

The Metaphysical System in Alfred North Whitehead's Philosophy and Its Epistemological Dimensions

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Submission: 25.11.2025; Acceptance: 04.03.2026; Publication: 23.06.2026

Abstract

The purpose of philosophical systems is to account for the sources of knowledge by uncovering the history of human consciousness and relating it to logical and ontological relations grounded in a framework of foundation and generation that balances form and content. Philosophical systems are neither static entities nor mere repositories of human knowledge. Rather, they are proliferating forms of intellectual life concentrated within a profoundly rooted central intellectual nucleus that establishes the principles of philosophical method and generates creative forms of knowledge capable of balancing truth and method. This study takes Alfred North Whitehead as its representative model. By examining his philosophical system, it seeks to elucidate how the sources of knowledge may be interpreted through a framework of foundation and generation, that is, by establishing the principles of philosophical method and generating creative concepts and conceptions intended to address questions of truth, irrespective of the domain in which they arise.

Keywords: Alfred North Whitehead, metaphysics, system, metaphysical system, becoming.

Introduction

Metaphysics occupies a distinctive and privileged position in philosophical and epistemological studies because of its profound importance, considerable intellectual efficacy, and marked influence on philosophical and intellectual currents and schools, scientific theories, and religious and ideological positions from the dawn of philosophical thought to the present. The scientist, mathematician, and logician Alfred North Whitehead was fully engaged with this context and subject. Metaphysics constituted one of the philosophical and epistemological questions that preoccupied his thought and consequently assumed a distinctive place within his intellectual, scientific, and philosophical project.

Alfred North Whitehead established his standing in contemporary philosophical thought, generally and in the philosophy of science in particular, by treating metaphysics as a source of

support and justification for scientific inquiry and by representing and defending it within both philosophy and the philosophy of science. He regarded metaphysics as one of the strongest grounds for understanding science, epistemology, and philosophy from their inception and throughout their development in human thought.

Whitehead maintained that metaphysics has been, is, and will remain a vital component of science, even in its most precise manifestations, concerns, problems, achievements, and crises. It has also provided an expansive intellectual space for societies since antiquity and across all domains of life, including periods of profound social crisis. Metaphysics thus became an intellectual disposition with direct practical implications, even as philosophers, scientists, thinkers, researchers, theologians, and ordinary people often recoiled from debating it.

Within this unstable and ambiguous intellectual climate surrounding the importance, efficacy, and value of metaphysics, Whitehead's interest arose from his perception of it as an insufficiently explored domain whose value remained disputed and whose unknown dimensions therefore required investigation. He explicitly affirmed its necessity and importance for humanity and sought to defend it against unjust accusations.

Along this philosophical and intellectual trajectory, Whitehead advanced a defense of metaphysics that was grounded, reasoned, and methodologically organized within a rigorous philosophical system. This system encompassed philosophical foundations, epistemological dimensions, and substantive concepts relating to thought and life as a whole, including the universe, the human being, nature, and social life. Whitehead addressed these domains in works that presented his metaphysical system and demonstrated that metaphysics is not merely a matter of pure speculation but a question connected to reality and life.

This study raises philosophical and epistemological questions concerning the nature of Whitehead's metaphysical system. It seeks to elucidate its foundations, components, content, domains, and implications for the structure of metaphysical, philosophical, and scientific thought, particularly in contemporary philosophy.

Problem Statement

What is the metaphysical system established by Alfred North Whitehead? What is its nature? What are its philosophical foundations? What method or intellectual mechanism did he employ in establishing this system? What are its components and contents? What are its repercussions for the structure of contemporary metaphysics? What are its epistemological value and legitimacy?

Whitehead valued philosophical thinking and maintained that it is grounded in abstractions, while the philosopher's primary task is to criticize and test those abstractions. Ideas that scientists regard as supreme principles may prove imprecise. Whitehead addresses these questions by returning to the historical origins of metaphysics itself. The importance of history in the treatment of such subjects therefore becomes evident, as does the powerful presence of a historical orientation in his thought.

1. Alfred North Whitehead's Metaphysical Interests

Zaki Naguib Mahmoud writes of Alfred North Whitehead:

It was initially thought that Alfred North Whitehead began his intellectual life as a mathematician with a scientific mode of thought, but ultimately ended in metaphysical extravagances that bore no relation whatsoever to his earlier scientific life. However, the studies of his philosophy that have proliferated in recent years demonstrate the consistency of his work from beginning to end. There is no difference in principle or foundation between his early scientific thought and his later metaphysics; rather, both are expressions of a single, internally consistent body of thought characterized by a rigorous system. (Mahmoud, 2015, p. 3)

Although Whitehead specialized in mathematics and never attended a formal lecture in philosophy, he possessed a profound philosophical sensibility fostered by the intellectual environment at the University of Cambridge and by the conflicting philosophical schools and currents, scientific theories, and ideological positions that characterized the nineteenth and twentieth centuries, each claiming access to genuine truth (Islam, 1971, p. 273).

Whitehead's philosophy initially received relatively little scholarly attention. This neglect was attributable, first, to a contemporary philosophical climate that was deeply hostile to metaphysics and therefore had little patience with a philosopher such as Whitehead. Although his philosophical constructions differed in content from those of earlier metaphysicians, his mode of inquiry retained a comparable systematic ambition. Second, readers encountered considerable difficulty in understanding his philosophy because of the new terminology he used to express his thoughts generally and his metaphysical system in particular, thereby preventing his meanings from being confused with those of expressions commonly used in everyday life.

