



Vol. 1, No. 1, Jan-Mar 2024, (1-25)

## International Journal of Human and Contemplation (IJHAC)

Journal Homepage: <https://ijhac.com>



### **In philosophy, All Endeavors Are Founded. Philosophical Thought In The Narrative: Resolving Scientific Challenges**

Milad Ghanbari<sup>1</sup>, Sayed Mohammad Mousavi<sup>2\*</sup>

<sup>1</sup> Assistant Professor, Department of Civil Engineering, East Tehran Branch, Islamic Azad University, Tehran, Iran. Email: [Milad.ghanbari@sbiau.ac.ir](mailto:Milad.ghanbari@sbiau.ac.ir), [orcid.org/0000-0001-9550-5711](https://orcid.org/0000-0001-9550-5711)

<sup>2</sup> \*M.Sc. Graduated, Department of Project Management and Construction, South Tehran Branch, Islamic Azad University, Tehran, Iran. Email: [Msvi.mhmd@gmail.com](mailto:Msvi.mhmd@gmail.com), [orcid.org/0009-0009-3909-1097](https://orcid.org/0009-0009-3909-1097)

Corresponding Author Email: 4th Floor, No. 59, 23 St., Nasr St, Gisha Quarter, Tehran, 1447833738, IRAN, [Msvi.mhmd@gmail.com](mailto:Msvi.mhmd@gmail.com), +989134363592

**Abstract:** This article attempts to emphasize the undeniable and inseparable relationship between conceptual thinking and science. This paper discusses the significance of philosophical thought and its influence on the development of fundamental principles in physics, mathematics, the humanities, and biological sciences. Extensive research and empirical evidence have consistently demonstrated that scholars, researchers, and scientists' worldview significantly shapes their perspectives and influences their work. Due to his profound and comprehensive contemplation of the surrounding universe, he has cultivated an exceptional perspective on reality. This article analyzes the correlation between philosophical thought and worldview, and their influence on diverse branches of the human sciences. It excludes the natural sciences. The present article offers a comprehensive literature survey encompassing intellectual endeavors and undertakings, along with an in-depth analysis of theoretical principles and ideas. The application of philosophical thought can contribute to the resolution of obstacles encountered in various scientific domains through two distinct avenues: firstly, by elucidating non-evident problems, and secondly, by furnishing overarching principles and fundamental frameworks. The principles that manifest themselves before me daily, persistently and continuously, yet elude my conscious awareness.

**Keywords:** Philosophy In Science, Deep Thinking, Nature, Collective Learning, Philosophical Thought

## 1.Introduction

The correlation and proportionality between the disciplines of philosophy and empirical sciences, specifically, hold significant importance and gravity in the advancement of human scientific knowledge. The comprehension of the veracity of experimental investigations and the accurate evaluation of their positions can be achieved by examining these investigations through a philosophical lens[1][2]. This approach also allows for the assessment of the level of realism inherent in scientific theories[3], as well as the examination of the nature of scientific and empirical laws and their efficacy[4]. The emergence of philosophy of science as a distinct discipline of study can be attributed to various themes and related areas of inquiry[5][6]. There exist various branches within the field of philosophy of science[7], including but not limited to philosophy of experimental sciences, philosophy of the humanities, philosophy of social sciences, and philosophy of historical sciences[8]. Moreover, this field encompasses other sub-disciplines such as the philosophy of law, philosophy of economics, philosophy of social sciences, and philosophy of politics[9][10]. The acquisition of information in the field of science philosophy is advantageous for both philosophers and scientists. The field of philosophy of science enables scientists to cultivate a heightened sense of objectivity in their pursuit of knowledge and facilitates a deeper comprehension of the intricate interplay between scientific inquiry and empirical observations[11].

Philosophers can enhance their efficacy by cultivating a robust engagement with empirical sciences, so facilitating the resolution of pragmatic issues[12]. The discipline of philosophy of science assists students in experimental fields by enabling them to eschew absolutist perspectives and recognize the limitations of sensory perception in comprehending the entirety of reality[13]. Moreover, it is impracticable to conduct empirical testing for all phenomena. Nevertheless, numerous human affairs are inherently intertwined with the field of science. Indeed, empirical testing is not applicable in this context, necessitating the utilization of alternative scientific methodologies, such as philosophical approaches. Philosophical concepts provide science with a precise methodology instead of mystical ideas[14]. Gaining a comprehensive understanding of natural phenomena is crucial for uncovering unresolved inquiries about human nature[15]. Occasionally, the issue at hand is not inherently philosophical, as is the case when attempting to address a familial matter. In order to address the issue of societal decline, it may be necessary to examine the dynamics within a particular group[16]. While the problem at hand may not be inherently philosophical, a philosophical approach could be employed. He employed logical reasoning and observed natural phenomena to examine and explore the family problem[17]. In philosophical discourse, it is important to approach opinions, arguments, and analytical perspectives with impartiality, ensuring that the philosopher's exploration of philosophical matters remains unbiased. Philosophy does not offer explicit moral guidance[18], but it does equip us with a framework for employing our reasoning abilities in decision-making[19]. Our comprehension of these concepts is characterized by clarity, precision, and reliance on straightforward reasoning methods[20]. Having a clear vision and being prepared help us avoid making baseless assumptions and encourage us to think independently, make our own decisions, and rely on ourselves[21]. In conclusion, this highlights the enduring existence of all phenomena in the universe. Although all organisms inherently derive advantages from these laws, humanity has only recently begun to give them significant consideration[22]. Nature inspires the idea of environmental conservation[23].

This article aims to illuminate the significance of the sun for nature enthusiasts and stimulate philosophical skepticism among individuals interested in acquiring knowledge and finding solutions to environmental preservation. Philosophical thinking is a distinct form of reasoning that

relies exclusively on reason and rationality, without any assumptions or external support[24]. It is characterized by the use of philosophical tools[25] such as concepts and arguments, which are observable and cannot be hidden. Our environment is currently under threat[26]. Human activities have led to various environmental issues[27], including the gradual global warming, abrupt climate changes, sea level decline, polar ice reduction, and air pollution resulting from the use of fossil fuels in urban areas.

## **2.literature review**

The purpose of this article is to review the systematic literature on the impact of philosophy on various sciences as well as to clarify the necessity of having a philosophical outlook across all disciplines. A review of the literature covered in this article includes two parts: an overview of the efforts and initiatives and the impact of philosophy in various sciences, and a discussion of philosophical thought.

### **2.1Philosophy in Science**

Science and philosophy share a close relationship. Philosophy occasionally addresses and captures the interest of scientists by exploring certain issues[28], [29]. Additionally, it integrates diverse scientific theories with other facets of human experience, such as religion, ethics, art, and customs[30], in order to construct a holistic understanding of the world[31]. Philosophy aims to provide rational explanations for fundamental aspects of human experience and scientific phenomena that demand clarification[32]. Scientists' thinking or philosophy can influence their experiences[33]. Philosophy is essential to the field of science. Science is a discipline that involves understanding reality through the lens of everyday experiences, guided by a philosophy that places emphasis on quantitative aspects(Figure 1). Philosophy has a distinct and significant impact on various scientific disciplines. Mathematics, in contrast to other sciences, places less emphasis on philosophy due to its strong reliance on perceptual and mental processes[34]. However, all scientific disciplines are subject to philosophical perspectives[35], which are inherently connected to spiritual existence and human cognition[36]. Scientific laws, in contrast, possess universality, applying uniformly to all individuals, locations, and periods, and remain independent of personal emotions and desires[37]. The validity and reliability of these models rely on their alignment with real-world practice. Scientific laws are not absolute and can be falsified due to their relative nature and their tendency to change and evolve over time. Prior to engaging in philosophical discourse[38], it is imperative for all disciplines and intellectuals to place their trust in the fundamental principles of philosophy[39]. The principle of reality asserts the existence of a tangible reality, rejecting the notion of existence as a mere imagination[40]. Minor science owners should critically examine any rulings pertaining to their disciplines when they have doubts about their validity. Philosophy not only offers a framework for understanding reality[41], but also facilitates the emergence of practical issues[42]. It establishes the basis for minor sciences by elucidating their underlying principles. In other words, minor sciences rely on philosophy to validate their scientific principles, and philosophical judgments regarding the feasibility and validity of these sciences have practical implications[43]. If philosophers regard nature as a fictional and deceptive realm, philosophy will diminish in its scientific and practical significance[44]. Philosophers can discover the epistemological and scientific significance of their inquiries by adhering to this principle, which pertains to the fundamental nature of the world's existence. In the subsequent, we will explore the interrelation between philosophical thinking and various scientific disciplines.

