to critical culmination point which seemed to claims significant implications logical positivism in social science discoveries that result. With founder known as logical positivism, neo-positivism or logical empiricism of their thinking can be summarized as follows:

- (1) Rejecting the distinction of the natural sciences and social sciences;
- (2) Considers the statements can not be verified empirically, such as ethics, aesthetics, religion, metaphysics as nonsense;
- (3) Seeks to unite all the knowledge in the scientific language that is universal (*Einheitswissenschaft/Unified Science*);
- (4) View the task of philosophy as an analysis of words or statements.<sup>11</sup>

### 4. NEURO-RESEARCH METHOD: A SYNTHESIS BETWEEN HERMENEUTIC AND POSITIVISM

The word method comes from the Greek word *methodos*, then paired preposition meta (toward, through, followed, after) and added *hodos* (road, travel, way). Then, *methodos* is meaningful research, scientific method, scientific hypotheses, scientific description. Method is a way of acting according to certain rules of the system.<sup>12</sup> From this understanding, actually a method different from the methodology. Method is more a way or path that technical-practical rather than theoretical-abstract. Whereas, the methodology is the science that examines how or practical path taken by a researcher or scientist doing research. For sciences such as sociology, anthropology, politics, communication, economics, law and natural sciences, the methodology is the basics of the philosophy of science from a method, or the basis of the practical steps of research.<sup>13</sup>

Every scientist is free to choose the methods using in the research. So long as the method is justifiable logical-rational, valid and legal. Methods commonly understood as a technical procedure that systematically schematic-based technical-scientific principles used by a researcher in the approach for his research. A researcher can choose the method with certain philosophical underpinnings, which consequently followed by research methods that are consistent with the methodology chosen.<sup>14</sup> If scientists have selected either a qualitative research method (hermeneutics) or quantitative (positivistic), the investigator in question must be faithful and consistent with the research methods to find the final truth that was searched in the research process. If the researchers have selected qualitative or quantitative methods or to mix both of these methods, then he/she

must have a deep understanding of the workings of the methods referred to in the search for scientific truth. Less than perfect understanding on the method chosen by the scientists can have consequences on the failure of a research project conducted by a scientist. Therefore, the method should be mastered and understood by every researcher. Mastery of the research methods including control over major methodological elements such as aspects of interpretation, induction-deduction, coherence, continuity, idealization, comparison, heuristics, analogy to the description.

Until now the livelihood of scientific truth in the world of science commonly take two (2) classic methodical procedure which is a method of qualitative and quantitative methods. Qualitative thinking procedure can be analogous to the workings of the nervous type only. While the procedure was supposed quantitative thinking is one type of other neurons. When both of these nerves (qualitative and quantitative) working on their own, it will produce a picture of the knowledge that is mono science. Consequently, human thinking procedure reduced only to the creation of a single patterned theoretical rationality alone. There was a phenomenon called swindle structure of human thought that only rely on one perspective. In fact, within the nerve to think, the human brain has the ability to think diversity (*multilateral*) that think qualitatively as well as quantitatively think. It shows an epistemological rationality is not sceptic that the human brain nerve can be directed at the two positions (bi-conditioning) methodically to cooperate and work together for reaching the truth ultima firmer. Nerves human brain can be manipulated and tested with various alternative ways to achieve the scientific truth.

How it works bi-conditional between neurons, qualitative and quantitative neuron is applied synergistically-collaborative approach to research using this neuro research method. Neuro research method is a way in which to gain knowledge by synthesizing a confirmatory between qualitative methods with quantitative methods. Procedure thinking of Neuro research method using a three (3) main processes, namely: exploration research (*qualitative*), research explanation (*quantitative*), and finally research confirmatory (*quantitative*). At the stage of exploratory research, theoretically studied scientific references that are known to find a theoretical construct (*construct theoretic*). These steps take qualitative-hermeneutic thinking. Furthermore, the phase of explanatory to find an indicator variable that is considered dominant spawned dependent variable. This stage applying quantitative-positivistic way of thinking. Then at the last stage, researcher pursued confirmatory (*quantitative*) for confirm the basic principles of the most dominant in the delivery of the dependent variable in the study. The final target of neuro research method is finding a fix model as the basis for designing a study that recommends the implementation of policies, strategies and actual efforts in the future in refining the dependent variables studied by scientists or researchers.

