

Sample Example for Graduate Publication in a Philosophy Journal
The Vienna Circle Positivism and Scientific World-Conception

Name:

Corresponding Author:

College / University Name with department

ABSTRACT: *Vienna Circle is a group of philosophers in the early twentieth century who interpreted the advances in both the formal and physical sciences to reconceptualize empiricism and positivism. The group of philosophers were joined by mathematicians, psychologists, and other experts from science-related professions. In their meetings, they discussed several topics, among them was the scientific world-conception. This was also included in the Circle's manifesto. Some of the philosophers who contributed immensely in the development of knowledge in the Vienna Circle were Otto Neurath, Moritz Schlick, and Rudolf Carnap. There were others as well who made several publications relating to the contents of the Circle's manifesto. This article examines the contributions that were made by the Vienna Circle through its logical positivism principle in enhancing the unity of sciences through the concept of Scientific World-Conception.*

KEY WORD: *Barriers, bias, discrimination, top strategic management position*

Date of Submission:

Date of acceptance:

I. Introduction

The Vienna Circle had several forms of positivism, but the most developed was logical empiricism or logical positivism. This form of positivism developed globally in three phases. The first phase was around 1907. The second phase, which most philosophers and historians regard as Vienna Circle proper, began in mid-1920s and ended around 1933 (Clauzade, 2019). The third phase, which historians refer to as the American emigrant phase, began immediately after Hitler came to power. All the three phases had a collaboration of scientifically trained philosophers, mathematicians, and scientists (Uebel, 2017). These three groups of scholars met often to substantively discuss some of the problems that science has in society.

The first Vienna Circle was directly influenced by Ernst Mach and several other scientists such as Pierre Duhem, Richard Avenarius, Henri Poincare, and Wilhelm Ostwald. These scientists were guided by the social concepts as well as scientific developments that were developing at the time. This included Einstein's relativity theories, axiomatization of Euclidean geometry by David Hilbert, and non-Euclidean geometry (Nelson, 2018). The second phase was largely influenced by the philosophical standing of Bertrand Russell. Some of the scientific developments that guided members of the Vienna Circle in the second phase were behavioral psychology, new quantum theory, antivitalistic progress in biology, and Ludwig Wittgenstein's *Tractatus*. The attempted reduction of mathematics by Alfred North Whitehead to *Principia Mathematica*, a new symbolic logic, was also a scientific development that guided the trajectory of thought of Vienna Circle's second phase. When Hitler came to power, a third Vienna Circle phase emerged. This phase was initially engrained in politics but later retracted and focused singularly on the relationship between science and society.

One of the areas that the Vienna Circle, regardless of the phase, sought to solve, was the understanding of the multiplicity of sciences through a single concept. This meant that the scholars under the Vienna Circle had to examine the different forms of scientific knowledge and what they had in common (Koterski, 2018). The consequence of this quest was that the members of the Vienna Circle were going to rephrase the definition of science. An attempt to find commonality of all sciences and develop a single concept that unites all aspects of science meant that the Vienna Circle had to contend with three answers that have been often highlighted as obstacles in the quest to achieve unity of science (Brenner, 2019). The first answer is that science is the product of anything that is created through the scientific method. The second answer is that science is a knowledge entity that incorporates several features such as propriety of explaining the world as a concept, origin of experience, and logical entanglement of scientific parts. The third answer that has always been provided is that science is anything that is done by scientific communities.

The debates that scholars have often had with the positions propagated by the Vienna Circle on different topics brings to focus two key elements that this article seeks to examine. The first question is whether it is possible to ascribe an attribute of a politically engaged science philosophy to the Vienna Circle (Nelson, 2018). The second question is whether the changes that the Vienna Circle sought to bring to the field of science can be argued to have any implications to the present-day relationship between politics and the philosophy of science. These questions emerge from the fact that there were social contexts that shaped the type of

ideology of each Vienna Circle phase. For instance, the first phase of Vienna Circle had its ideology and philosophy shaped by the events that led to the First World War, and Habsburg Empire's last days (Brenner, 2019). The Weimar period, on the other hand, determined the sociopolitical issues that were discussed in the second phase of the Vienna Circle. When World War II ended, most of the ideologists of the Vienna Circle immigrated to the United States, leading to the vanishing of the logical empiricism social program. The logical empiricists in the United States distanced themselves from partisan politics and sought to focus specifically on technical aspects of logical positivism.