Among his students and associates at Cambridge were George Edward Moore and Bertrand Russell. In this regard, Whitehead states:

"The bond that united friends in their conversations and discussions at Cambridge was not the similarity of their fields of study. . . . This encouraged us to diversify our reading. Suffice it to say that, although I specialized in mathematics, I almost memorized entire sections of Immanuel Kant's Critique of Pure Reason. Today, I have forgotten what I had memorized because Kant's spell soon faded for me" (Islam, 1971, p. 273).

Whitehead's interests were not confined to philosophy but extended to history, civilization, education, aesthetics, economics, and other intellectual domains.

Whitehead subsequently turned to the philosophy of science after drawing on the sciences themselves, particularly logic and mathematics, with which he had begun his academic career at the University of Cambridge.

Whitehead's intellectual development passed through three distinguishable stages, reflected in his publications and identified in his autobiographical writings. Bertrand Russell expressed this point as follows: "Alfred North Whitehead had an extraordinarily wide interest in

numerous questions, and his knowledge of history used to amaze me. . . . He was always able to provide an extensive background on any subject related to history” (Islam, 1971, p. 274).

Whitehead’s philosophy of science is evident in his attempt to combine his interest in logic and mathematics, on the one hand, with physics, the natural sciences, the philosophy of science, and ultimately metaphysics, on the other. He devised a method or mechanism that brought these sciences and forms of knowledge together, which he called the abstract relational system, a metaphysical system.

This mechanism, method, or abstract relational system was not confined to these sciences but extended to the ethical, religious, artistic, aesthetic, political, social, and educational domains. It was also related to and extended into human relations within societies. Whitehead’s interest in these frameworks was neither simplistic nor naïve; rather, he approached them as questions concerning the logic of relations: the relationship of the human being to God, religion, beauty, art, history, civilization, education, and the universe.

Whitehead regarded these relations as the enduring foundation of the world’s development. The comprehensive or universal tendency of his philosophy is evident in this respect.

Whitehead did not begin his academic career as a philosopher, for he had received no advanced formal training in philosophy or its disciplines and had attended no philosophy courses during either his early university education or his higher studies. Nevertheless, from an early stage, he displayed considerable interest in and appreciation of philosophy and metaphysical inquiry. He subsequently became one of the foremost metaphysical philosophers of the twentieth century and one of its most vigorous defenders.

During Whitehead’s era, particularly when he began writing and publishing in the 1920s, metaphysics and philosophical inquiry into the nature of the universe and existence appeared to have been relegated to history. The dominance and influential achievements of empirical science increasingly shaped academic consciousness, with proponents of empiricism and positivism arguing that developing comprehensive metaphysical systems was a waste of time because metaphysicians lacked training in empirical research.

Whitehead had experienced the empiricist outlook firsthand. He therefore saw no scientific or methodological value in this objection unless empiricism itself was subjected to rational and speculative examination.

When discussing his metaphysical system, Whitehead repeatedly referred to the “philosophy of organism” and “process philosophy” throughout his writings.

Anyone who traces philosophical and scientific transformations from the Greek period to the present will observe that Whitehead’s philosophy of organism developed into the broad and increasingly prominent field of process philosophy.

According to scholars of his work, Whitehead’s philosophy is original, profound, and precise, and it constitutes a valuable intellectual legacy for contemporary Western philosophical and scientific thought. This is evident in works that established his reputation as a philosopher of

contemporary metaphysics, particularly *The Concept of Nature* (1920), *The Principle of Relativity with Applications to Physical Science* (1922), *Science and the Modern World* (1925), *Religion in the Making* (1926), *Process and Reality* (1929), and *Adventures of Ideas* (1933).

For Whitehead, metaphysics did not end with the results of science and the philosophy of science but extended to speculative thought aimed at establishing a comprehensive cosmological theory. Within this theory, the world is viewed as a unified whole in which opposing terms converge, including subject and object, thought and reality, the one and the many, and events and objects. This comprehensive view of the universe is expressed through formal frameworks resembling those of logic and mathematics. Such frameworks constitute an immense network of relations linking variables and approximating logical possibilities that encompass the development of actual entities, so that each entity finds its place and explanation at a particular moment within these abstract formal structures.

Whitehead proposed a new mode of reasoning, speculative reason, which he regarded as the mode most appropriate to metaphysics because metaphysics, by his definition, is “speculative philosophy that attempts to formulate a system”. For speculative reasons to succeed in constructing such a system, it must not allow its development to be constrained by a predetermined method (Mahmoud, 1967, p. 21).

Whitehead therefore adopts a cautious and critical position towards the imposition of a fixed method. He emphasizes that, in searching for principles, reason also searches for its method. Rational thought must consequently remain open, so that inquiry and method may develop together. Whitehead maintains that philosophical method involves generalization from the concrete to the universal. Such generalization is grounded more in description than in deduction. He objects to treating deduction as the decisive criterion of philosophical inquiry, regarding it instead as an auxiliary means of verification that should not take priority over other philosophical procedures. The method he advocates is descriptive generalization: rather than confining itself to the description of static structures, it describes the dynamic processes of life (Badawi, 1984, p. 551).

Whitehead’s epistemological criterion is twofold: a rational criterion consisting of logical judgments and the consistency of thought with itself, and an empirical criterion consisting of applicability and adequacy. A philosophical system must be coherent and logical. No entity should be conceived in isolation from all other entities, nor can an entity be understood unless its relationship with all other entities is determined according to logical rules. Knowledge, however, also requires empirical justification, and categories must be applicable and adequate. They are applicable when they describe all the particular experiences to which they pertain as revealing the same structure, and they are adequate when they encompass all possible experiences within their conceptual vision.