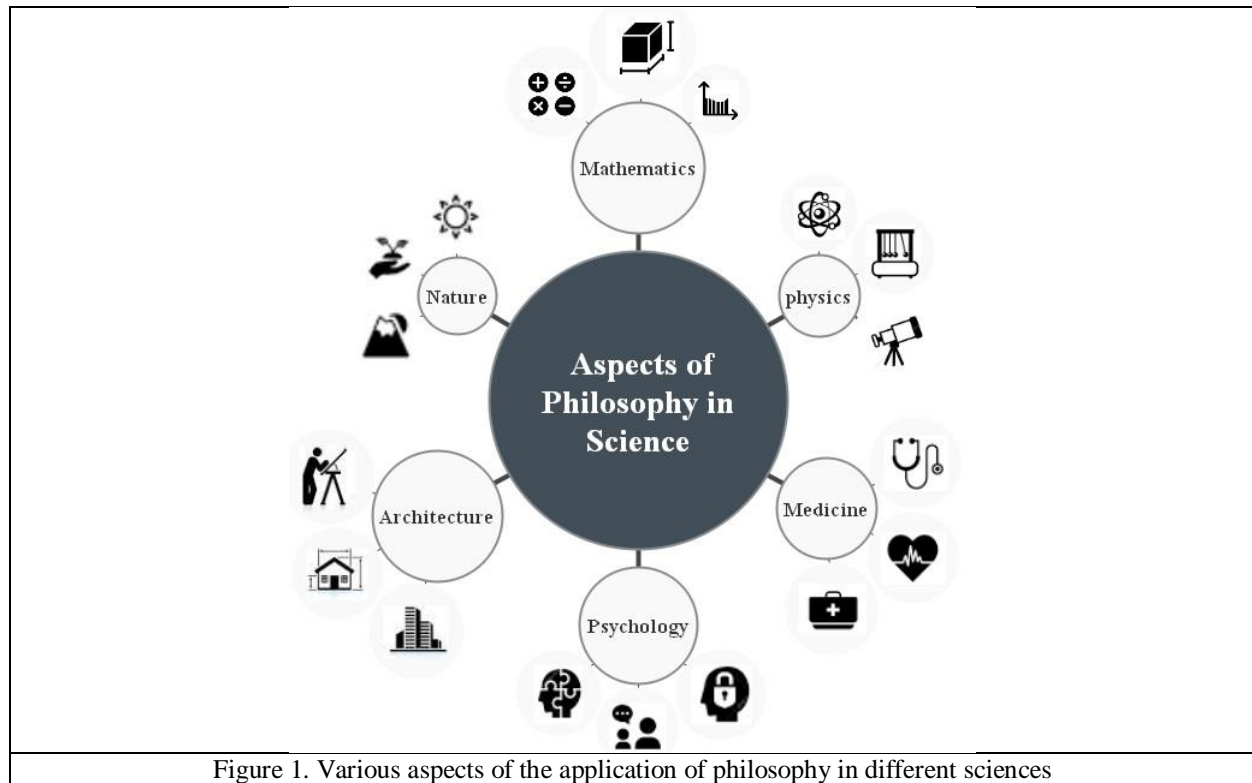


Figure 1. Various aspects of the application of philosophy in different sciences

### 2.1.1. Philosophy and mathematics

The historical record of philosophy indicates that before the modern age[45], all scientific disciplines were regarded as integral components of the field of philosophy[46]. The presentation of these sciences as distinct from philosophy is intended to underscore their autonomy[47]–[49]. Since its inception, mathematics has been intricately linked with philosophical concepts[50]. Throughout history, philosophers have consistently explored the intricate connection between mathematics and the physical realm. The desire for order and the ability to establish connections between elements have been significant driving forces behind mathematics advancement throughout human evolution[51]. Philosophy originated as inquiries into knowledge (epistemology) and mathematical entities (ontology)[52]. Throughout its evolutionary development, mathematics adopted a geometric perspective when engaging with logic. However, it is imperative to acknowledge that mathematics is not solely confined to logic-based subjects[53]. Mathematics and its connection to philosophy have undergone a significant transformation following the development of logic by Freije[54], the subsequent expansions by Hilbert and Russell, and the introduction of a novel approach to mathematical notions by Wittgenstein and Breuer during the late 19th and early 20th centuries[55], [56]. Mental philosophy, logic, and mathematics have been expanded by increased research into human mind functioning[56]. The significance of philosophy and mathematics has grown due to inquiries into the operations of the human mind and advancements in artificial intelligence. In order to address the question of whether the human mind possesses a fundamentally mathematical and logical structure[57], it is imperative to approach mathematical concepts through a philosophical lens. Mathematical mathematics distinguishes itself from other scientific disciplines by exhibiting a high level of confidence in its underlying assumptions[58]. Mathematic thinking facilitates the elucidation of mathematical concepts and contributes to enhanced comprehension of cognitive processes[59]. The examination of the correlation between two entities emerged as a prominent philosophical endeavor in the 20th

century. Hence, it may be contended that there exists a close association between the study of the human mind and mathematical contemplation. Plato and his disciples, known as the Platonists, emerged as prominent philosophical schools during ancient history.

Mathematical components, including numbers and forms, are commonly considered tangible and unbiased entities[60]. In nature, these entities are commonly seen as being autonomous from human cognition. Furthermore, mathematics was considered detached from tangible entities, spatial dimensions, and temporal constraints, while still being immutable[61]. Mathematical knowledge is eternal and is impervious to destruction. There was a prevailing belief that mathematics could be likened to tangible objects, with distinct attributes associated with its various components. Put differently, each mathematical assertion has a single solution[62]. The responses may have remained elusive. Plato compared mathematicians and biologists, asserting that mathematicians engage in discovery rather than invention[63]. For cognitive development and advancement, it is imperative that our minds do not remain in isolation. The social environment has a significant impact on cognitive development. The bio-social system functions dependent on the comprehension and exchange of information. The notion of trade covers not only the economic dimensions, but also encompasses emotional and cognitive dimensions[64].

### **2.1.2.Philosophy and physics**

Physic is the second most closely related science to philosophy after mathematics. With the advent of contemporary physics, we have witnessed a paradigm shift in the interpretation and elucidation of the world[65], in addition to challenges associated with existence and ontology[66]. As a result of the development of theories such as relativity, quantum mechanics, the uncertainty principle, and the Big Bang theory, we have witnessed this transition[67]–[69]. Philosophy, according to some philosophers and scientists, has reached its zenith, with physics able to address questions traditionally associated with philosophy[70]. It is important to acknowledge, however, that philosophy has not reached its conclusion, but rather continues to find relevance in other fields. Philosophical implications are derived from empirical observations and theoretical frameworks in numerous scientific disciplines, including theoretical physics[71], [72]. The field of practical physics can be divided into a number of subfields. Philosophical considerations should be given to the proposition that theoretical physics can be considered a branch of philosophy[73]. There has been a shift in the trajectory of science and physics, leading to the acquisition of more precise and refined information[74]. Physics is concerned with the inherent truths of nature and the interaction of natural phenomena[75]. What are the different types of relationships between items, how do objects establish connections with one another, and how do forces manifest their interactions? In the field of physics, these interconnections are examined[76], however, no assertions are made regarding the temporal sequence of the forces involved[77]. Philosophical knowledge derived from evidence and accomplishments is the focus of this topic, which falls within the field of philosophy. Scientists across all disciplines frequently consider the relationship between the notions and theories they possess and the objective world they seek to understand during the process of assessing their findings[78]. Even though the individual recognizes the possibility of alternative perspectives, he or she has no personal interest in philosophy. The nature of this topic, however, carries profound philosophical implications. Physicists who engage with the philosophical concepts of idealism and materialism typically aim to maintain an independent position from both perspectives[79]. In spite of that, individuals' endeavors inevitably have philosophical implications, regardless of their personal preferences or disavowals[80]. In light of the philosophical issue at hand, some individuals advocate transcendence beyond both materialism



and idealism[81]. As a result, they view themselves as transcending this constraint and distancing themselves from intellectual categories. When it comes to elucidating universal concepts, physical science relies on philosophical principles[82]. Philosophers previously viewed the concepts of essence, width, essence, existence, etc., as analogous to energy and movement, mass and weight, and matter density[83]. Scholars are able to focus their academic pursuits and investigations on the causal sequence of events and the governing principles that govern them by considering scientific laws from a philosophical perspective[84]. According to the law in question, there must be a cause for every conceivable phenomenon[85]. The aforementioned statement also applies to individuals within the field of physics. It is imperative that the scientific community operates based on the assumption that the natural world adheres to principles of order and comprehension in order to advance its research endeavors. Therefore, scientists should diligently pursue the identification of causal factors in their investigations.

According to Russell, physicists provide assurance regarding uncaused phenomena by suggesting that individual quantum evolutions may be understood as an analogy to the relationship between science and philosophy as a whole, similar to the axiom that two parallel lines never intersect in geometry. It is inherently impossible for these phenomena to disappear, since they are inherently independent of human influence and consciousness, thus being unaffected by the limitations of scientific investigation. Philosophical inquiry has historically served as a precursor to scientific inquiry, and it has gradually incorporated scientific methodologies into its own framework[86]–[88]. Certainly, it is plausible that this analogy may possess a lyrical nature rather than strictly adhering to geometric principles. The fact remains, however, that philosophy is more effective than science at presenting and interpreting rational and logical evidence. In addition to renowned historical Western scientists such as Galileo, Newton, Kant, Hegel, and Leibniz, who demonstrated a proclivity towards a realist perspective in their exploration of the fundamental principles of natural sciences, subsequent periods saw the emergence of scientists like Max Planck, Albert Einstein, Lawrence Bragg, an English physicist (1890-1971), and J.H. Janes, another English physicist (1877-1946)[89], [90]. Philosophical approaches were used by these individuals to elucidate theorems and articulate concepts within physics.

### **2.1.3.Philosophy and Medicine**

Can medicine be considered more than a pure science? In order to answer this question, phenomenology is necessary, although medical philosophy also plays a significant role. The practice of medicine is based on a number of scientific disciplines[91], such as physiology, pathology, microbiology, psychology, genetics, and pharmacy. The focus of these scientific disciplines is on the normal and abnormal functioning of human organs, using the scientific method in order to investigate the observed phenomena in physics, chemistry, and biology[92]. There is a rich and extensive history of the intersection of philosophy and medicine, dating back to the origins of both disciplines[93]. Throughout history, scholars in the fields of medicine and philosophy have consistently sought to gain a deeper understanding of medicine and its application. There has been considerable debate in recent decades regarding the viability and existence of a distinct field of study known as philosophy of medicine[94]. In the event that it exists, what subjects are covered? Does it constitute a separate discipline or is it a subfield of the philosophy of science? How does this field relate to the developed field of medical ethics? There has been extensive discussion of these questions, as well as similar ones, in the field of "philosophy of medicine" for an extended period of time. In spite of the fact that consensus remains elusive, various thinkers have proposed distinct frameworks and definitions for the field[95].

There are several books (1, 2, 3) which discuss the relationship between philosophy and medicine, highlighting both the positive and negative aspects of this dialogue. There is a mutual interest between doctors and philosophers regarding medical issues[96]. Throughout history, physicians have sought to comprehend the essence of their medical practice and the phenomena they encounter[97]. Philosophers have also sought a deeper understanding of medical phenomena beyond the scope of the discipline of medicine[98]. It is consistently necessary to have a philosophical vision in order to achieve these objectives. The significant emphasis placed on medical ethics and bioethics is another reason for focusing on medical philosophy[99]. It was evident from the presentation of successive theories in the field of medical ethics that a foundation should be established in this field. A concept that transcends principles, virtues, sophistry, hermeneutics, and similar concepts. As part of the initial phase of the project, a medical philosophy theory was developed[100]. The theory provides a framework for organizing competing ethical theories and for resolving contradictions between them. It is important to note that in antiquity and until the 19th century, the field of medicine included both theoretical and experimental endeavors aimed at understanding the causes of diseases and finding suitable remedies[101]. Galen's works emphasize the importance of observation and experience in a variety of combinations. In his work "Treatise on Man", Rene Descartes attempted to establish the fundamental principles of metaphysics, physics, and medicine[102]. The field of medical philosophy was established in the late 1960s as a distinct and organized academic discipline[103]. Medical philosophy has a variety of perspectives[104]. In accordance with one viewpoint, medical philosophy does not exist as a distinct and organized field, but rather as a subset of the philosophy of science. According to this perspective, medical philosophy can be compared to other branches of philosophy such as philosophy of history, philosophy of art, philosophy of law, and philosophy of literature[105]. In recent years, there have been debates and controversies regarding the definition of medical philosophy[106]. Medical epistemology is often referred to as a branch of philosophy of science that focuses on medical knowledge. However, this raises the question of whether medicine extends beyond the realm of pure science. In addition to phenomenology, medical philosophy is also required to provide an answer. In addition to physiology, pathology, microbiology, psychology, genetics, and pharmacy, medicine draws upon a variety of scientific disciplines. The purpose of these scientific disciplines is to investigate the observable physical, chemical, and biological phenomena using the scientific method to gain a deeper understanding of the normal and abnormal functioning of human body organs[107].