Background

The logical empiricism or logical positivism was mostly developed in the second phase where it had substantial improvements and contributions from a vast of strong leaders who championed its cause (Brenner, 2019). This makes the second phase of logical positivism an important area of focus for this article in examining how its development sought to achieve scientific world-conception. The second phase of logical positivism involved a group of philosophically interested scientists and scientifically trained philosophers (Koterski, 2018). They met weekly to discuss problems that they highlighted in philosophy of science, under Moritz Schlick's leadership. Most of their discussions occurred during academic terms of 1924 to 1936.

As is a characteristic of such groups that lack a leadership structure, not every person who attended the discussions were members, and not all people who had attended the discussions continued to do so during the period when the second phase of logical positivism was developed (Clauzade, 2019). Consequently, the analysis of Vienna Circle has often concentrated on the contributions of members who were viewed as long-term regulars, and had received wider acclamation for their philosophical publications. The unofficial manifesto of the Vienna Circle highlighted two groups of people who were associated with the Circle, with the first lot characterized as members, and the second lot named as sympathetic to the aims of the Circle (Brenner, 2019). Vienna Circle was most famous among the rich, and whenever there was fragility witnessed in its efforts to remain true to its purpose, it is the rich who stood to protect and defend the existence of the Circle and its interests.

However, the radical doctrines that the Circle had during the period of inter-war of the intellectual culture in Vienna, meant that its members increasingly became isolated in most of the philosophy that were attributed to Germans. The only support that the Circle had was its

cooperation and contact with Berlin's Society for Scientific Philosophy, which was previously Berlin's Society for Empirical Philosophy (Koterski, 2018). This is one of the origins of logical positivism. Berlin Society had logicians Walter Dubislav and Kurt Grelling; Hans Reichenbach, the philosopher; Richard von Mises, the mathematician; Kurt Lewin, the psychologist; and Friedrich Kraus, the surgeon (Uebel, 2017). Of all these people, it was Dubislav, Reichenbach, and Grelling, that were listed as sympathizers in the Vienna Circle's manifesto.

Philosophical movements, by nature, often court controversy. This was a hallmark of Vienna Circle and the philosophies that it brought forth (Clauzade, 2019). Vienna Circle members viewed themselves as conceptual revolutionaries whose ideas enabled the clearance of academic philosophy stable through showing that metaphysics was not only meaningless and cognitively empty, but also false. In what some scholars call Vienna Circle proper period, which was the time of the Circle's second phase, members perceived their efforts to overcome metaphysics as associated with their public quest of scientific enlightenment (Brenner, 2019). They did this while there were ongoing political wrangles and tension within central Europe in the 1920s and 1930s.

The involvement of some of the Circle's members in politics meant that they had to take up positions on issues that would not be supported by opposing political factions. The effect of this was that if the factions the Circle was opposing held political power, then the movements and associations of Circle members would be at risk (Koterski, 2018). The other issue that would have arisen was the shift in the main objective of the Circle, which was to seek means with which science could be unified, to engagement in political and governance issues. Regardless of the issues that was being discussed by members of the Vienna Circle, consensus remained an elusive objective. Members could not agree on political topics, nor would they reach a consensus on scientific discourses (Clauzade, 2019). Different members of the Circle would espouse radical perspectives that were at variance with the position taken by other members. This makes the ostensive agreements that are attributed to Vienna Circle questionable (Brenner, 2019). Despite this, the Circle managed to present a unified public front, however thin, while its leading participants were pursuing divergent philosophical projects.

II. Vienna Circle Positivism

Most of the postmodern intellectuals, especially those who hold that positivists are dogmatic conservatists, heavy handed, or emotionless technical analysts who have no interest

in cultural affairs, are concerned to learn that members of the Vienna Circle had assigned themselves the mission to transform and reform all political and social culture. The method that the members of the Vienna Circle had sought was through fronting an adaptation to present conditions using scientific enlightenment program (Stöltzner, 2020). One of the major initiatives under this program was the linguistic reform. The tenacity and vigor in defeating metaphysics that was used by the logical positivists of the Vienna Circle was the same that was extended against political discourses that were difficult to understand and vague philosophies.

The approach that the Circle had adopted in its second phase of logical positivism was to acknowledge and appreciate the transformative reconstruction that had occurred in Europe after the First World War, and the machine age. Apart from Vienna, there were other scientists such as Hans Reichenbach, who was a colleague of Albert Einstein, operating in Berlin (Brenner, 2019). The glamor that this provided was that the Circle was not only dominant in Vienna, but that it had its tenets internationally. It also had people who were politically active in different countries, while enjoying the support of working class. Despite the Circle having members with extremist ideologies, there were others who held moderate views, and this include Schlick.