Whitehead’s metaphysics combines three elements: abstract formal frameworks, speculative theoretical thought, and concrete empirical reality. Metaphysics, therefore, constitutes a link between logic and mathematics, on the one hand, and empirical reality, on the

other. Although theoretical and speculative, it remains permeated by experience and manifests a scientific spirit throughout.

Whitehead expressed these ideas in most of his works, particularly *Science and the Modern World* (1925), *Process and Reality* (1929), and *Adventures of Ideas* (1933), while seeking to establish a comprehensive metaphysical system founded upon profound speculative inquiry. His prior knowledge of mathematics and logic greatly aided his understanding of mathematical physics and enabled him to draw extensively on it in the philosophy of science. Two fundamental features characterise Whitehead's metaphysics:

- It begins with the philosophy of science.
- It applies a scientifically informed method based on systematic construction.

Whitehead begins his metaphysics with the conceptions developed in his philosophy of nature and extends them within his new metaphysical system. For example, he employs actual entities rather than the events discussed in his philosophy of nature. He also adopts a generalizing approach resembling scientific reasoning, extending the conclusions of his scientific philosophy beyond physical nature to explain all elements of experience. At the beginning of *Process and Reality*, he maintains that speculative philosophy attempts to construct a coherent, logical, and necessary system of general ideas in terms of which every element of experience may be interpreted. Our experience of ourselves also falls within this general metaphysical framework (Badawi, 1984, p. 552). He therefore distinguishes between the philosophy of science and metaphysics as follows:

“In the philosophy of science, we seek the general conceptions applicable to nature, that is, to that of which we are conscious in sense perception. It is the philosophy of the perceived object and must not be confused with the metaphysics of reality, whose domain encompasses both the perceiver and the perceived. In the philosophy of science, we do not inquire into the perceiving subject or the perceptual process, but into the perceived object. I emphasize this point because discussions concerning the philosophy of science are usually metaphysical discussions to the utmost degree” (Kamil, 1993, p. 56).

Thus, Whitehead's metaphysics addresses both the perceiver and the perceived, that is, the human being and nature. In his view, this can be achieved only by formulating general conceptions applicable to both.

1.1. Alfred North Whitehead's Metaphysical System

Whitehead is one of the principal representatives of the metaphysical tendency within New Realism, although his interest in metaphysics did not fully crystallize until the later stages of his thought. His intellectual development may be divided into three stages, each marked by the publication of major scholarly works. During the first stage, he concentrated on mathematical studies and published works on mathematical logic, culminating in the monumental *Principia Mathematica*, co-authored with Bertrand Russell.

The selection of Whitehead's metaphysical system for this study rests on several considerations. Some are general and concern the place of philosophical, scientific, literary, and

religious systems within the history of thought in general and philosophical thought in particular. Others are specific to Whitehead as the model examined in this article. Despite his significance as both philosopher and scientist, Whitehead remains insufficiently studied in contemporary philosophical and epistemological scholarship, particularly in Arabic-language research.

Before addressing the central argument, methodological considerations require an examination of several intellectual mechanisms associated with linguistic and philosophical concepts that are important to the subject. Whitehead states: “Speculative philosophy attempts to formulate a coherent, logical, and necessary system of general ideas in terms of which every element of our experience can be interpreted” (Uwaydah, 1995, p. 50). This statement establishes a necessary relationship between philosophy and system, for their conjunction enables general ideas to be disclosed. Elsewhere, he states: “By metaphysics, I mean the science that seeks the general ideas that are fundamentally adequate and indispensable for every analysis of everything that happens” (Uwaydah, 1995, p. 50).

1.1.1. The Concept of System

The concept of system is widely used in philosophical and literary studies and in the social sciences. It is also a vital and central concept in logic and the sciences. Defining it precisely and determining its domains requires a distinction between the concept of system generally and that of the metaphysical system specifically. This distinction clarifies the meanings of both terms and deepens the understanding of Alfred North Whitehead’s metaphysical philosophy.

1.1.1.1. The Linguistic Meaning of System

Al-Khalil states in *Kitab al-‘Ayn*:

Arrangement means stringing beads together in a single order. The term applies to everything, as when it is said, “His affair has no order,” meaning that its course is not properly organized. A system is any thread on which pearls or other objects are strung. (Al-Farahidi, 1988, p. 165)

Al-Sharif al-Jurjani defines it as “the composition of words and sentences whose meanings are ordered and whose significations are proportionate according to the requirements of reason. It has also been defined as ordered and sequentially arranged expressions whose signification conveys what enumeration requires” (Al-Jurjani, 1985, p. 261).

In *Lisan al-‘Arab*, Ibn Manzur defines *nasq* as follows:

The system of anything is that which follows a single ordered pattern and applies generally to things. I arranged it systematically. The expression may also be pronounced in an abbreviated form. Ibn Sidah stated that to arrange something means to organize it evenly; it becomes ordered and coordinated, and the noun is *nasq*. These things have become ordered in relation to one another, meaning that they have been coordinated. Grammarians call conjunctions “particles of coordination” because, when one thing is conjoined to another following it, both proceed according to a single pattern. It was narrated that Umar, may God be pleased with him, said, “Coordinate the pilgrimage and

the minor pilgrimage.” Shammar stated that “coordinate” here means to perform them successively and repeatedly. It is said that one coordinates two matters when one makes them follow one another. Teeth are described as orderly when they are even. The arrangement of teeth refers to the regularity of their growth and the excellence of their composition. Coordination means connecting something to what precedes it, with the same governing verb applying to both. Even teeth and ordered beads are regular and well arranged. . . .