In axiological, this Neuro research Method is multi perspective explorative, explanative and confirmative. In the exploratory phase, qualitative nerves operates optimally in the human brain to coordinate hermeneutical thinking of the object being studied. At this stage operates qualitative hermeneutical thought process. Her expression is manifested in the form: content analysis, textual criticism (*literary*), analysis of semantic-syntactic, grammatical analysis, discourse analysis, analysis of the structure of language, semiotic analysis, analysis of historical context, analysis of the

social context, analysis of the cultural context, interpretation, exegesis, lexical meaning, etymological meaning, morphological meaning, etc., Qualitative research methods named as the new method, due to its popularity recently, so named because the method is based on the philosophy post-positivistic or post positivism.<sup>15</sup> The qualitative research method is an application-interpretative hermeneutical way of thinking that emphasizes the aesthetic-artistic aspects. This method is also known as the artistic because this research process is more art (less patterned), and referred to as the method of interpretive because the results of research concerning the interpretation of the data found in the field.<sup>16</sup> At this stage of the study are subjective in nature. This means that the instrument is a private person or conduct research (person instrument). Here private investigators conducted over the hermeneutical process research data by asking, analyze, photograph and construct empirical social reality that is in front of him. From here will be constructed inductively a hypothetical or theoretical framework crystallizing particular meaning. This data is the meaning (*sense*) that contains the value of truth subjectively. The meaning is the result of a meeting between the dimensions of subjective consciousness researcher with the object under study. This meaning emerged from a synthesis between the hermeneutical circle thinker with text<sup>17</sup> studied. Tempers transformations between allegations researcher with hermeneutical meanings that emerge from the text to the subject of intellectual consciousness researcher. Meaning of hermeneutical interpretation of the results is that articulates the emergence of a theoretical construct (*construct theoretic*).

Having formulated a theoretical construct explorative-hermeneutical in stage I, stage II namely research explanatory. At this stage, quantitative research pursued positivistic character. Data from the hermeneutical interpretation (previous exploration) try photographed quantitatively (explanation and confirmatory) to find a variable as a basis to determine the dimensions and indicators of research. Here there is a transition paradigm from qualitative paradigm towards quantitative paradigm. At this moment the brain's nerve-quantitative mathematical scientist began operating to articulate and map the research object that is being studied in the positivistic. Quantitative-positivistic research based on the assumption that a phenomenon can be classified and relationships are the symptoms of causality (*causation*). For example the pattern of relationships between variables *X* with variables *Y* and then determine the quantitative research paradigms.

Having reached phase II (explanation) the last step done is the confirmatory study (*quantitative*). Here it may appear skeptical pitched questions like "Oh, I think enough reached on the phase I and II. Why should this process be done again in stage III?" In fact, this is the time to appear bi-conditional synthesis chamber. Truth is found in stage I and II seemed to indicate a tautological argument that meaning is not fixed, meaning it can be changed, meaning it could be mistaken, meaning it can go wrong and do not like what has been achieved in stage I and II. This is where the philosophical arguments Jacques Derida (*deconstruction*) gain legitimacy rational. Deconstruction is a new way of reading the text, by shifting the "center" or core that is in the text to the side, and put the idea on the edge (ideas that go unnoticed, the ideas hidden) to the center position or important.<sup>18</sup> That any meaning expressed by an object interpret it always is not yet final. Meaning not yet completed in the process of phase I and II. There are other meanings are still unaccounted for Derida see writing

as a trail-traces of footprints that we must continually search for if you want to know who the owner of the foot.<sup>19</sup> The meanings that have been written in the first phase of research (exploration) and phase II (explanation) as if the meaning is not the main, not the absolute meaning, not the actual meaning. Meaning it has not been found, meaning it is still pending, meaning it was not yet final. This opens the way research continues to discover another meaning that is deeper and more firmly (confirmatory). Still no trace of the next steps that need to be traced by the human brain. The process of thinking, writing, and working on the principle of the trail is called Derrida with term *differance*.<sup>20</sup> Differance is the game differences, traces the difference and the spacing which by the way the elements are different that try associated (connected) to each other. The term *differance* in this French language when spoken pronunciation is exactly the same with the difference that the English word meaning different or suspend. Put this *differance*, Derrida would reject any absolute or absolute meaning markers that have been frozen by the claims saying that meaning is complete or final.