Upon assassination of Schlick in 1936, the Circle was led by Carnap and Otto Neurath. Neurath died in the United States, and had failed to publish some of his monographs that he thought would elevate the philosophy of logical positivism among scholars (Koterski, 2018). The philosophy of logical positivism was later led by Carnap and other scholars. These scholars were living and working in the United States. Unlike their predecessors who operated in Europe, the new breed of scholars that were advancing the Vienna Circle's objectives held critical academic positions in the United States' education system. They had the clout and ability to direct the discourse of positivism, leading to the efforts to start a new discipline that specialized in philosophy of science (Clauzade, 2019). It is through this discipline that they sought to teach a new generation of philosophers on logical positivism.

The present view of logical positivism emanates from reactions by proponents of Vienna Circle's position on the same from the response by Thomas Kuhn, through his book, 'Structure of Scientific Revolutions' (Brenner, 2019). The book is widely viewed as a refutation of the logical positivism, and elicited several reactions from both sympathizers and members of the Vienna Circle. The trajectory of the debate among members of the Vienna Circle in the United States during the period of philosophy of science, was to make philosophy a progressive and collective enterprise like that of sciences. However, the substance of the effort in the manifesto

portrayed a rather iconoclastic unity than what was pursued by the third phase logical positivists.

Unlike the rigidity that was espoused by the second phase of logical positivism during the Vienna Circle proper, the third phase of logical positivism saw members of the Vienna Circle adopt an approach that was more liberal and receptive to contrary ideas, even though they still held strong opposition towards metaphysics (Ferrari, 2017). They also resented philosophy as a fruitless attempt to solve the society's problems. There were still some discussions among members that provided criticism to individual positions that each scholar within the Circle held on a range of disciplines (Uebel, 2017). The discussions would seek to create a singular position that was justifiably common to the scientific philosophy of the Vienna scientists, the German scientists, and the American scientists (Clauzade, 2019). Every meeting had heated arguments on varying elements of a discipline, though using different tactics, where others drew on the teachings of metaphysics, but with the aim of ensuring that there was commonality in their scientific beliefs.

For instance, the book by A. J. Ayer, 'Language, Truth, and Logic,' which was produced in 1936, sought to advance German positivism to other locations around the world. However, the reception that h book had to English-speaking audience was disdain (Uebel, 2017). This is because the argument that Ayer had fronted in his book mis-located the position of the positivists who applied the British empiricist tradition. It meant that while the two positivism positions were meant to unite, there was a perceived attempt by the German positivists to misrepresent and wrongly characterize the positivists in Britain (Stöltzner, 2020). The debates and discussions that ensued in Central Europe after Ayer's book gave insight to the development of the common position regarding positivism or logical empiricism among members and sympathizers of the Vienna Circle.

The cultural and intellectual milieu in Europe allowed the reinterpretation of the positivist movement between Austria and German philosophers. The debates and discussions that occurred whenever the two factions of the same Vienna Circle met was filled with hardline positions of individual philosophies, sometimes yielding hardline positions, and in some cases a redevelopment of an idea or a philosophical principle. The disagreement was largely on the philosophical contents of members' politics, strategy, and academic backgrounds (Richardson, 2017). The techniques of debate would sometimes lead members to support some theories and principles that primarily are the likely reasons for existence of the Circle. For instance, Kurt Gödel, a Vienna Circle adherent and a strong oppositionist towards metaphysics, found himself

defending a Platonist ontology of mathematics, which is metaphysical (Koterski, 2018). Other disagreements were more civil, like the argument between Neurath and Carnap on the latter's attempt to reconstruct science through the establishment of the philosophy of science discipline, using a formal logical system (Stöltzner, 2020). Neurath was also not sympathetic to Schlick's commitment to the truth's correspondence theory. Additionally, Neurath preferred the position of holistic coherence that featured mutual support, as opposed to a linear empiricist and foundational theory of justification. He did not also support the infallible basic statements that formed the basis of theory of justification.

The disagreements among different factions of Vienna Circle; the American, German, and Austria philosophers, included labels as well. Members and sympathizers of the Vienna Circle had a disdain of metaphysics, but could not agree on elements that were common among them. Labels were scrutinized on what they signified and the misrepresentation or actual presentations that they provided to different ideological positions held by individual members. Several members were not supportive of the word 'positivism,' while others did not like being categorized as 'logical empiricists' (Koterski, 2018) One of such scientists was Reichenbach, who denied that his views represented those of a logical empiricist. Despite his denial, still, the term logical empiricism was applied to the philosophical ideas projected by both the Berlin and Vienna groups of the Vienna Circle, including the American contingent. Logical empiricism was often preferred to logical positivism.