According to another perspective, medical science is primarily established and operates in the clinical setting or within the context of public health. It occurs when fundamental knowledge from the field of medical sciences is applied with a specific objective in mind, such as treating, containing, recovering, or preventing diseases, whether in individuals or within human societies. The primary objectives of medicine are the recovery from disease, the treatment of the disease, the prevention of the disease, and the promotion of health[108]. Thus, medical philosophy is aligned with both medical and public health concerns. In order to gain insight into the nature of the clinical encounter between patients and doctors, the author analyzes it from a personal perspective. This perspective emphasizes the causality of illness and disease when discussing the concept of "causality." [109] If we acknowledge the existence of a distinct discipline known as medical philosophy, two primary perspectives have been important to its development. In the first perspective, a variety of subjects within the field of medicine are considered, including basic medical sciences and therapeutic medicine[110]. A scientific and analytical approach is adopted. Secondly, the second perspective focuses on the philosophical aspects of medicine,[111] which

include all philosophical reflections relevant to medicine. In what analysis and continent is the study being conducted?

#### **2.1.4. Philosophy and Psychology**

Philosophy was primarily responsible for studying human nature in previous decades[112]. During this period, psychology was considered a branch of philosophy, along with other scientific disciplines[113]. The scope of empirical knowledge expanded starting in the 17th century[114], which led to the emergence of psychology's specialized fields. Over the course of time, successive scientific disciplines gradually distanced themselves from philosophy, resulting in a separation of the two. As a discipline that emerged in the mid-19th century, psychology was the last to disentangle itself from philosophy[115]. As a discipline, psychology is generally regarded as an empirical one, distinct from philosophy, which is characterized by rationality and evidence-based understanding[116]. A methodological analysis reveals that psychology and philosophy are closely intertwined[117], such that it is virtually impossible to find a renowned psychologist who does not adhere to some form of philosophical belief or theory[118]. There is no school of psychology that does not assume philosophical principles. Psychologists require philosophy, or are there still connections between the two despite their separation?

Two main periods can be distinguished in psychology[119]: the first spans over two thousand years from ancient Greek philosophy to the end of the Middle Ages. At this time, psychology was primarily concerned with the nature and functions of the soul[120]. Philosophical methods were identified and developed. With the era of Descartes, the second period of philosophy began. Since Descartes turned his attention from the soul to the mind and mental processes, philosophers and psychologists have debated the relationship between the soul and the body under a variety of titles[121], [122]. Throughout history, psychology has gradually moved away from its philosophical roots and adopted a more scientific approach[120]. Initially, psychological thought was dominated by the school of mentalism. Psychologists view humans as a union of body and mind, equating consciousness with cognition[123], [124]. It is therefore possible to define psychology as the scientific study of consciousness and the mind. Over time, however, external factors have influenced this perspective. The study of mind and consciousness was the primary focus of psychology during the 19th century[125]. In the course of time, however, this emphasis on the study of mind and consciousness gradually diminished within the field of psychology. As a result of their shared origins and the integration of psychological thought within philosophy, philosophy has long been regarded as the custodian of psychology. It has been associated with Greek philosophy for over 2400 years and persisted into the late 19th century[126], [127]. There was growth in the abdominal region of the organism[128]. In the field of philosophy known as "Psychology," philosophers discussed a wide range of topics related to human function[129]. For many centuries, psychology has been taught as a branch of philosophy, particularly in Iran[130]. In the period between Aristotle and Mulla Sadra, few philosophers and thinkers explored feelings, perceptions, and mental abilities. Over the course of history, philosophy has developed theories that serve as the basis for modern psychology. Philosophers may be considered innovators of psychological science due to their pioneering exploration of fundamental psychological issues[131]. The underlying assumptions of each school of psychology can be traced back to philosophical teachings. In many cases, psychological theories are influenced by philosophical ideas that have been developed in the past or in the present[132]. It is possible to establish their relationship to historical philosophical teachings and classify them based on their philosophical foundations[133]. Comparatively to American psychology, European psychology has shown a



greater tendency toward philosophical perspectives and a greater awareness of philosophical trends[134]. In the past centuries, philosophers have made significant contributions to the study of the mind and behavior. Consequently, several schools of psychology emerged within a short period of time. There has been a general acceptance of the separation between psychology and philosophy[135]. In recent years, psychology has become an independent science, influenced by scientific methodology. It may not be easy for psychology to reunify with philosophy given that it has separated itself from empirical science[136]. It is evident, however, that there is a possibility of a beneficial relationship between the two disciplines. In addition to contributing to the development of philosophical perspectives on nature and the body, psychologists contribute to the development of psychological insights that can be applied to fundamental psychological concerns.

### **2.1.5.Philosophy and Architecture**

As a human endeavor, art produces aesthetic results[137]. During the creative process, artists are able to either illuminate and uncover aspects of reality[138] that are latent but have yet to be explored, or to fabricate entirely new aspects of existence that are yet unexplored[139]. As both philosophy and art originate from the depths of human contemplation, the relationship between the two is intimately connected through the cognitive processes of the artist that lead to their manifestation[140]. There has always been a strong connection between philosophy and art[141], as well as the broader field of humanities in general. Since Plato and Aristotle, critics and artists have exhibited an inclination toward art[141]–[143]. They have acquired knowledge in art through philosophy, and many theories related to art have originated within the realms of philosophy and humanities. The architectural system is presented as a rational system[144], in which a newly evolved individual, whose self-sufficiency has been achieved, constructs a structure based on the rational system in pursuit of a positive outcome that is not easily discernible and resides in the obscurity of ambiguity[145], [146]. It is the individual's responsibility to facilitate the advancement of artistic endeavors through the application of this structure[147], while situating it within the framework of the metaphysical power inherent in building[148]. Based on the concept of linguistic power, the platform employs logical structures to visually portray the manifestations of human volition[149], [150]. Consequently, individuals are able to extend their reach and assert their presence in the world[151]–[153]. Both thinking and making do not require an intrinsic connection, but rather require a strong foundation or set of foundations as a prerequisite.

### **2.1.6.Philosophy and Nature**

As we examine the cosmos in a profound and philosophical manner[154], we must acknowledge that paying attention to the natural world and the surrounding environment is essentially attending to our own existence and sense of self[155]. It is important to note that individuals who remain detached from this truth erroneously perceive nature as distinct from themselves. Over the course of human history, there have been various fluctuations in the dynamic between humanity and nature[156]. Due to this, the responses to inquiries within this domain have not remained constant throughout history. What is the relationship between human beings and their environment?[157] Specifically, we are investigating the relative significance of man and nature in maintaining the metaphorical river of life's continual flow[158]. Throughout history, a number of principles have been established that govern the interaction between humanity and the natural environment[159]. It is important to note that this relationship has undergone various transformations and has encountered a number of challenges in the modern era.

Among the renowned mystics and physicists[160], highlighting the interconnectedness of the cosmos and the inherent connection between humanity and nature is considered an important philosophical concept[161]. Modern individuals are concerned about the environment and the resulting predicaments that have arisen due to the actions of modern humans and technological advances[162]. Many individuals have been engaged in the discussion surrounding the overconsumption of natural resources and the degradation of the environment[163]. In spite of this, the level of severity assigned to this issue as well as the appropriate measures for its resolution remain subject to debate. As we move forward into the 21st century, researchers are actively engaged in the discovery of numerous mathematical principles that govern the phenomena observed in the natural world[164]. Meanwhile, they are diligently applying their acquired knowledge to further understand and analyze these phenomena[165]. Industry is a prominent feature of modern science[166], since it provides insight into the complex relationship between humanity and nature, which includes both subordination and reciprocity. According to this statement, humanity holds a metaphysical superiority over the entity in question[167]. Modern civilizations, whether characterized by sophisticated industrialization or consumerism[168], are often characterized by a pervasive sense of disconnect from nature[169]. An imperceptible or even discernible barrier exists between humans and nature as a result of this detachment. Thus, life has become increasingly disconnected from its natural state, as well as the well-being of the individual. It is possible to attribute pollution to both external and internal sources[170]. In order to understand nature's vitality and our limited authority over it, it is essential to understand its vitality. Nature must not be viewed as a realm to be conquered[171], as such a view is likely to lead to unfavorable outcomes. It is evident from the prevalent sense of suffocation experienced in contemporary environments that this assertion is correct[172]. We are considering the proposition that all of nature is intrinsically interconnected with the creative power of a divine entity. As a result, our relationship with the natural world is intrinsically linked to our own existence[168], both of which are attributed to the divine[173]. Therefore, cultivating a deep sense of gratitude for nature is imperative in order to protect ourselves from potential harm. The ability to perceive natural sounds has become increasingly rare in contemporary times[174]. As humans have become increasingly detached from the natural world, a multitude of environmental and ecological crises have resulted. Among these challenges, the estrangement from nature is one of the most prominent. At present, individuals lack convenient access to natural environments[175], resulting in a variety of difficulties for humanity[176]. This category encompasses a wide range of spiritual and physical conditions. Individuals are compelled to actively safeguard the natural environment to sustain their existence.