Reflecting on Derrida, the position of a researcher at the research stage I and II even phase III always presupposed unfinished. What is sought and hunted modern humans for this, that is a certainty of existing single in “front,” does not exist and no one else could hold unto, because the only thing that can be said to be certain it turns out, according to Derrida, is uncertainty, game<sup>21</sup> itself. Study in stage III (confirmatory) according to smelling method Derrida Neuro research least the opening of a new direction of research that conducted exploratory study (phase I) and explanations (phase II) was a research process that is not yet completed. Meaning contained in the qualitative phase (exploration) and quantitative phase (explanation) is not over. Truth in stage I and II should be postponed to say. Everything is suspended (*differed*) while we continue to play freely with distinction (*to differ*).<sup>22</sup> For that method Neuro research open towards the free game (stage III) for delaying the meanings that have not been uncovered in the final in stage I and II previously.

Neuro research method was not only able to read in the eye glass of French philosopher Jacques Derrida, but also can be understood from the frame of the German philosopher, Friedrich Hegel. Hegel found three (3) important step in finding the truth of knowledge, namely stages: thesis, antithesis and synthesis stage. The first phase (exploratory) is a thesis, while phase II studies (explanatory) is the antithesis, finally reconciled or end with the phase III studies (confirmatory) as a synthesis. Synthesis (confirmatory) appearing in stage III is the result of an encounter or marriage between thesis (qualitative) and antithesis (quantitative).

## 5. CONCLUSION

Neuro-research method is an alternative scientific method is applied to obtain the truth of science especially social science. This method works analogous to the workings of the human nervous system networks are complex but are linked to the human thought process that occurs in the brain. Neuro research method through three (3) phases of the study were correlated and correspondence. Neuro research method requires a scientist to master fluency paradigm of qualitative-hermeneutic and quantitative-positivistic paradigm. Therefore, scientists are just doing hermeneutic-qualitative approach alone can not run this Neuro research method ideally and praxis. If only prioritize quantitative-positivistic methods alone, scientists can not implement this method. A scientist should be able to play

between (*trans-playing*) qualitative paradigm with the quantitative paradigm. Scientists who think solipsistic (closed), just sticking to one paradigm alone will fail to carry out research using Neuro research Method.

Neuro-Research method is an alternative way in to gain knowledge by synthesizing a confirmatory between qualitative methods with quantitative methods. Technical procedures adopted in Neuro research method using a three (3) main processes namely: exploration research (qualitative), research explanative (quantitative), and finally the confirmatory study (quantitative). At the stage of exploratory research, theoretically studied scientific references that are known to find a theoretical construct (*construct theoretic*). These measures take the thinking paradigm of qualitative-hermeneutic. Furthermore, the phase of explanatory is to find an indicator variable that is considered dominant spawned dependent variable (*dependent variable*). This stage applying quantitative-positivistic way of thinking. Then in the final stages of research pursued confirmatory (quantitative) to reinforce the basic principles of the most dominant in the delivery of the dependent variable in the study. The ultimate objective of this neuro-research method is finding a fix model as the basis for designing a study that recommends the implementation of policies, strategies and actual efforts in the future.

Neuro-Research method is essentially an alternative offer in the way in which scientific research is certainly still open to constructive criticism and new meanings. If you give critics to this Neuro-Research method of material aspects, the content and the format, it remains a game in a scientific study. Critics were going two (2) impact namely: when criticized these methods still exist and further confirmed the existence of, and the second is getting criticized us was caught in the flow of the game *difference* according to Derrida perspective to increase seek the truth that has not been uncovered and articulated explicitly by mysterious ways of thinking networks nervous system of our brain.

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