III. Scientific World Conception

The concept of the scientific world based on the Vienna Circle is best understood through the Circle's manifest. The manifest is the document that holds the fundamental principles that unite all members and sympathizers to the ideology behind the Vienna Circle (Ferrari, 2017). The manifest states that there is a scientific world-conception, a scientific attitude, which are based on the principle that no knowledge is inaccessible, no riddles can be unsolved, no depths are unfathomable, and all these can be supported by metaphysical and theological standpoints (Stöltzner, 2020). The Vienna Circle proposes that this scientific attitude must be taught to people and enforced to improve both the quality of life and the educations systems (Clauzade, 2019). This, according to Vienna Circle, is because the scientific attitude defends the capacity of humans to solve their problems without the need to apply magical thought, or faithfully resigning to the world's adversities that it presents to us.

Apart from scientific attitude, the Vienna Circle's manifest also addresses the body of knowledge that scientific world-conception produces. The benefit of this to people is that through the body of knowledge, an individual can apply logic to circumstances using logic tools, and this allows a person to understand the relatability of different scientific concepts (Schmaus, 2017). This is how Vienna Circle's members and sympathizers discuss, debate, and analyze logic in concepts. Carnap is the Vienna Circle member who developed this concept and understanding, through construction of a system of logic where objects of science, such as events and concepts, can be related to elements of an individual's elementary experience. Consequently, Carnap proposed a syntax whose aim is to formulate all science statements, hence, demarcating science from metaphysics.

The Vienna Circle's criticism of metaphysics is that it primarily focuses on how feelings are expressed about specific items. This makes the statements that are eventually produced lack the fit test developed by the syntax form Carnap proposes. According to Vienna Circle, it is important to express feelings, however, metaphysics is not the appropriate medium for such expressions (Koterski, 2018). The proposal provided by Vienna Circle is that such tasks are better completed using art, as opposed to theories whose intention is to become knowledge. The analogy that Carnap used years after developing the syntax was that metaphysicians resemble musicians who lack musical ability (Stöltzner, 2020). Given that such musicians cannot handle musical instruments, they alternatively choose to engage in pretense theoretical research. It is this analogy by Carnap that most people believe fits the objective of the Vienna Circle to solve the unity of science. It visualizes science as existing as a body of knowledge (Ferrari, 2017). However, the format that Vienna Circle proposes to achieve the unity of science is for sciences to unit as a world conception, as an attitude.

Apart from Carnap, Neurath also contributed to the discourse on unity of science. His proclamations revolved around the ability to use the physicalist language as a tool to achieve communication and cooperation among scientists from different disciplines. Additionally, expand the communication to include people as well (Stöltzner, 2020). Neurath believed that science affects everybody, hence there was no need to eliminate or guard against cooperation on its unity by other people. Carnap had proposed a concept referred to as 'thing language.' This is a language specifically containing everyday life objects from which all science concepts are related (Sandner, 2019). Carnap's idea in formulating this concept was that every science branch has its own specific and technical dialect. Regardless, the dialect relates to some degree to the objects that surround people. Consequently, every science has laws within its operations

that establish the relations within its ontological sphere. The relations that then happens between the laws and the physical objects means that there is an extension to the ‘thing language’ coined by Carnap, which is independent of laws of science.

IV. Logical Positivism and Science World-Comparison

Kant was regarded as one of the individuals who attempted to craft a considerable path to which natural sciences and mathematics would be associated with the relevance to society and the universe. Ayer had through his book characterized the British empiricist tradition as being sympathetic to Kant, and this was a farce given the engagement that logical empiricists had with Kantian philosophy (Stöltzner, 2020). The engagement was worse, to a point where the logical empiricists in Britain sought to remove neo-Kantians from the privileged position as Europe’s leading school of scientific philosophy. However, the dilemma was on how to achieve such a feat without antagonizing some of the elements of Kantian philosophy that were favorable to the connection the Vienna Circle sought to make with the Science of World-Conception.

According to Kant, it was not automatic that sensory inputs sort themselves to yield intelligent perceptions, from which individuals can make coherent judgments. The process of coherent perception had to follow a process that includes constitution by the human mind through processing of forms and categories of intuition (Ferrari, 2017). This position led to other members of the Vienna Circle, mainly prominent members such as Schlick and Reichenbach, to analyze the relativity theory. Their conclusion was that science needs a priori, which are principles of constitutive framework that are neither empirical claims nor logical truths, but must be subjected to testing.