Coordination means organisation. A system is a discourse that proceeds according to a single order. The Arabs say of the course of a rope when it extends evenly, “Proceed according to this course,” meaning along this path. When speech is rhymed, it is said to possess an excellent arrangement. Ibn al-A‘rabi stated that a man coordinates his speech when he speaks in rhymed prose. The *nasq* also refers to stars aligned behind the Pleiades, known as *al-furud*. It is said, “I saw an ordered row of men or goods,” meaning that they were positioned beside one another. *Nasq*, with the consonant unvocalized, is the verbal noun of arranging speech by connecting one part to another. It is also said that one coordinated two things or arranged them successively. (Ibn Manzur, 2003)

In linguistic usage, systemic organization denotes order, interconnectedness, cohesion, sequence, the succession of ideas, and their organization within a textually, thematically, and organically unified fabric.

The word “system” (*système*) derives from the ancient Greek *sustēma*, meaning organization, composition, and totality. It therefore denotes order, wholeness, coordination, organization, and the establishment of interactive relations among structures, elements, and parts. A system is thus a comprehensive and integrated organic structural order.

In modern and contemporary foreign-language dictionaries, the word “system” (*système*) denotes a set of linguistic, literary, and cultural signs or a group of elements and structures that interact according to principles, rules, and standards. A system is also defined by the components, elements, and structures it contains; the interactions established among those elements; and the boundaries separating elements belonging to the internal system from those belonging to its external environment. It further requires an account of the mechanisms governing the system’s interaction with its social and cultural context (Lalande, 2001, p. 1417).

1.1.1.2. The Scientific Meaning of System

In its scientific sense, a system denotes an integrated and interconnected order of theoretical structures formulated by thought concerning a particular subject, such as the presentation of a mathematical model explaining a physical phenomenon. A system also denotes a set of rules, principles, hypotheses, postulates, and conclusions that constitute a comprehensive abstract theory or an integrated scientific order or apparatus, such as the Newtonian system in physics and the Aristotelian system in philosophy.

A system may also refer to a set of institutionally organized methods, theories, and procedures intended to perform a particular function, such as an educational system, a production system, or a defense system.

The term may refer to a group of elements and structures organically interconnected to achieve a particular result, such as the nervous system, or it may denote a set of elements that are similar or share common features despite their diversity and differences. A system may also mean an automatic and mechanical arrangement that performs a particular function, such as a lighting system or a vehicle system. It may serve as an analytical instrument insofar as it constitutes an independent network whose elements vary in importance and which contains a set of specific elements that respond, either wholly or partially, to a particular objective.

Accordingly, various types of systems may be identified, including physical, mathematical, biological, economic, political, literary, artistic, cultural, educational, social, scientific, philosophical, logical, media, technological, cybernetic, and astronomical systems. Scientific systems are subject to development, change, epistemological ruptures, and sudden scientific revolutions within what Thomas Kuhn terms paradigms and scientific theories or models.

Culture therefore changes in accordance with changes in paradigms and epistemological, scientific, literary, and artistic models and systems at the levels of theory, application, practice, and function. In other words, cultural transformation occurs through changes in the scientific theories, models, and paradigms that emerge over time, as Thomas Kuhn demonstrates in *The Structure of Scientific Revolutions* (Kuhn, 1972). Cultural systems consequently change as paradigms, models, theories, methods, and scientific assumptions change. In this regard, Jacques Herman states:

A scientific theory is regarded as a conceptual apparatus of a symbolic and logical character that satisfies several conditions. These include relevance to a specific problem and particular subjects, coherence among the set of concepts and propositions employed by the theory, and testing against practical field procedures used to collect data and information. (Herman, 2010, p. 19)

A theory always reduces the field of problems that prepared the way for its formulation. It is delimited and refers to a precise domain of reality. In addition, it retains a hypothetical character: It is open to revision and falsification and can never be regarded as definitively true without being continually subjected to testing or confronted with other facts and theories.

Scientific discourse consists of a set of symbols possessing a syntactic structure and semantic rules that provide a meaningful referent for the concepts of that discourse. Unlike a theory, however, discourse cannot be regarded as testable. Rather, it may be considered more or less relevant to addressing a particular problem or appropriate to a particular category of subjects. In this case, discourse stands in relation to theory as wrapping stands in relation to a gift.

A model or paradigm represents a combination of philosophical assumptions, theoretical models, key concepts, and valuable research findings that collectively constitute a familiar world of thought for researchers during a particular period in the development of a specific scientific discipline (Herman, 2010, pp. 15–16).

1.1.1.3. The Philosophical Meaning of System

A system refers to the organisation of a set of ideas, theses, and themes around a central principle. It may also be understood as a set of harmonious and interconnected parts centred on a general philosophical idea or thesis. In other words, a system is an order of intellectually, conceptually, and theoretically coherent elements. The relations among those elements may involve either connection or differentiation. A philosophical system is characterised by consistency, interconnectedness, and harmony and comprises philosophical ideas organised into themes and questions, whether mutually harmonious or opposed.

A system also denotes interaction, interconnectedness, cohesion, functional structural organisation, and the interpenetration of elements. It therefore includes intellectual and conceptual structures that interact with other elements and structures within a comprehensive organic unity. A philosopher consequently develops a particular philosophical system concerning existence, knowledge, and values.

Systematic philosophers share a systematic philosophical orientation. One may therefore speak of a system in the form of a school or doctrine that brings together philosophers who agree on certain themes, ideas, and theses while differing on others. There are consequently both general and individual philosophical systems. The rationalist system, for example, is represented by philosophers such as Plato, René Descartes, Gottfried Wilhelm Leibniz, Baruch Spinoza, Immanuel Kant, G. W. F. Hegel, and Karl Marx. The empiricist system is represented by thinkers such as John Locke, David Hume, John Stuart Mill, and Claude Bernard. Nevertheless, each philosopher possesses a distinctive conception and philosophical system.