To achieve and maintain development and progress, a healthy relationship with nature and the environment must be maintained[177]. In the short term, neglecting the complex interplay within an ecosystem, as well as the repercussions and responses of nature and the ecosystem[178], may yield transient favorable outcomes, but in the long run, it will cause significant problems[179]. This initiative has the potential to benefit the entire community. Examples of instances of negligence that have resulted in significant expenses include pollution, depletion of the ozone layer, climate change, and global warming[180]. These phenomena have also resulted in diverse social and psychological costs[181] in addition to the evident financial burdens. Human-nature interconnections have undergone significant changes as a result of the dynamic interaction between technological advancements and urbanization in the modern era[182]. Various chemical and plastic compounds generated by humans negatively impact the environment[183], as well as various activities that result in pollution. Climate and weather patterns have changed over the past few years as a result of the observed phenomenon. Various animal and plant species have been

extinct as a result of these alterations as well as extensive forest fires[184]. There is no doubt that numerous groups and institutions have undertaken and continue to engage in initiatives aimed at revitalizing the environment[185], [186]. In order to facilitate a transformation in this dynamic, it is imperative that a framework for cultivating a public culture be provided.

## 2.2.Philosophical Thought

When an essence is realized within the mind and in the outside world, its unity and identity are not compromised. In the same manner that it is realized outside, the essence is also able to appear and be revealed within the container of the mind while maintaining its identity and essence[187]. The great Iranian philosopher Ibn Sina[130] stressed the importance of observation and stated clearly: The perception of existence is not possible without observation[188]. Nature, the world around us, is the only source of information for understanding existence[189]. It is widely known that nature is the greatest and oldest teacher in the world, one who teaches with patience. In order to solve the dilemmas and problems that he has created for his environment[190], it may be necessary to observe, deep think, and understand the natural laws[191]. Therefore, nature even teaches man the solution to the physical damage caused by the development of human economics[192]. The purpose of this article is not to provide an extension of philosophical theory, but rather to provide a deeper understanding of natural phenomena. It is a thought that philosophy has been endeavoring to instill in all sciences for a long time[193]. In addition, philosophy may be defined as "thought" if a comprehensive definition is used. If we accept this definition, other questions must be addressed: Does every thought constitute a philosophy? Is it possible to say that all people are philosophers if thinking is thinking and philosophy is the act of thinking? All of the questions raised can be answered in the affirmative. People think, but they do not know that they are thinking; instead, they believe that they are thinking, and there are many differences between the two. It is imperative that we first understand the concept of thought and recognize that thought is nothing more than thinking[192]. In order to think, you must always think about something, and in order to have knowledge, you must know about something[193]. In Figure 2, philosophical thought is represented in a comprehensive manner as well as its application to various scientific disciplines. A person who claims to have knowledge is immediately asked what he knows. The answer of I do not know would be absurd, wouldn't it? Similarly, "science" without a "known" is meaningless; similar to love without a partner. Thought is philosophy, and everyone does, but when the subject of their thinking is economics, politics, engineering, etc., this type of thinking cannot be called philosophy[187]; because philosophy means thinking about the most fundamental matters of existence, and a philosopher is someone who thinks about these matters, even if they do not know philosophical terms. We have done something other than thinking when we have all our thoughts stored in our memory but do not think. Philosophical thinking, deep thinking about natural phenomena[194], is what is meant by the presentation of philosophy of science in this article. Knowing the simple but practical rules of nature. In spite of the simplicity of laws, these laws are easily modified, a fact that humans have also discovered, but it takes deep thinking, philosophical and searching thinking to solve the greatest problems of human society[195], which seeks to expand ideas rather than seek to discover them.

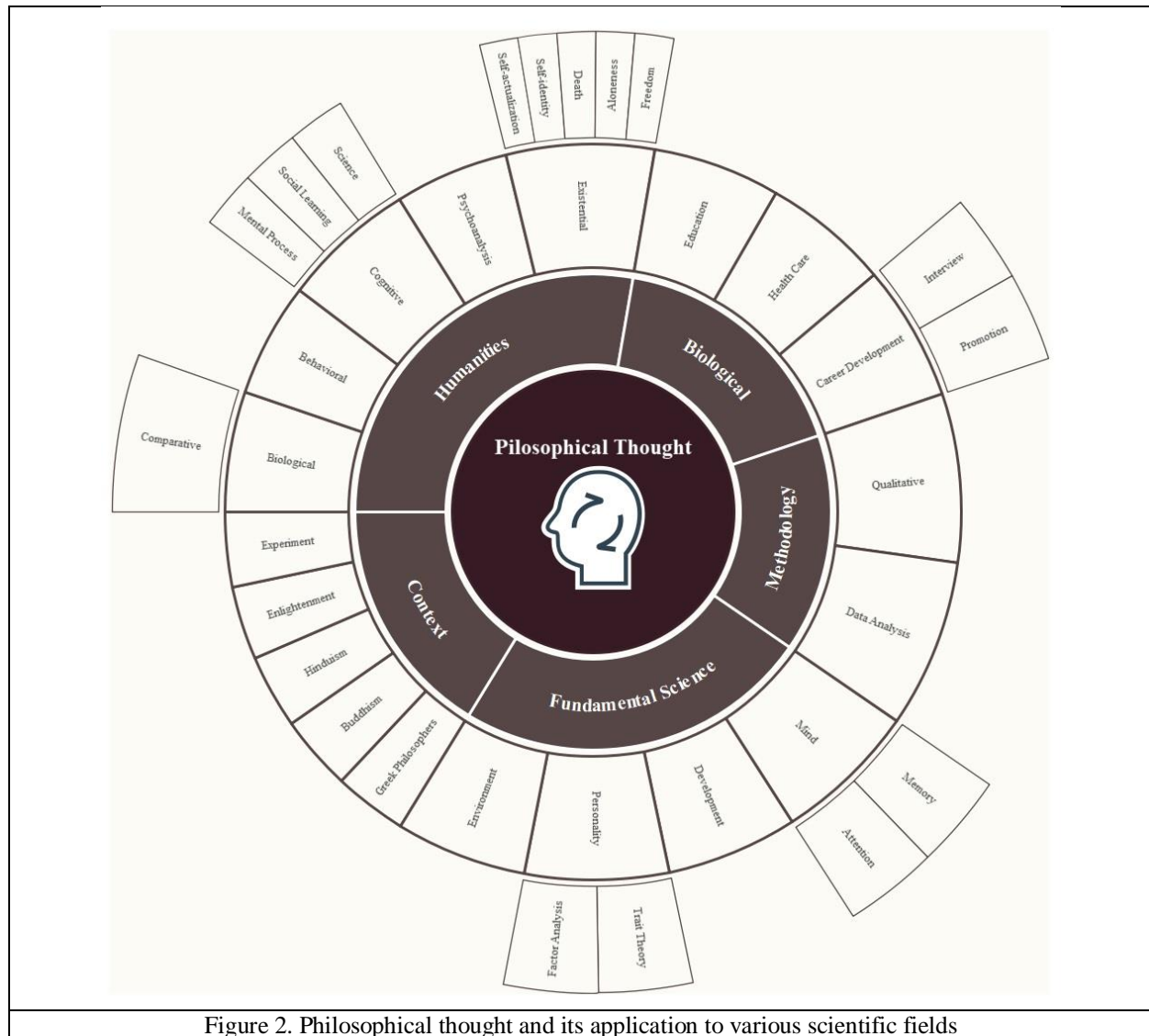


Figure 2. Philosophical thought and its application to various scientific fields

### 3. Conclusion

Therefore, philosophy of science emphasizes the pursuit of a rigorous methodology rather than the embrace of mystical ideas[12]. The goal of philosophical skepticism is to identify and scrutinize conceptual vulnerabilities in theories and discussions[196]. The purpose of exploration is to promote alternative explanations and new theoretical approaches. There is an intense interest among philosophers in the nuanced ambiguities of linguistic language[197] as well as the intricate relationship between cause and effect. This approach may have negative consequences when fundamental principles are assured within a scientific discipline: it is imperative that one diligently fulfills one's responsibilities and prioritizes completion. Even those unaware of its existence have been influenced by philosophy in a significant and often unnoticed manner. In various forms, such as speeches, articles in newspapers, and oral transmission, philosophy has played a vital role in refining societal perceptions. Additionally, it has influenced the perspectives of individuals. It has had a significant impact on politics as a result of this influence. Its importance in relation to other

scientific disciplines lies in its examination of the solvability or unsolvability of problems[198] encountered within them. In emerging research fields, progress and breakthroughs could not have been achieved without the foundation of philosophical thinking. While certain aspects of philosophy may have practical implications, it would be unwise to assume that the value of philosophy is solely derived from its practical applications. The engagement in philosophical inquiry about the intrinsic value of conceptual exploration is an effective method for ensuring the validity and reliability of scientific endeavors. It is the discipline of philosophy that examines both the fundamental principles that underlie several scientific disciplines as well as the investigation of specific issues that fall outside the scope of scholarly inquiry.

Nevertheless, one of the major obstacles to achieving prompt and conclusive solutions to diverse issues, including environmental contamination and scientific impasses in such disciplines as mathematics, physics, biology, urban planning, and architecture, is the tendency to perceive philosophy as a mere concept that does not require deep contemplation and inquiry into its purpose and essence. It has been found that when philosophy is offered as a form of knowledge, it garners little attention from individuals, and that some perceive philosophy to be an abstract discipline that has no practical application in everyday life. Philosophy facilitates the perception of several realities by those who possess a philosophical perspective. By expanding our perspectives, we are able to acknowledge the fervor of our convictions and our mistakes. Recently, observers have expressed concern about the lack of satisfactory outcomes despite substantial investments in large-scale environmental projects. In response to this phenomenon, intellectuals realized that addressing environmental challenges requires a novel framework that integrates sociological, ethical, and philosophical perspectives. Physico-ethical philosophy examines the understanding of relationships that arise from a profound contemplation of human interactions with the natural environment[81]. In this essay, we aim to familiarize environmentalists and other scientists with the various perspectives of contemporary philosophical thought and philosophy of science. Philosophical thought encompasses an overview of the relationship and application of philosophy in a number of fields, including the humanities and basic sciences. In certain developed nations, merely contemplating nature has resulted in environmental catastrophes affecting water, air, solid waste, and hazardous waste. Almost 4,000 people died as a result of air pollution in London in the year 1952. Numerous countries have recently been confronted with significant challenges as a result of inadequate attention being paid to environmental concerns. This is particularly evident in the improper disposal of hazardous wastes and the subsequent release of these materials into the environment. Either there is a lack of comprehensive legislation, particularly in developing nations, or existing laws are not adhered to. The mere enactment of legislation does not suffice to address these issues effectively, according to experts. An alternative approach involves reforming individuals' attitudes towards the environment, as well as enacting laws and closely monitoring their effectiveness. Human cognition must be fostered in a manner that takes environmental factors into account, regardless of economic factors. Environmental philosophy should be disseminated to the general public in a comprehensive and critical manner. Basically, the philosophy seeks to address and resolve a variety of challenges and issues that individuals may face. In many contemporary environmental works, especially those dealing with the management of hazardous waste, the importance of environmental thinking and philosophy is frequently emphasized. Due to the fact that effective and holistic environmental management requires not only technical and engineering expertise, but also legal, social, political, and philosophical factors. It is estimated that humans are responsible for a significant proportion of environmental degradation. The impacts of these changes include the redirection of rivers or the construction of dams, the destruction of forest for agricultural purposes, the pollution of air, soil, and water, as well as the development of urban



