

**Epistemological and methodological aspects and problems of conceptual debate of fallibilism and infallibilism**

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**Ֆալիբիլիզմի և ինֆալիբիլիզմի հայեցակարգային վեճի իմացաբանական ու մեթոդաբանական տեսանկյունները և խնդիրները**

*Արեւյան Դավիթ Գ.*

*Երևանի պետական համալսարան, փիլիսոփայության և հոգեբանության ֆակուլտետի փիլիսոփայության պատմության, տեսության և տրամաբանության ամբիոնի ասպիրանտ (Երևան, ՀՀ)*

**Ամփոփագիր.** 20-րդ դարի փիլիսոփայական իմացաբանության և գիտության փիլիսոփայության խնդրակարգի շրջանակում ֆալիբիլիզմի և ինֆալիբիլիզմի հակադիր հայեցակարգային վեճը բազմիցս արժանացել է քննության, սակայն մասնագիտական գրականությունում այն առավելապես քննարկվել է շատ ընդհանրական կերպով և միայն որոշ իմացաբանական հիմնախնդիրների համատեքստում՝ այս կերպ չկարևորելով խնդրի որոշակի տեսանկյունների առանձին քննությունը: Սույն աշխատանքը նպատակ ունի պարզելու ֆալիբիլիզմի և ինֆալիբիլիզմի հայեցակարգային վեճի իմացաբանական ու մեթոդաբանական տեսանկյունները և հայեցակարգերից յուրաքանչյուրի իմացաբանական-մեթոդաբանական նշանակությունն ու խնդիրները: Մինևայն ժամանակ ձևակերպված հիմնախնդրի համատեքստում անդրադարձ է կատարվում նաև հայեցակարգային նախընտրելիության հիմնահարցին, որը վերաբերում է վեճի իմացաբանական և մեթոդաբանական տեսանկյուններից հայեցակարգերին վերաբերող փաստարկների ձևակերպմանը և այդ հիմքով հայեցակարգերի միջև հնարավոր որոշակի նախապատվություն ձևավորելու խնդրին: Առանձնակի կերպով կարևորվում է լավատեսական ֆալիբիլիզմի իմացաբանական-մեթոդաբանական նշանակությունը և դերը որպես ֆալիբիլիզմի և ինֆալիբիլիզմի հայեցակարգային վեճի և գիտության փիլիսոփայության մի շարք այլ հիմնախնդիրների առավել նախընտրելի ու հիմնավոր լուծում: Առաջադրված նպատակներին և խնդիրներին լուծմանը հասնելու համար ձևակերպվել են հետևյալ հարցադրումները՝

1. Որո՞նք են հայեցակարգային վեճի համատեքստում ֆալիբիլիզմի և ինֆալիբիլիզմի իմացաբանական-մեթոդաբանական խնդիրները և փաստարկները:
2. Հայեցակարգերից ո՞րն է առավել նախընտրելի իմացաբանական-մեթոդաբանական բարդությունների և խնդիրների հաղթահարման տեսանկյունից:

**Հանգուցաբաներ՝** ֆալիբիլիզմ, ինֆալիբիլիզմ, իմացաբանություն, գիտելիք, գիտելիքի ան, գիտական առաջընթաց, համոզվումը, ճշմարտություն, գիտելիքի հիմնավորում, գիտելիքի պայմաններ

**Эпистемологические и методологические аспекты и проблемы концептуального спора фаллибилизма и инфаллибилизма**

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**Аннотация.** В рамках проблемы философской эпистемологии и философии науки XX века неоднократно рассматривался противоположный концептуальный спор фаллибилизма и инфаллибилизма, однако в профессиональной литературе он обсуждался по большей части в весьма общем виде и лишь в контексте некоторых эпистемологических проблем, что не делает актуальным отдельное рассмотрение отдельных аспектов проблемы. Целью данной работы является выяснение гносеологических и методологических аспектов концептуального спора фаллибилизма и инфаллибилизма, а также гносеологического-методологического значения и проблемности каждой из концепций. При этом в контексте сформулированной проблемы рассматривается и проблема концептуального предпочтения, под которой понимается формулировка аргументов, связанных с понятиями с гносеологической и методологической точек зрения спора, и проблема формирования возможного определенного предпочтения между концепцией на этой основе. Особо

подчеркивается роль оптимистического фаллибилизма в концептуальном споре между фаллибилизмом и инфаллибилизмом и формировании гносеолого-методологических основ для решения ряда других проблем философии науки. Для достижения поставленных целей и решения проблем были сформулированы следующие вопросы:

1. Каковы гносеолого-методологические проблемы и аргументы фаллибилизма и инфаллибилизма в контексте концептуального спора?
2. Какая из концепций более предпочтительна с точки зрения преодоления гносеолого-методологических сложностей и проблем?