A system further contains philosophical theories, themes, and questions interconnected through coherent logical, inferential, and argumentative relations.

A philosophical system may be said to encompass three major domains: existence, knowledge, and values. It therefore includes the philosopher's view of the world, existence, the human being, knowledge, and values. Such a vision should be characterised by consistency, coherence, comprehensiveness, and freedom from contradiction.

Systematicity accordingly denotes the production of an integrated, coherent, sequential, and logically, argumentatively, and inferentially connected philosophical text, whether inductive or deductive. Moreover, "a philosophical system is formed by its own thesis and by the theses that oppose it" (Wa'iziz, 1990, p. 27).

1.1.2. The Concept of the Metaphysical System

The metaphysical system comprises philosophical tendencies that have treated metaphysics as a mode of thought. It is most clearly manifested in philosophies dominated by a metaphysical character, particularly those in which the philosopher directly engages with

questions of existence, knowledge, and values. Such tendencies are often characterised by abstract and sometimes obscure concepts. The metaphysical question is posed in a comprehensive and abstract form, while the answers offered may assume opposing forms. The continuing significance of the metaphysical question lies in the possibility of establishing a productive continuity with the answers advanced by metaphysical philosophers during periods of profound philosophical renewal.

A question of a metaphysical nature enables us to recognise that philosophical truth is historically situated and that difference is not merely a choice but an existential and epistemological necessity. The present study does not seek to provide a detailed survey of all philosophies that have taken the form of metaphysical systems. Systematic metaphysical philosophers share a philosophical orientation that includes concepts and meanings with rational and metaphysical significance. Rationalism, idealism, and spiritualism may therefore be discussed as metaphysical systems taking the form of schools or doctrines (Al-Shaykh, 2012, p. 11).

1.1.2.1. The Nature of Metaphysics in Alfred North Whitehead's Philosophy

Although many philosophers agree on the general subject matter of metaphysics, they differ considerably concerning its nature, method, and value. Whitehead's conception cannot be easily assimilated or defined with precision because it is connected with numerous fields of human knowledge, particularly philosophy, science, religion, ethics, education, history, civilisation, art, aesthetics, economics, and other forms of inquiry.

Whitehead understood metaphysics in the same sense in which Aristotle had understood what he called first philosophy. He agreed with Aristotle that metaphysics is concerned with first principles or first questions and with the associated problems concerning the nature of fact. (Uwaydah, 1995, p. 50)

Metaphysics is a systematic inquiry into the foundations, principles, or essence of the universe. This inquiry forms a system of general ideas and concepts that begins with experience and generalises from it within the limits imposed by logical principles, while presupposing the rationality of the universe, or at least the rational intelligibility of experience. Whitehead's turn towards metaphysics therefore did not result from a loss of interest in the principal problems of science. Rather, those problems led him towards metaphysics in search of solutions formulated through philosophical concepts and general philosophical ideas. His engagement consequently ranged from Greek philosophy through medieval and modern philosophy to contemporary thought.

The metaphysics that most strongly attracted Whitehead was the metaphysics of existence or, more precisely, ontology. He maintained that the fundamental and ultimate problem of metaphysics lies in apprehending the complete fact or event and determining what it is. This aim converges with Aristotle's account of metaphysics as the apprehension of primary substance or the first causes of existence. Whitehead and Aristotle therefore intersect in their concern with

the nature of the determinate particular existent. Whitehead nevertheless regarded metaphysics as a fundamental component of the philosophical system as a whole.

On this basis, Whitehead defined metaphysics as the study of the general, complete, and universal principles of actual entities insofar as they are actual entities. More precisely, it is the study of being insofar as it is being (Uwaydah, 1995, p. 53).

1.1.2.2. Features of Whitehead's Metaphysical System

Whitehead's system seeks to elucidate the internal role of metaphysics by revealing its efficacy, challenging arbitrary and preconceived judgements, and disclosing what remains unthought within metaphysical discourse. Nevertheless, engaging with the thought of a philosopher, logician, mathematician, and metaphysician such as Alfred North Whitehead is far from straightforward. From the late nineteenth century through the early decades of the twentieth, Whitehead gradually shifted his attention from mathematics to the philosophy of science and ultimately to metaphysics. He developed a comprehensive metaphysical system that departed radically from much of Western philosophy. He regarded metaphysics as primarily rational insofar as it seeks to disclose first causes without the arbitrariness or intellectual authoritarianism that would be inconsistent with the nature of reason.

Whitehead attached considerable importance to the compatibility of scientific, philosophical, and metaphysical consciousness and called for a common framework of interrelations among branches of knowledge. He regarded such a framework as vital to human societies, to the extent that the future course of history depended upon it. In this regard, he states:

“We fail to find any element of experience that is not an instance of a general theory. This is precisely the hope of every rational doctrine, and this hope is not merely metaphysical; rather, it represents a belief held by all the sciences, including metaphysics” (Uwaydah, 1995, p. 55).

Whitehead devoted considerable attention to the nature of metaphysics. Ali Abd al-Mu'ti Muhammad argues in *Alfred North Whitehead: His Philosophy and Metaphysics* that metaphysics constitutes the core of Whitehead's philosophy (Muhammad, 1980). Whitehead uses the term philosophy to refer to the discipline that studies existence comprehensively and absolutely, including what existence may become. Philosophy must therefore rise beyond the immediately perceptible natural world. As a field of inquiry, it includes subsidiary branches such as metaphysics, epistemology, cosmology, ethics, and aesthetics.