and metropolitan areas through industrial systems. In this essay, we aim to familiarize environmentalists and other intellectuals and scholars with the diverse perspectives found within contemporary philosophical thought. It is not uncommon for individuals to use a philosophical lens in order to discern optimal solutions to significant human problems. Researchers have discovered mathematical and logical correlations between natural phenomena using this approach. The use of particle density algorithm rules, artificial intelligence algorithms, fractals, self-organized systems, fish pack algorithms, ant colonies, and a number of other examples can be cited. A profound and inquisitive examination of these examples has proven invaluable in assisting humans in resolving major challenges rooted in laws governing creatures operating within plain view of humans. Philosophically, existence and the search for solutions are intertwined. As shown in Figure 3; This article presents a philosophical perspective and logic within different scientific disciplines, emphasizing the importance of this perspective for professionals and analysts. To ensure that technological and engineering endeavors are grounded on sound theoretical foundations, this paper emphasizes the need for comprehensive research in this area.

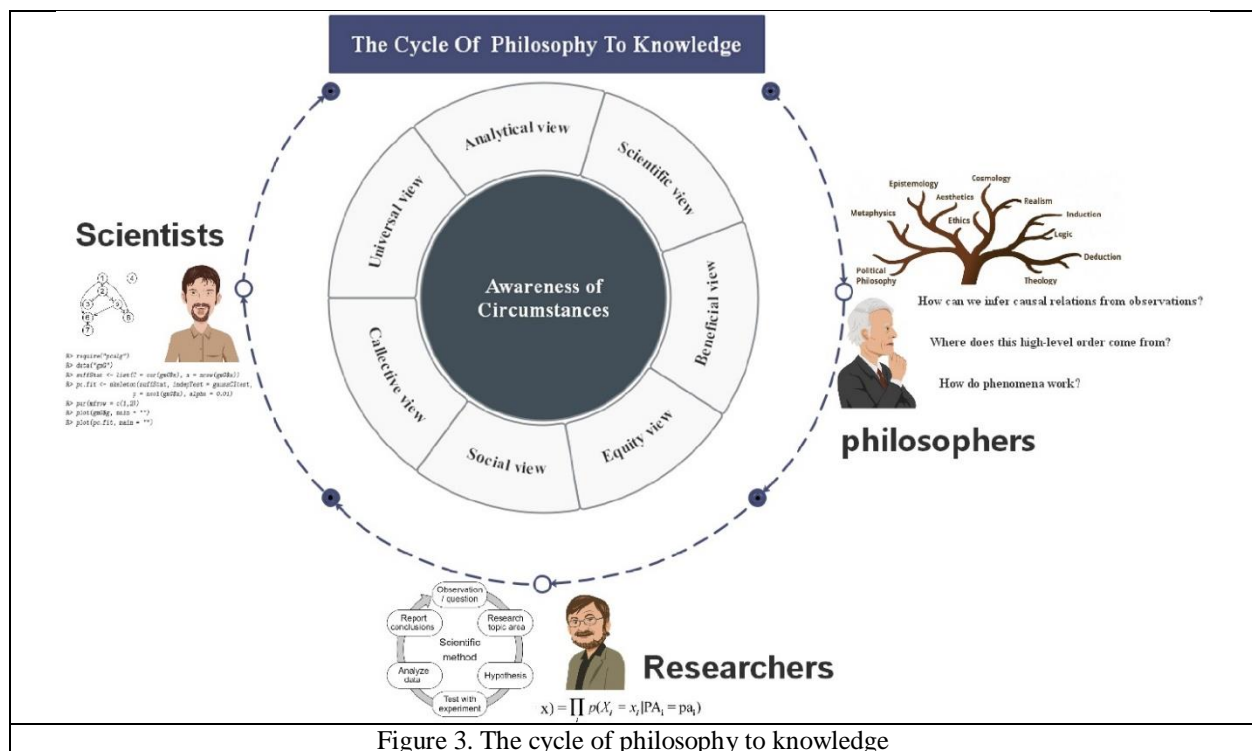


Figure 3. The cycle of philosophy to knowledge

#### 4. Research proposals

According to the investigations carried out in this article and the need to think philosophically about the phenomena in the world, this article would be of interest to researchers of physics, mathematics, chemistry, biology and even human sciences such as sociology and psychology. It is recommended that new solutions be discovered and even existing solutions be optimized. A potential avenue for future research is the exploration of particle swarm algorithms, ant colonies, bee colonies, and various other optimization approaches, along with their functional associations. This is in order to mitigate environmental hazards connected with green construction to the greatest extent possible.

## 5.Acknowledgements

In gratitude to the natural world and its divine origin, I express my sincere appreciation for the gift of cognitive abilities. It is with gratitude that we extend our gratitude to the natural world, which serves as a metaphorical canvas. We are presented with the solution to our dilemmas and the enigma of our insurmountable inquiries within our field of vision, persistently and uninterruptedly. In order to encourage individuals to contemplate these phenomena and independently devise solutions to the associated issues. All living beings and phenomena on earth are governed by nature as an inherent force. In order to effectively utilize these laws in one's life and academic pursuits, one must have a comprehensive understanding of these principles. In addition, an individual must possess a capacity for critical and analytical thinking.

## 6.References

- [1] J. Hanson-DeFusco, "What data counts in policymaking and programming evaluation – Relevant data sources for triangulation according to main epistemologies and philosophies within social science," *Eval. Program Plann.*, vol. 97, p. 102238, 2023, doi: <https://doi.org/10.1016/j.evalprogplan.2023.102238>.
- [2] W. J. Rapaport, *Philosophy of Computer Science: An Introduction to the Issues and the Literature*. John Wiley & Sons, 2023.
- [3] M. Risjord, *Philosophy of social science: A contemporary introduction*. Taylor & Francis, 2022.
- [4] W. Bechtel, "Philosophy of science: An overview for cognitive science," 2013.
- [5] B. McLoone, C. Grützner, and M. T. Stuart, "Counterpossibles in science: an experimental study," *Synthese*, vol. 201, no. 1, p. 27, 2023.
- [6] A. Sloman, *The computer revolution in philosophy: Philosophy, science and models of mind*. Author, 2019.
- [7] J. Passmore and S. Marić, *A hundred years of philosophy*. Duckworth London, 1966.
- [8] D. M. Bailer-Jones, *Scientific models in philosophy of science*. University of Pittsburgh Pre, 2009.
- [9] A. F. Nasution and N. Sibuea, "All Fields of Science J-LAS."
- [10] T. Fekete, D. S. Stoyanov, and B. Dresch-Langley, "Darren J. Edwards," 2023.
- [11] K. Vaesen and J. Katzav, "The National Science Foundation and philosophy of science's withdrawal from social concerns," *Stud. Hist. Philos. Sci. Part A*, vol. 78, pp. 73–82, 2019, doi: <https://doi.org/10.1016/j.shpsa.2019.01.001>.
- [12] N. Hangel and C. ChoGlueck, "On the pursuitworthiness of qualitative methods in empirical philosophy of science," *Stud. Hist. Philos. Sci.*, vol. 98, pp. 29–39, 2023, doi: <https://doi.org/10.1016/j.shpsa.2022.12.009>.
- [13] M. Hollis, *The philosophy of social science: An introduction*. Cambridge University Press, 1994.
- [14] A. Rosenberg, *Philosophy of social science*, vol. 2. Westview Press Boulder, CO, 1988.
- [15] A. Rosenberg, *Philosophy of social science*. Routledge, 2018.

- [16] T. Benton and I. Craib, *Philosophy of social science: The philosophical foundations of social thought*. Bloomsbury Publishing, 2023.
- [17] M. H. Lessnoff, *The structure of social science: A philosophical introduction*. Routledge, 2021.
- [18] J. Mouton and H. C. Marais, *Basic concepts in the methodology of the social sciences*. Hsrc Press, 1988.
- [19] M. Weber, *Methodology of social sciences*. Routledge, 2017.
- [20] L. Gideon, *Handbook of survey methodology for the social sciences*. Springer, 2012.
- [21] K. Moon *et al.*, “Expanding the role of social science in conservation through an engagement with philosophy, methodology, and methods,” *Methods Ecol. Evol.*, vol. 10, no. 3, pp. 294–302, 2019.
- [22] C. Bouzanis, *Social Imaginary and the Metaphysical Discourse: On the Fundamental Predicament of Contemporary Philosophy and Social Sciences*. Taylor & Francis, 2023.
- [23] A. G. Van Melsen, *The philosophy of nature*. BoD--Books on Demand, 2022.
- [24] H. K. Azzaakiyyah, M. I. Wanof, S. Suherlan, and W. S. Fitri, “Business Philosophy Education and Improving Critical Thinking Skills of Business Students,” *J. Contemp. Adm. Manag.*, vol. 1, no. 1, pp. 1–4, 2023.
- [25] M. R. Matthews, *The scientific background to modern philosophy: Selected readings*. Hackett Publishing, 2022.
- [26] P. Sands, “Environmental protection in the twenty-first century: sustainable development and international law,” in *The Global Environment*, Routledge, 2023, pp. 116–137.
- [27] R. L. Glicksman, W. W. Buzbee, D. R. Mandelker, E. Hammond, and A. Camacho, *Environmental protection: law and policy*. Aspen Publishing, 2023.
- [28] Z. S. Aripova, “Philosophy as a unity of scientific and non-scientific knowledge,” *Экономика и социум*, no. 3–2 (94), pp. 46–49, 2022.
- [29] P. A. Heelan, *Space-perception and the philosophy of science*. Univ of California Press, 2023.
- [30] D. Ihde, *Philosophy of technology*. Springer, 2004.
- [31] S. Fuller, *The philosophy of science and technology studies*. Psychology Press, 2006.
- [32] L. K. Bright and R. Heesen, “To be scientific is to be communist,” *Soc. Epistemol.*, vol. 37, no. 3, pp. 249–258, 2023.
- [33] M. K. Singh, *A Critical Survey of Indian Philosophy*. KK Publications, 2021.
- [34] E. Grant, *A history of natural philosophy: From the ancient world to the nineteenth century*. Cambridge University Press, 2007.
- [35] R. H. Stuewer, *Historical and philosophical perspectives of science*, vol. 1. Taylor & Francis, 1989.
- [36] A. Koberinski, B. Falck, and C. Smeenk, “Contemporary Philosophical Perspectives on the Cosmological Constant,” *Universe*, vol. 9, no. 3, p. 134, 2023.