The dilemma that proponents of positivism had was how to marry the position held on positivism and that of mathematics and logic. Kant had emphasized that it was impossible to input raw experience into logical relations using statements to provide justificatory evidence or reasons. This had to be reconciled with the fact that any analytical claim made had to have its own warrant. Later, Carnap expanded the priori approach to include logic. Evidently, logical system’s axioms cannot be expressed satisfactorily through reason, and according to Carnap, this is because there is nothing like rational intuition faculty. Carnap argued that the lack of expression comes from the choice of language a person uses or is required to use, which is a human linguistic convention question, as opposed to a concern of epistemic correctness. As Carnap explains, the choice that people have is not epistemic, but pragmatic (Ferrari, 2017).

People can freely pick any formal system that they wish and explore its consequences. Subsequently, people can choose to keep the systems that produce the best preferred consequences for their purposes. The consequence of this choice is arriving at a logical positivism view, which reveals that all empirical statements are synthetic, while priori statements are analytic.

Given this position, the logical question is where in the scheme does philosophy fit? Using Carnap's logic, the task required in this case is analytical, which is the logical analysis of science language using symbolic logic tools. Globally, scientific philosophers have attempted to clarify the empirical science's logical structure, but they do not practice empirical science. The result is the birth of a mature analytic philosophy, with specialty of philosophy of science.

V. Conclusion

The goal of the Vienna Circle was to create a way of unifying different science ideals. Several philosophers, mathematicians, psychologists, scholars, frequently met in Vienna to deliberate on this objective, but they lacked a common stand on almost everything. One of the key areas that they achieved unity was on the concept of logical positivism. Through logical positivism, they were able to project their thoughts in a unified manner on a series of concepts, among them, Scientific World-Conception. The Scientific World-Conception ascribes a special epistemological attribute to scientific knowledge, and a special status to science. It demonstrates that the ultimate knowledge is science, and acknowledges that the only knowledge that shows progress is science. Consequently, all knowledge that is interconnected is science, making it difficult to understand the world without engaging science. The proposals that Vienna Circle makes is that nobody should be locked from making their contributions on science, and that the principles, regulations, and rules that seem to lock some scientific disciplines from understanding by other disciplines is not appropriate. The logical positivism understanding provides a better medium through which the unity of science can be achieved.

REFERENCES

- Brenner, A. (2018). From Scientific Philosophy to Absolute Positivism: Abel Rey and the Vienna Circle. *Philosophia Scientiæ*, 22(3), 77-95.
- Clauzade, L. (2019). Auguste Comte and the Monistic Positivism of Ernst Mach. In *Ernst Mach–Life, Work, Influence* (pp. 663-672). Springer, Cham.
- Ferrari, M. (2017). William James and the Vienna Circle. In *Logical Empiricism and Pragmatism* (pp. 15-42). Springer, Cham.
- Koterski, A. (2018, June). The Backbone of a Straw Man: Popper’s Criticism of the Vienna Circle Inductivism. In *Proceedings of the XXIII World Congress of Philosophy* (Vol. 62, pp. 75-79).
- Nelson, E. S. (2018). Dilthey and Carnap: the feeling of life, the scientific worldview, and the elimination of metaphysics. In *The Worlds of Positivism* (pp. 321-346). Palgrave Macmillan, Cham.
- Richardson, A. (2017). From Scientific to Analytic: Remarks on How Logical Positivism Became a Chapter of Analytic Philosophy. In *Analytic Philosophy* (pp. 146-159). Routledge.
- Sandner, G. (2019). The Scientific World-Conception in the Making: Towards the Ideological Roots of Logical Empiricism in Berlin and in Vienna. In *Ernst Mach–Life, Work, Influence* (pp. 271-282). Springer, Cham.
- Schmaus, W. (2017). Political Philosophy of Science in Nineteenth-Century France: From Comte’s Positivism to Renouvier’s Conventionalism. In *Eppur si muove: Doing History and Philosophy of Science with Peter Machamer* (pp. 97-111). Springer, Cham.
- Stöltzner, M. (2020). Scientific World Conception on Stage: The Prague Meeting of the German Physicists and Mathematicians. In *The Vienna Circle in Czechoslovakia* (pp. 73-95). Springer, Cham.

Uebel, T. (2017). American Pragmatism, Central-European Pragmatism and the First Vienna Circle. In *Logical Empiricism and Pragmatism* (pp. 83-102). Springer, Cham.