“Whitehead's metaphysics attempts to construct a doctrine or system encompassing general ideas. Such ideas make it possible to interpret all the elements of our experience, provided that they are interconnected or necessarily related to one another. This interconnection simultaneously constitutes an important and fundamental criterion to which any metaphysical system must attain and includes a precise standard that those metaphysical ideas themselves must satisfy” (Kamil, 1993, p. 59).

This indicates that Whitehead's metaphysical system is intended to be applicable to diverse facts and capable of interpreting every element of experience. The conceptions it

contains therefore resemble the variables of mathematics and logic, which may assume multiple values.

Whitehead's metaphysical system, characterised by precision, rigour, and consistency and intended to provide a place for every fact of experience, remains an intellectual ideal that can scarcely be attained in full. We must therefore be satisfied with principles and conceptions that are, at best, approximations through which we continually approach the ideal, guided by our experience of the world and its events (Mahmoud, 1963, p. 161). The following are among the principal conceptions advanced by Whitehead.

Whitehead extended the application of some of his ideas concerning the philosophy of the natural world by transferring them from the domain of nature to that of the human being. In doing so, he crossed the gap that many philosophers had assumed to exist between inanimate nature and human experience. For example, Whitehead expanded his use of the concept of the event by transferring it to the domain of human experience.

The primary components of every event are the threads that reach it from earlier events, together with the subsequent events that follow from it within a process or movement whose rhythm resembles a pulse. Likewise, every part of present experience constitutes a "drop of experience". "Drops of experience" is a term coined by William James and adopted by Alfred North Whitehead. Each drop forms part of the particular context of one's present and future existence, as well as the existence of others, and belongs to a process whose rhythm likewise resembles a pulse. Whitehead calls this rhythm the "pulse of existence" in nature and the "pulse of experience" in human experience (Islam, 1971, p. 284).

Pulses therefore occur in both nature and human experience, a view that may underlie Whitehead's philosophy of organism. For him, everything is organic not in the strictly biological sense, but in the sense that everything existing in nature has a history and an extension in time, within which its past, present, and future events are interconnected. Whitehead calls this interconnection among events "prehension". In his philosophy of nature, he had described it as "passage": the transmission of characteristics from a past event to a present event and their inheritance by a future event. In his metaphysics, he also describes this prehensive development simply as "process".

Because metaphysics, for Whitehead, studies ideas and conceptions applicable to reality, he modifies the terminology previously employed in his philosophy of nature. Instead of events, he speaks of actual entities; instead of objects, he refers to eternal objects; instead of the ingression of objects into events, he speaks of mutual immanence between actual entities and eternal objects; and instead of passage from one event to another, or prehension, he speaks of process, becoming, and change. The components and content of Whitehead's metaphysical system must therefore be examined.

2. Components and Content of Whitehead's Metaphysical System

2.1. Actual Entities

Whitehead frequently calls actual entities "actual occasions". In *Process and Reality*, he defines them as the perishing things of which the world is composed. Within the human domain, they correspond to experience. Although actual entities are the ultimate realities reached through analysis, they are not wholly simple; rather, they are complex and composite because each entity incorporates others and is itself incorporated into further relations. The same applies to events within the philosophy of nature.

Actual entities are continuously involved in process. Everything is therefore in process, and the world itself is becoming an enduring process. These entities are connected with the complete fact because Whitehead maintained that the ultimate metaphysical problem consists in conceiving the complete fact. Such a conception can be formulated and understood only in the light of the principal ideas concerning the nature of reality. Among the most fundamental of these, from a metaphysical perspective, is the conception of existence upon which ontology focuses (Whitehead, n.d., p. 151).

2.2. Eternal Objects

Just as objects are apprehended in events, eternal objects may be discussed insofar as they exist in, or are immanent within, actual entities. For Whitehead, existence is not exhausted by the real or actual world; the actual world is only one stage in the world's process, and further stages remain possible. The ontological principle affirms that concrete reality consists in actual entities that is, in what exists in the fullest sense. In *Process and Reality*, Whitehead emphasises that metaphysical vision is a comprehensive and universal vision capable of encompassing existence. Scientists and philosophers continually make metaphysical assumptions about how the universe operates, yet these assumptions often remain invisible because they are neither examined nor questioned. Although Whitehead acknowledged that philosophers cannot expect to formulate first metaphysical principles with finality, he argued that fundamental assumptions about the operation of the universe must continually be reconsidered if philosophy and science are to make genuine progress, even when such progress remains provisional. He therefore regarded metaphysical inquiry as necessary to both sound science and sound philosophy.

Because what will occur has not yet occurred, it belongs to the realm of possibility rather than actuality. For Whitehead, possibility constitutes the enduring realm and a fundamental domain of metaphysics. Just as the actual world consists of actual entities, the possible world consists of possible entities, which he calls eternal entities or eternal objects. Actual entities, however, remain in a continuous process that seeks to transcend present actuality and realise possibility. No absolute separation therefore exists between the actual and the possible, for the possible is what actuality may become, while actuality develops by moving towards further possibilities.

Development nevertheless emerges from within actuality. The possible exists within the actual in an unrealised form, whereas the actual is a possibility that has been realised. The realm

of possibilities is therefore not separate from the realm of actuality; rather, it is latent within actuality as a condition of its existence and development.

Eternal objects thus exist, in one manner or another, within actual entities, as the formal exists within the actual, the ideal within the real, the universal within the particular, the abstract within the determinate, the permanent within the changing, and potentiality within actuality. More generally, existence is realised through becoming (Whitehead, n.d., p. 153).