- [37] M. Egan *et al.*, “Toward interdisciplinary synergies in molecular communications: Perspectives from synthetic biology, nanotechnology, communications engineering and philosophy of science,” *Life*, vol. 13, no. 1, p. 208, 2023.
- [38] R. M. Bhat, A. Sillalalee, and L. S. Kandasamy, “Concepts and Contexts: The Interplay of Philosophy and History in Understanding Human Society,” *East Asian J. Multidiscip. Res.*, vol. 2, no. 6, pp. 2581–2590, 2023.
- [39] J. Sytsma and E. Fischer, “‘Experience’, ordinary and philosophical: a corpus study,” *Synthese*, vol. 201, no. 6, p. 210, 2023.
- [40] I. Bulhof and L. Ten Kate, *Flight of the Gods: Philosophical perspectives on negative theology*. Fordham University Press, 2022.
- [41] D. Lorenzini, “Philosophical Discourse and Ascetic Practice: On Foucault’s Readings of Descartes’ Meditations,” *Theory, Cult. & Soc.*, vol. 40, no. 1–2, pp. 139–159, 2023.
- [42] M. Graves, “Interaction in Emergent Human Systems,” *Theol. Sci.*, vol. 21, no. 2, pp. 331–339, 2023.
- [43] K. T. Kraus, “Contemporary Kantian philosophy of science,” in *The Kantian Mind*, Routledge, pp. 568–580.
- [44] B. Skowron and P. Stacewicz, “Between Fiction, Reality, and Ideality: Virtual Objects as Computationally Grounded Intentional Objects,” *Philos. & Technol.*, vol. 36, no. 2, p. 34, 2023.
- [45] W. Anderson, “History and philosophy of science takes form,” *Stud. Hist. Philos. Sci.*, vol. 93, pp. 175–182, 2022, doi: <https://doi.org/10.1016/j.shpsa.2022.04.001>.
- [46] M. Dresow, “History and philosophy of science after the practice-turn: From inherent tension to local integration,” *Stud. Hist. Philos. Sci. Part A*, vol. 82, pp. 57–65, 2020, doi: <https://doi.org/10.1016/j.shpsa.2020.01.001>.
- [47] H. Riesch, “Philosophy, history and sociology of science: Interdisciplinary relations and complex social identities,” *Stud. Hist. Philos. Sci. Part A*, vol. 48, pp. 30–37, 2014, doi: <https://doi.org/10.1016/j.shpsa.2014.09.013>.
- [48] C. Mesaroş, “The History of Philosophy as Reconstruction,” *Procedia - Soc. Behav. Sci.*, vol. 71, pp. 6–13, 2013, doi: <https://doi.org/10.1016/j.sbspro.2013.01.002>.
- [49] L. Laudan and R. Laudan, “The re-emergence of hyphenated history-and-philosophy-of-science and the testing of theories of scientific change,” *Stud. Hist. Philos. Sci. Part A*, vol. 59, pp. 74–77, 2016, doi: <https://doi.org/10.1016/j.shpsa.2016.06.009>.
- [50] S. Shapiro, *Thinking about mathematics: The philosophy of mathematics*. OUP Oxford, 2000.
- [51] C. Cellucci, “Philosophy of mathematics: Making a fresh start,” *Stud. Hist. Philos. Sci. Part A*, vol. 44, no. 1, pp. 32–42, 2013, doi: <https://doi.org/10.1016/j.shpsa.2012.09.002>.
- [52] G. Saccomandi, A. Schlömerkemper, and G. Tomassetti, “Foreword to the special issue ‘Mathematics & Mechanics: Natural Philosophy in the 21st Century,’” *Int. J. Non. Linear. Mech.*, vol. 123, p. 103475, 2020, doi: <https://doi.org/10.1016/j.ijnonlinmec.2020.103475>.
- [53] Z. Domotor, “Mathematical Models in Philosophy of Science,” in *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)*, Second Edi., J. D. Wright, Ed. Oxford:

Elsevier, 2015, pp. 791–799.

- [54] K. Dunlop, “Mathematical method and Newtonian science in the philosophy of Christian Wolff,” *Stud. Hist. Philos. Sci. Part A*, vol. 44, no. 3, pp. 457–469, 2013, doi: <https://doi.org/10.1016/j.shpsa.2012.10.008>.
- [55] O. Skovsmose, “A philosophy of critical mathematics education,” in *Critical Mathematics Education*, Springer, 2023, pp. 233–245.
- [56] C. Pincock, “Mathematics and Explanation,” *Elem. Philos. Math.*, 2023.
- [57] F. A. Mala, “Philosophy of Mathematics: Classic and Contemporary Studies: by Ahmet Çevik.” Springer, 2023.
- [58] A. Arseven, “Mathematical Modelling Approach in Mathematics Education,” *Univers. J. Educ. Res.*, vol. 3, no. 12, pp. 973–980, 2015.
- [59] A. Bishop, *Mathematical enculturation: A cultural perspective on mathematics education*, vol. 6. Springer Science & Business Media, 1991.
- [60] P. Ernest *et al.*, *The philosophy of mathematics education*. Springer Nature, 2016.
- [61] C. Mathias, “Ubiratan D’Ambrosio, Curriculum, and Humanistic Mathematics: A Journey of Contrasts from the Modernist Rails to the Postmodernist Awareness,” in *Ubiratan D’Ambrosio and Mathematics Education: Trajectory, Legacy and Future*, Springer, 2023, pp. 305–321.
- [62] D. Chassapis, “History and Philosophy of Mathematics as a Framework for Teacher Preparation,” *Dialogical Inq. Math. Teach. Learn. A Philos. Approach*, p. 41, 2023.
- [63] Q. Cassam, “Philosophical virtues,” *Metaphilosophy*, 2023.
- [64] Y. Ben-Menahem, “The Turning Point in Wittgenstein’s Philosophy of Mathematics: Another Turn,” in *Mathematical Knowledge, Objects and Applications: Essays in Memory of Mark Steiner*, Springer, 2023, pp. 377–393.
- [65] C. Rovelli, “Physics needs philosophy. Philosophy needs physics,” *Found. Phys.*, vol. 48, no. 5, pp. 481–491, 2018.
- [66] J. H. Powers, *Philosophy and the new physics*. Taylor & Francis, 2023.
- [67] W. Lefèvre, *Between Leibniz, Newton, and Kant: philosophy and science in the eighteenth century*, vol. 341. Springer Nature, 2023.
- [68] F. J. Tipler, “Physics and Libertarian Philosophy,” in *Libertarian Autobiographies: Moving Toward Freedom in Today’s World*, Springer, 2023, pp. 441–446.
- [69] A. Majhi, “Logic, Philosophy and Physics: a critical commentary on the dilemma of categories,” *Axiomathes*, vol. 32, no. 6, pp. 1415–1431, 2022.
- [70] O. Passon and M. van Strien, “Philosophy of quantum mechanics,” *Online Encycl. Philos. Nat.*, no. 1, 2022.
- [71] D. A. Nelson, “The philosophy and practice of holistic health care,” Auckland University of Technology, 2004.
- [72] E. F. Patterson, “The philosophy and physics of holistic health care: spiritual healing as a



- workable interpretation,” *J. Adv. Nurs.*, vol. 27, no. 2, pp. 287–293, 1998.
- [73] D. Shapere, “Modern Physics and the Philosophy of Science,” in *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, 1988, vol. 1988, no. 2, pp. 201–210.
- [74] J. E. Harmon and A. G. Gross, *The Many Voices of Modern Physics: Written Communication Practices of Key Discoveries*. University of Pittsburgh Press, 2023.
- [75] F. Bakri, A. Q. Luthfiya, D. Rahmawati, and L. Wati, “The Modern Physics Practicum: Students creatively and critically thinking in the 21st-century competencies,” in *Journal of Physics: Conference Series*, 2023, vol. 2596, no. 1, p. 12079.
- [76] H. Margenau, “Methodology of modern physics,” *Philos. Sci.*, vol. 2, no. 1, pp. 48–72, 1935.
- [77] P. Mittelstaedt and W. Riemer, *Philosophical problems of modern physics*, vol. 95. Springer, 1976.
- [78] E. H. Hutten and E. H. Hutten, *The language of modern physics: an introduction to the philosophy of science*. Allen & Unwin London, 1956.
- [79] J. Rawski and J. Baumont, “Modern Language Models Refute Nothing,” *Lingbuzz Prepr.*, 2023.
- [80] B. Rattigan, D. Noble, and A. Hatta, *The language of symmetry*. CRC Press, 2023.
- [81] A. Joshi, S. Roy, R. K. Manik, and S. K. Sahoo, “Scientific Philosophy: Exploring Existential, Metaphysical, and Ethical Research Philosophy Behind the Question ‘WHO AM I?’,” *J. Pharm. Negat. Results*, pp. 1648–1671, 2023.
- [82] T. Maudlin, *Philosophy of physics: Quantum theory*. Princeton University Press, 2019.
- [83] M. Morganti, “Fundamentality in metaphysics and the philosophy of physics. Part II: The philosophy of physics,” *Philos. Compass*, vol. 15, no. 10, p. e12703, 2020.
- [84] R. Fernández Mouján, “Greek philosophy for quantum physics. The return to the Greeks in the works of Heisenberg, Pauli and Schrödinger,” in *Probing the Meaning of Quantum Mechanics: Probability, Metaphysics, Explanation and Measurement*, World Scientific, 2024, pp. 101–137.
- [85] R. Mahoozi, “A Critical Approach to Substratum Theory: How Do New Physics-Philosophy Describe and Explain Things?,” *J. Philos. Investig.*, vol. 15, no. 37, pp. 131–152, 2021.
- [86] J. Passmore, “The idea of a history of philosophy,” *Hist. Theory*, vol. 5, pp. 1–32, 1965.
- [87] M. White, *A philosophy of culture: The scope of holistic pragmatism*. Princeton University Press, 2009.
- [88] R. M. Schulz and C. S. Kalman, “Philosophy of Physics: Its Significance for Teaching and Learning,” 2023.
- [89] D. Knight, *Science and spirituality: the volatile connection*. Taylor & Francis, 2023.
- [90] M. Atari and J. Henrich, “Historical psychology,” *Curr. Dir. Psychol. Sci.*, vol. 32, no. 2, pp. 176–183, 2023.
- [91] T. Daly, “Philosophers of Medicine Should Write More Letters for Medical Journals,” *Philos. Med.*, vol. 4, no. 1, pp. 1–3, 2023.

- [92] M. Burch, "Phenomenology's place in the philosophy of medicine," *Theor. Med. Bioeth.*, vol. 44, no. 3, pp. 209–227, 2023.
- [93] D. P. Rakel and A. Weil, "Philosophy of integrative medicine," *Integr. Med. ed*, vol. 2, pp. 1–13, 2022.
- [94] F. Tretter and J. Marcum, "'Medical Corona Science': Philosophical and systemic issues: Rethinking medicine? On the epistemology of Corona medicine," *J. Eval. Clin. Pract.*, vol. 29, no. 3, pp. 405–414, 2023.
- [95] F. Svenaeus, *The hermeneutics of medicine and the phenomenology of health: Steps towards a philosophy of medical practice*, vol. 97. Springer, 2022.
- [96] O. S. Miettinen, "Rationality in medicine," *J. Eval. Clin. Pract.*, vol. 15, no. 6, pp. 960–963, 2009.
- [97] J. Longrigg, *Greek rational medicine: philosophy and medicine from Alcmaeon to the Alexandrians*. Routledge, 2013.
- [98] B. Gert and K. D. Clouser, "Rationality in medicine: an explication," *J. Med. Philos.*, vol. 11, no. 2, pp. 185–205, 1986.
- [99] M. Kumar, "History of Science in Ancient India," *Int. J. Soc. Sci. & Interdiscip. Res. ISSN 2277-3630 Impact factor 7.429*, vol. 12, no. 01, pp. 173–182, 2023.
- [100] M. Shurshitbay, F. Kabdrakhmanova, Y. Seitembetov, and A. Zhirenova, "The Philosophy of Upbringing Healthy and Well-bred Generation of Kazakh Nationality," *Filos. Sociol.*, vol. 34, no. 1, 2023.
- [101] D. M. Spitzer, *Studies in Ancient Greek Philosophy: In Honor of Professor Anthony Preus*. Taylor & Francis, 2023.
- [102] V. Nutton, *Ancient medicine*. Routledge, 2012.
- [103] J. E. Annas, *Hellenistic philosophy of mind*, vol. 8. Univ of California Press, 2023.
- [104] S. Perinchery-Herman, "Primary Care Ethics is Just Medical Ethics: A Philosophical Argument for the Feasibility of Transitioning Acute Care Ethics to the Primary Care Setting," in *HEC Forum*, 2023, vol. 35, no. 1, pp. 73–94.
- [105] R. L. Davis, *Whitman and the Romance of Medicine*. Univ of California Press, 2023.
- [106] M. Penckofer, "Modernizing Medicine," *Stroke Vasc. Interv. Neurol.*, vol. 3, no. 2, p. e000688, 2023.
- [107] K. Pavenski, "Modernizing transfusion medicine education," *Transfus. Apher. Sci.*, vol. 62, no. 1, 2023.
- [108] M. Petroula, S. P. Galanakos, and B. George, "A History of Medical Liability: From Ancient Times to Today," *Cureus*, vol. 15, no. 7, 2023.
- [109] P. Gallo, M. Silletta, F. Lo Prinzi, T. Farolfi, and A. Coppola, "Hepatocellular Carcinoma and Non-Alcoholic Fatty Liver Disease: A Modern Context for an Ancient Disease," *Journal of Clinical Medicine*, vol. 12, no. 14. MDPI, p. 4605, 2023.
- [110] S. Saleem, R. Bianucci, F. M. Galassi, and A. G. Nerlich, "Ancient diseases and medical care:

- Paleopathological insights,” *Front. Med.*, vol. 10, p. 1140974, 2023.
- [111] B. V Subbarayappa, “The roots of ancient medicine: an historical outline,” *J. Biosci.*, vol. 26, no. 2, pp. 135–143, 2001.
- [112] D. W. Hamlyn, *Perception, learning and the self: Essays in the philosophy of psychology*. Taylor & Francis, 2022.
- [113] J. Michael, *The philosophy and psychology of commitment*. Taylor & Francis, 2022.
- [114] W. Hu, “Psychological and Behavioral Outcomes From the Perspective of Moral Culture: A Study of College Students,” *Front. Psychol.*, vol. 13, p. 881376, 2022.
- [115] M. L. Peerbolte, “Morals, Ethics, Ideals: A Psychagogic Study,” *Synthese*, pp. 426–457, 1947.
- [116] I. Vegge, *2 Corinthians, a Letter about Reconciliation: A Psychagogical, Epistolographical, and Rhetorical Analysis*. Mohr Siebeck, 2008.
- [117] J. H. Park, “The psychagogical function of the topos of anger in Greco-Roman moral philosophy,” 2023.
- [118] E. Neufeld, “Psychological essentialism and the structure of concepts,” *Philos. compass*, vol. 17, no. 5, p. e12823, 2022.
- [119] P. K. Murphy, P. A. Alexander, and T. M. Ogata, “Unearthing the Value of Philosophy for Educational Psychology,” *Handb. Educ. Psychol.*, p. 15, 2023.
- [120] J. May and V. Kumar, “Harnessing moral psychology to reduce meat consumption,” *J. Am. Philos. Assoc.*, vol. 9, no. 2, pp. 367–387, 2023.
- [121] G. E. M. Anscombe, “Modern moral philosophy,” in *The Is-Ought Question: A Collection of Papers on the Central Problem in Moral Philosophy*, Springer, 1969, pp. 175–195.
- [122] F. Romero, “Philosophy of science and the replicability crisis,” *Philos. Compass*, vol. 14, no. 11, p. e12633, 2019.
- [123] S. James, “The question of personal identity,” *Fem. Philos. Mind*, p. 156, 2022.
- [124] E. Olson, “Is psychology relevant to personal identity?,” *Australas. J. Philos.*, vol. 72, no. 2, pp. 173–186, 1994.
- [125] D. Shoemaker and K. Tobia, “Personal identity,” 2019.
- [126] J. Glover, “I: The philosophy and psychology of personal identity,” 1988.
- [127] H. R. Pollio, J. M. Barlow, H. J. Fine, and M. R. Pollio, *Psychology and the poetics of growth: Figurative language in psychology, psychotherapy, and education*. Taylor & Francis, 2023.
- [128] J. L. Ratchford, T. Pawl, A. Jeffrey, and S. A. Schnitker, “What is virtue? Using philosophy to refine psychological definition and operationalization,” *Philos. Psychol.*, pp. 1–26, 2023.
- [129] B. Ghogh and M. Babaie, “On Philomatics and Psychomatics for Combining Philosophy and Psychology with Mathematics,” *arXiv Prepr. arXiv2308.13738*, 2023.
- [130] B. Shabani Varaki and R. Mohammadi Chaboki, “Iranian philosophy of education,” *Educational Philosophy and Theory*, vol. 55, no. 1. Taylor & Francis, pp. 15–20, 2023.

- [131] J. O. Mannopovna, "Psychological and pedagogical foundations of the formation of the artistic perception of students in secondary schools," *Eur. J. Res. Reflect. Educ. Sci. Vol*, vol. 7, no. 10, 2019.
- [132] A. Bedrov and S. L. Gable, "Thriving together: the benefits of women's social ties for physical, psychological and relationship health," *Philos. Trans. R. Soc. B*, vol. 378, no. 1868, p. 20210441, 2023.
- [133] S. Sargeant and J. Yoxall, "Psychology and spirituality: Reviewing developments in history, method and practice," *J. Relig. Health*, vol. 62, no. 2, pp. 1159–1174, 2023.
- [134] E. Papaleontiou-Louca and I. Kitromilides, "Psychology vs. Theology: Friends or Foes?," *Hum. Arenas*, vol. 6, no. 1, pp. 123–130, 2023.
- [135] L. Corcoran and K. Cook, "The philosophy of Hans-Georg Gadamer: An exemplar of the complicated relationship between philosophy and nursing practice," *Nurs. Inq.*, vol. 30, no. 1, p. e12509, 2023.
- [136] F. León and D. Zahavi, "Consciousness, philosophy, and neuroscience," *Acta Neurochir. (Wien)*, vol. 165, no. 4, pp. 833–839, 2023.
- [137] S. Pickersgill, *The Architect's Dream: Form and Philosophy in Architectural Imagination*. Intellect, 2023.
- [138] R. Alasmar, "Philosophy and perception of beauty in architecture," *Am. J. Civ. Eng.*, vol. 7, no. 5, pp. 126–132, 2019.
- [139] P. N. Poor and P. Javid, "Philosophy, Geometry, and Purpose in Islamic and Gothic Architecture as Two Religious-Based Styles," *Int. J. Archit. Environ. Eng.*, vol. 15, no. 2, pp. 90–97, 2021.
- [140] A. Patrao, "Koolhaas' Revision of Foucault's Panopticon; or, How Architecture and Philosophy Just Met," *Archit. Philos.*, vol. 5, no. 1, 2020.
- [141] A. Patrão Neves De Frias Martins, "Architecture/Philosophy: how, why, and what the questions seek in three case-studies from the late 20th century," 2020.
- [142] M. A. Ola, E. K. Okafor, and A. A. Taiwo, "Architectural Philosophy and Morality of Sacred Spaces in Christian Worship Centre in Akure, Ondo State," *Eur. J. Sci. Innov. Technol.*, vol. 3, no. 4, pp. 385–405, 2023.
- [143] Y. Bai and B. Bai, "New thinking on the aesthetics of contemporary architecture in the context of Deleuze's philosophy," *Eur. J. Philos. Relig.*, vol. 15, no. 1, pp. 336–349, 2023.
- [144] M. H. Mitias, *Architecture and civilization*, vol. 74. BRILL, 2022.
- [145] M. R. Nadel and D. P. Mears, "Building with no end in sight: The theory and effects of prison architecture," *Corrections*, vol. 5, no. 3, pp. 188–205, 2020.
- [146] S. Niedbala, *Techniques of Carceral Reproduction: Architecture and the Prison System in the United States, 1799-1978*. Columbia University, 2020.
- [147] V. J. St. John, K.-L. Blount-Hill, D. Evans, D. Ayers, and S. Allard, "Architecture and correctional services: A facilities approach to treatment," *Prison J.*, vol. 99, no. 6, pp. 748–770, 2019.