Zaki Naguib Mahmoud describes Whitehead's position as a philosophy of organic construction. He writes:

The first point to note concerning Whitehead's view of nature is that he locates the reality of a thing in the manner of its construction rather than in the content that fills that construction. The reality of a pyramid, for example, and the example is mine, does not lie in the rocks from which it is built, but in its framework, form, or structure. (Mahmoud, 1969, p. 158)

This account concerns "structures", as Zaki Naguib Mahmoud observes (Bocheński, 1992, pp. 298–299). The things of which nature is composed do not remain in a single state but are subject to change and movement. Whitehead appears here to have been influenced, in one way or another, by Heraclitus's conception of change and becoming. He therefore regards movement as part of nature and expresses it through the concepts of "passage" and "events", meaning the series of events that constitute the history of a thing. For this reason, his philosophy has been called the philosophy of organism and described as a philosophy of nature (Wolf, 1944, p. 124).

Whitehead attributed two modes of life to nature because he rejected from the outset the traditional distinction between nature and life. He argues that neither physical nature nor the meaning of life can be understood unless the two are fully integrated.

Whitehead's philosophy of organism therefore regards the universe and the social world as living wholes. Everything influences everything else, and no relations among things or events are wholly external. These claims increasingly distance Whitehead from materialism. Within his philosophy, space is an abstraction from the relations of mutual immanence among events, while time is an abstraction from the durations of successive events. In this respect, Whitehead's position converges with Henri Bergson's conception of duration. Nevertheless, Whitehead remained committed to rationalism as his philosophical thought expanded to encompass metaphysics and divinity. The philosophy of organism therefore includes the concepts of change, permanence, and immanence, as well as organic entities and eternal objects.

In epistemology, Whitehead adopted an objectivist position and maintained that entities are constituted not solely by acts of knowledge (Uwaydah, 1995, p. 93) but also by the past, present, and future, as well as by the reality of transcendence. He adopted realism, New Realism, and objective idealism, while rejecting the principle of immanence, which holds that only what is present within consciousness can be known. That principle presupposes a material conception that isolates things from one another. Through perception, however, an event transcends itself

and moves from the subjective towards the objective, making it possible for events situated “here” to apprehend events situated “there”. Within this epistemological framework, induction does not disclose immutable laws of the universe but identifies the particular characteristics of a limited group of events in space and time. Direct knowledge also apprehends sensory data and causal efficacy. Based on these premises, Whitehead adopted a panentheistic position.

Whitehead affirms that metaphysical vision is a comprehensive and universal vision capable of encompassing existence. Achieving such comprehensiveness requires a new method. He rejects reliance on deduction and criticizes Gottfried Wilhelm Leibniz for devising a universal calculus and presenting it as a general language applicable to all knowledge and sciences. Whitehead rejects deduction as the primary method of metaphysical inquiry because it derives propositions from premises. In his view, rationalist philosophers erred in treating premises as self-evident and certain principles immune from doubt. What René Descartes and Baruch Spinoza regarded as the premises of philosophical and metaphysical thought, that is, starting points from which thought proceeds deductively, are not, in fact, points from which thought begins but conclusions at which it arrives.

Whitehead thus radically reverses the relationship between initial premises and the process of thought. Because philosophical thought arrives at such premises rather than proceeding from them, its primary method should not be deductive. He also criticizes the Aristotelian syllogism as sterile and unproductive.

This radical methodological critique places Whitehead in a difficult position and reveals the extent of his capacity for methodological innovation. Earlier philosophers had ordinarily investigated metaphysical questions through syllogistic reasoning. Even when philosophical criticism of syllogistic logic intensified, deduction remained the principal alternative, as in the philosophies of Descartes, Leibniz, and Spinoza. Whitehead’s attempt is therefore exceptionally bold: he rejects both formal syllogism and mathematical deduction. What alternative method does he propose in place of deductive and syllogistic reasoning?

Whitehead proposes a new mode of reason, speculative reason, which he regards as most appropriate to metaphysics because metaphysics is “speculative philosophy that attempts to formulate a system”. For speculative reasons to succeed in constructing a system, it must not allow its development to be constrained by a predetermined method. Whitehead therefore adopts a cautious and critical view of rigid method, emphasizing that reason searches for a method while it searches for principles. Rational thought must remain open so that inquiry and method may develop together. Does this mean that speculative reason is without method?

Not at all. Although Whitehead warns against the constraints of predetermined method, he soon returns to the need for methodological guidance. He turns to experience and observes that what is evident within it is difference or change, which becomes perceptible only when it persists long enough to be apprehended. In everyday life, however, we apprehend only superficial details, whereas scientific generalizations do not arise from mere systematic observation within ordinary experience; observation must be guided by theory. Metaphysics,

therefore, requires a “working hypothesis,” a theoretical supposition that directs thought. How, then, is this theoretical guide attained?

It is attained through what Whitehead calls “direct insight”, which begins not with the most general metaphysical propositions but with less general formulations developed within particular fields. Whitehead states:

“The construction must arise initially from partial generalizations reached within particular domains of human interest, such as physics, physiology, aesthetics, ethical beliefs, sociology, and language as a repository of human experience” (Uwaydah, 1995, p. 64).

For Whitehead, philosophical method therefore involves generalization from the concrete to the universal. This process relies more on description than on deduction. He objects to treating deduction as the decisive test of philosophical inquiry, maintaining that it is merely an auxiliary means of verification and should not take priority among philosophical methods. The method he advocates is descriptive generalization.

3. Conclusion

This study has analyzed Whitehead’s metaphysical system to examine the thought of one of the leading figures in contemporary philosophy of science. His philosophy remains insufficiently known and studied in philosophical scholarship, particularly in Arabic-language research. Nevertheless, the examination of his philosophy and method reveals a thinker of considerable intellectual depth who merits recognition as a major philosopher of contemporary metaphysics. He developed an extensive epistemological project encompassing logic, mathematics, philosophy, metaphysics, education, religion, ethics, aesthetics, and society. The study also demonstrates that Whitehead established a metaphysical system in the fullest sense. Investigating its foundations and components has disclosed numerous epistemological questions and problems and has yielded the following conclusions:

- Whitehead’s intellectual formation resulted from an interaction among religion, science, philosophy, and metaphysics. He constructed his intellectual edifice through successive conclusions derived from rational principles, in a manner analogous to mathematical reasoning from postulates.
- Whitehead regarded the metaphysical system as applicable to diverse facts and capable of interpreting every element of human experience and life.
- Whitehead was not a rationalist philosopher in the traditional sense associated with earlier classical thinkers such as Plato, René Descartes, Gottfried Wilhelm Leibniz, Baruch Spinoza, Immanuel Kant, G. W. F. Hegel, and others.
- The structure of his system and its application to diverse dimensions of experience led him to place considerable confidence in metaphysics.
- He maintained that philosophy, science, metaphysics, and even religion had failed to keep pace with an age of comprehensive development.

- He criticized currents hostile to metaphysics, particularly philosophy generally. A fundamental point of disagreement between Whitehead and his opponents concerned their depreciation of rational speculation; he reproached them for failing to keep pace with contemporary science and its theories.
- Whitehead was explicit about what metaphysics could contribute to science, philosophy, religion, aesthetics, education, and society: one of its tasks is to disclose the epistemological values embedded in human knowledge.
- Whitehead's conception of philosophy, metaphysics, and science confers epistemological value on systematic thought by resisting the wholesale dismantling of philosophical, metaphysical, and scientific systems. In this respect, a system should not be reduced to a research method, a conventional and commensurable discourse, an alternative to epistemology, or an instrument for constructing an "ahistorical field of knowledge". Rather, it can function as an open and incommensurable discourse, an invitation to sustain discussion and conversation, and a domain for innovation and the articulation of what has not previously been said.
- Within this metaphysical and epistemological orientation, metaphysics should not be reduced to a method for attaining truth. It is not merely a fixed method, theory, or doctrine. This position helps to overcome the conception of the human mind as a mirror that supplies a single vocabulary by which all discourses may be rendered commensurable.
- Philosophy must engage directly with science, nature, reality, and life, where substantial tasks await it, and must renew its discourse in accordance with their realities. Whitehead's metaphysical system establishes a distinctive approach grounded in a specific conception of the relationship between science and metaphysics.
- Whitehead assigns metaphysics tasks of its own that proceed alongside science without either discipline assuming the identity of the other. He seeks complementarity without dissolution.
- Whitehead sought to overcome the negative dogmatic attitude towards metaphysics and philosophy. The revolutionary sciences of the twentieth century often disparaged metaphysics, although many scientific theories rested upon metaphysical assumptions.
- Whitehead's metaphysical system is distinguished by its call to cross the boundaries of the sciences, particularly the empirical sciences, and to open new horizons for philosophical reflection on their implications.

A final question therefore arises: Does Whitehead's metaphysical system transcend other systems and exemplify a paradigm of epistemological rupture and displacement in contemporary philosophical thought, or does it consolidate a new form of dogmatic metaphysics?

Philosophical, scientific, and social reality continues to confront major metaphysical, doctrinal, and epistemological problems for which most systems have not provided satisfactory solutions, particularly in the context of emerging diseases and epidemics. The COVID-19 pandemic, for example, cannot be wholly separated from broad metaphysical questions, while advanced research across contemporary sciences continues to seek comprehensive explanations of the disease.

With Whitehead, it becomes evident that metaphysics intersects with the various sciences. He affirms the vitality and essential character of systematic thought and its intrinsic connection with metaphysics and philosophy, as well as with an epistemological orientation that rejects the elimination of the metaphysical system based on any single rational, empirical, religious, social, cultural, or ideological criterion.

Whitehead sought to overcome the opposition established by certain currents dividing metaphysics from science and from epistemology. The resulting conflict between his philosophy and that of his opponents is therefore a conflict between a systematic philosophy that regards metaphysics as fundamental and an opposing philosophy that questions any epistemological discourse presented as metaphysical. The increasing prevalence of the prefix *meta-* across fields of human knowledge further underscores the ongoing nature of this problem.

The preceding examination of the foundations, nature, components, content, and principal features of Whitehead's metaphysical system indicates that Whiteheadian metaphysics constituted a radical development in metaphysical inquiry. Whitehead sought to free metaphysics from its conventional classical framework, prompting severe criticism from contemporary philosophical currents, some of which regarded his system as arid and sterile. His intellectual boldness lay in making doubt a foundation of every possible metaphysics. His reliance upon reason and criticism thereby generated a form of metaphysical and epistemological renewal.

The central problem addressed in this study is the epistemological dimension of Whitehead's metaphysical system and its connection to major questions in contemporary philosophy. The study therefore engages with a central development in contemporary thought: the proclaimed end and dismantling of philosophical systems. Through his philosophy, Whitehead also addressed questions concerning the fundamental structure of philosophical inquiry, which formed a cornerstone of his contribution to contemporary thought.

The study further shows that Whitehead addressed questions at the boundaries of contemporary philosophy of science, particularly by attempting to present a comprehensive system for interpreting the universe and life through a determinate set of philosophical categories. Although the age of comprehensive systems appeared to have ended with Immanuel Kant and G. W. F. Hegel, Whitehead demonstrated the continuing possibility of a comprehensive philosophical system, which has received significant recognition within contemporary philosophy.

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