- [148] B. Mitrović, “Guarino Guarini’s Architectural Theory and Counter-Reformation Aristotelianism: Visuality and Aesthetics in *Architettura civile* and *Placita philosophica*,” *I Tatti Stud. Ital. Renaiss.*, vol. 23, no. 2, pp. 375–396, 2020.
- [149] G. M. Køien, “A philosophy of security architecture design,” *Wirel. Pers. Commun.*, vol. 113, pp. 1615–1639, 2020.
- [150] P. V. Ghom and A. George, “Dynamics of performing aesthetics in architecture: a critical study,” *Vitr. J. Archit. Technol. Sustain.*, vol. 6, no. 2, pp. 82–101, 2021.
- [151] W. M. Taylor and M. P. Levine, “Philosophy of Architecture,” 2018.
- [152] C. S. Peirce, “The architecture of theories,” *Monist*, pp. 161–176, 1891.
- [153] J. F. McLennan, *The philosophy of sustainable design: The future of architecture*. Ecotone publishing, 2004.
- [154] C. W. Johns, “Iain Hamilton Grant: Naturphilosophie or the Hegelian Philosophy of Nature?,” in *Hegel and Speculative Realism*, Springer, 2023, pp. 181–211.
- [155] H. J. Koren, *An introduction to the philosophy of animate nature*. BoD--Books on Demand, 2023.
- [156] J. D. Wild, *Introduction to realistic philosophy*. BoD--Books on Demand, 2023.
- [157] S. Flemig and L. McNair, “Nature, Nurture and the Space Between: Lessons from Froebel for the Early Years,” *Glob. Educ. Rev.*, vol. 9, no. 2, pp. 51–66, 2022.
- [158] J. Ojeda *et al.*, “‘Pay Attention, Dive with Eyes Wide Open’: A Field Environmental Philosophy Activity to Foster Reciprocity Between People and Nature,” in *Field environmental philosophy: education for biocultural conservation*, Springer, 2023, pp. 87–100.
- [159] M. Pantsar, “On the development of geometric cognition: Beyond nature vs. nurture,” *Philos. Psychol.*, vol. 35, no. 4, pp. 595–616, 2022.
- [160] T. M. Harrison, “Fictions of Human Nature in Early Modern Poetry and Philosophy,” *Engl. Lit. Renaiss.*, vol. 52, no. 3, pp. 358–370, 2022.
- [161] C. Heyes, “Is morality a gadget? Nature, nurture and culture in moral development,” *Synthese*, vol. 198, pp. 4391–4414, 2021.
- [162] H. Honeycutt, “Nature and nurture as an enduring tension in the history of psychology,” in *Oxford research encyclopedia of psychology*, 2019.
- [163] E. Schliesser, “Synthetic philosophy,” *Biol. & Philos.*, vol. 34, no. 2, pp. 1–9, 2019.
- [164] J. Katzav, “Analytic philosophy, 1925--69: Emergence, management and nature,” *Br. J. Hist. Philos.*, vol. 26, no. 6, pp. 1197–1221, 2018.
- [165] G. W. F. Hegel and M. J. Petry, *Hegel’s Philosophy of Nature: Volume I Edited by MJ Petry*. Routledge, 2015.
- [166] I. Newton and H. S. Thayer, *Newton’s philosophy of nature: Selections from his writings*, vol. 16. Courier Corporation, 1974.
- [167] F. W. J. von Schelling, *First Outline of a System of the Philosophy of Nature*. SUNY Press,



2004.

- [168] W. A. Wallace, *The modeling of nature: Philosophy of science and philosophy of nature in synthesis*. CUA Press, 1996.
- [169] B. Ellis, *The philosophy of nature: A guide to the new essentialism*. Routledge, 2014.
- [170] C. Hartshorne, *Beyond humanism: Essays in the philosophy of nature*. Wipf and Stock Publishers, 2017.
- [171] M. Bonnett, “Environmental consciousness, nature, and the philosophy of education: some key themes,” *Environ. Educ. Res.*, vol. 29, no. 6, pp. 829–839, 2023.
- [172] S. Rozi, “Understanding the Concept of Ecosufism: Harmony and the Relationship of God, Nature and Humans in Mystical Philosophy of Ibn Arabi,” *Ulumuna*, vol. 23, no. 2, pp. 242–265, 2019.
- [173] D. J. Crawford-Brown, “The Modeling of Nature: Philosophy of Science and Philosophy of Nature in Synthesis,” *Am. Sci.*, vol. 86, no. 1, p. 97, 1998.
- [174] M. X. Moleski, “The Modeling of Nature: Philosophy of Science and Philosophy of Nature in Synthesis,” *Theol. Stud.*, vol. 59, no. 1, p. 159, 1998.
- [175] B. J. Whelton, “Aristotelian Philosophy of the Human Person, the Theory and Conceptual Framework of Imogene King Expanded to a Global Perspective,” 2016.
- [176] W. A. Wallace, “The modeling of nature: philosophy of science and philosophy of nature in synthesis,” (*No Title*), 2013.
- [177] N. G. Lederman, “Nature of science: Past, present, and future,” in *Handbook of research on science education*, Routledge, 2013, pp. 831–879.
- [178] R. P. Phillips, *Modern Thomistic Philosophy: An Explanation for Students. Vol. 1: The Philosophy of Nature*. BoD--Books on Demand, 2023.
- [179] I. Kant, *Metaphysical foundations of natural science*. Newcomb Livraria Press, 2023.
- [180] A. Buoite Stella, A. Galmonte, M. Deodato, S. Ozturk, J. Reis, and P. Manganotti, “Climate Change and Global Warming: Are Individuals with Dementia-Including Alzheimer’s Disease-At a Higher Risk?,” *Curr. Alzheimer Res.*, vol. 20, no. 4, pp. 209–212, 2023.
- [181] A. Abbas, D. Ekowati, F. Suhariadi, and R. M. Fenitra, “Health implications, leaders societies, and climate change: a global review,” *Ecol. footprints Clim. Chang. Adapt. approaches Sustain.*, pp. 653–675, 2023.
- [182] R. L. Ibrahim, A. A. Awosusi, K. B. Ajide, and H. Ozdeser, “Exploring the renewable energy-environmental sustainability pathways: what do the interplay of technological innovation, structural change, and urbanization portends for BRICS?,” *Environ. Dev. Sustain.*, pp. 1–21, 2023.
- [183] M. A. Bashir, Z. Dengfeng, F. Amin, G. Mentel, S. A. Raza, and M. F. Bashir, “Transition to greener electricity and resource use impact on environmental quality: Policy based study from OECD countries,” *Util. Policy*, vol. 81, p. 101518, 2023.
- [184] A. Meyer, H. Bresson, I. V Gorodetskaya, R. M. B. Harris, and S. E. Perkins-Kirkpatrick, “Extreme climate and weather events in a warmer world,” *Clim. Chang.*, p. 44, 2023.

- [185] R. Bürgmann, K. Chanard, and Y. Fu, “Climate-and Weather-Driven Solid-Earth Deformation and Seismicity,” 2023.
- [186] C. C. Ummenhofer and G. A. Meehl, “Extreme weather and climate events with ecological relevance: a review,” *Philos. Trans. R. Soc. B Biol. Sci.*, vol. 372, no. 1723, p. 20160135, 2017.
- [187] D. Wood, *Philosophy at the Limit*. Taylor & Francis, 2023.
- [188] W. E. A. Ruona and S. A. Lynham, “A philosophical framework for thought and practice in human resource development,” *Hum. Resour. Dev. Int.*, vol. 7, no. 2, pp. 151–164, 2004.
- [189] D. Inglis and U. Pascual, “On the links between nature’s values and language,” *People Nat.*, vol. 5, no. 2, pp. 326–342, 2023.
- [190] T. L. Milfont and P. W. Schultz, “Culture and the natural environment,” *Curr. Opin. Psychol.*, vol. 8, pp. 194–199, 2016.
- [191] H. A. Rommen, *The natural law*. Liberty Fund, 2012.
- [192] P. Albertano *et al.*, “Cyanobacteria attack rocks (CATS): control and preventive strategies to avoid damage caused by cyanobacteria and associated microorganisms in Roman hypogean monuments,” *Mol. Biol. Cult. Herit.*, pp. 151–162, 2003.
- [193] R. W. McGee, “Political Philosophy and ChatGPT,” 2023.
- [194] M. Solís, F. Cordero, E. Barrios-Borges, and A. A. la Cruz-Ramos, “Modelling of Natural Phenomena as a Source to Re-signify Mathematical Knowledge,” in *Mathematical Modelling Programs in Latin America: A Collaborative Context for Social Construction of Knowledge for Educational Change*, Springer, 2022, pp. 367–389.
- [195] G. T. Arazov and T. G. Aliyeva, “Time in Natural Phenomena, Space of Time,” in *2nd International Congress of Engineering and Natural Sciences Studies, Ankara/Turkey*, 2022, pp. 290–295.
- [196] J. A. Karl and R. Fischer, “Human values and basic philosophical beliefs,” *New Ideas Psychol.*, vol. 66, p. 100944, 2022, doi: <https://doi.org/10.1016/j.newideapsych.2022.100944>.
- [197] E. Boswell and W. A. Babchuk, “Philosophical and theoretical underpinnings of qualitative research,” in *International Encyclopedia of Education (Fourth Edition)*, Fourth Edi., R. J. Tierney, F. Rizvi, and K. Ercikan, Eds. Oxford: Elsevier, 2023, pp. 1–13.
- [198] J. Horvath, “How (not) to react to experimental philosophy,” *Philos. Psychol.*, vol. 23, no. 4, pp. 447–480, 2010.