**Ключевые слова:** фаллибилизм, инфаллибилизм, гносеология, знание, рост знания, научный прогресс, убеждение, истина, обоснование знания, условия знания

For many modern epistemological problems, fallibilism is considered as the most favorable and acceptable solution. It allows the combination of two facts, which in the case of other epistemological concepts are often considered incompatible or are manifested through various contradictions: *people are fallible, but nevertheless, it is possible to have some knowledge* [18, p. 143]. According to the most general definition of fallibilism, it is possible to know something (to have knowledge about something) even though it could have been false (knowledge may contain errors) [17, p. 585]. In other words, having belief, knowledge, or justification is impossible without some rational doubt. We can never have guarantees that the belief, knowledge, or justification we hold is free from error. Referring to fallibilism and the problems of obtaining reliable beliefs and knowledge within it, John Kekes writes, “*Certainty is an illusion, proofs are deceptive, knowledge, understood as justified true belief, is an impossible ideal*” [10, p. 301]. The fallibilist approach to acquisition of knowledge, nature of knowledge and its justification has really challenged the classical epistemological approach of acquiring reliable and unambiguous knowledge through rationality. Nevertheless, more epistemologists today believe that within the framework of fallibilism, it is possible to acquire knowledge with a certain level of justification and to form basic foundations for developing more complex knowledge systems, like scientific hypotheses and theories. Many representatives of the scientific community noted that fallibilism provides a more gentle and practical approach to the issues of acquisition of general knowledge and beliefs, scientific knowledge and its growth and progress of science, overcoming the various approaches of skepticism and foundationalism that have existed for centuries regarding knowledge and its formation, especially, their extreme manifestations. Among modern epistemologists, fallibilism has received almost universal acceptance, providing indisputable support based on which modern epistemological theories are formed [13, p. 370]. It is not a coincidence when Baron Reed stated the following about fallibilism: “*Almost every*

*contemporary theory of knowledge is a version of fallibilism*” [18, p. 143].

Throughout almost the entire history of epistemology and philosophy of science, the most general principles of infallibilism, the direct opposite of the fallibilist concept, were considered the desired solution for the existing problems of knowledge, considering the existence of rationally justified and unquestionable beliefs and knowledge and their acquisition through rational way of knowing possible. Apologists of infallible and absolute epistemological foundations were Parmenides, Plato, David the Invincible, Grigor Tatevatsi, René Descartes, Gottfried Leibniz, George Berkeley, Edmund Husserl and many other philosophers who considered infallible justifications, proofs and axiomatic systems to be an inalienable and necessary condition for the processes of knowledge acquisition. According to the modern understanding of infallibilism and its most general principles, through rationality, it is possible to form such beliefs and knowledge that are infallible, which completely excludes the existence of rational doubt and possible error. Knowledge requires justified foundations that exclude possible errors and contradictions and guarantee the infallibility of knowledge. For that reason, “*If infallibilism is correct, then you cannot know that p on grounds that merely make it probable that p—after all, they are compatible with not-p! Instead, to know that p you must have grounds that genuinely guarantee that p, and so, rule out not-p*” [9, p. 161]. Although today fallibilism is considered well-founded and accepted approach and solution for many problems of epistemology and philosophy of science, advocates of infallibilism regularly return with harsh criticism and sound arguments, adding new momentum to the unresolved epistemological debate between fallibilism and infallibilism. We consider it necessary to note that the proposed definitions of fallibilism and infallibilism have a more general nature and do not yet express the varieties of concepts and narrow understandings that are essential in terms of understanding the epistemological dispute and its epistemological-methodological perspectives and formulating possible solutions for the latter. We will look at the

most narrow understandings and varieties of the concepts in the course of the examination presented below.

Examining the epistemological and methodological aspects of the fallibilism and infallibilism debate implies highlighting the arguments and problems that make each concept more or less preferable in the context of the given epistemological debate. Considering the logic of such a comprehensive examination, first of all, it is necessary to address the problem of the necessary conditions for infallible beliefs, knowledge and justifications. In his article, Tim Craft presents the conditions under which belief, justification and knowledge can be considered infallible:

1. S's belief that P is infallible iff it's impossible that S believes that P and it's false that P.
2. S's justification for believing that P is infallible iff it's impossible that S is justified in believing that P and it's false that P.

3. S's knowledge that P is infallible iff it's impossible that S believes that P on the same basis and it's false that P [11, pp. 52-53].

In case of non-fulfillment of the mentioned conditions or their impossibility, the belief, justification, and knowledge will be considered fallible, respectively. Formal logic suggests that one of two conflicting judgments must necessarily be true and the other false, but, as Kraft observes, this does not lead to simple infallibility of our beliefs or knowledge [11, p. 53]. The infallibility of knowledge, first of all, refers to the impossibility of having a belief of a knowledge A based on an A1 justification if A is false on A1 justification. Two important conditional problems can be identified to understand the problem of fallible and infallible knowledge and the conceptual debate we discuss here: **whether a certain condition is necessary for knowledge and whether the condition can ever be satisfied**. In order to answer the formulated questions, Kraft distinguishes the following types of conditional and non-conditional fallibilism and infallibilism [11, pp. 53-54].

**Table 1.** *Conditional problem of the knowledge and possible approaches*

		Is a certain condition necessary for knowledge?	
		Yes, knowledge requires a certain condition (see Condition 3)	No condition is necessary for knowledge
Is the condition ever achievable?	Yes, the condition can sometimes be met	Cartesian infallibilism	Optimistic (weak) fallibilism
	No, the condition can never be met	Skeptical infallibilism	Peircean fallibilism

The diagram illustrates that, within the context of the discussed conceptual dispute, four main approaches to the issues of necessity and possibility of knowledge conditions are possible. Cartesian infallibilism holds that knowledge requires infallibility and that some knowledge we know is infallible. In Descartes' epistemology, the best manifestation of the understanding of infallibility of knowledge is the famous statement "I think (doubt), therefore I am" (Cogito (dubito) ergo sum), which, according to the philosopher, "no normal person can doubt" [1, p. 32]. Charles Peirce, the author of the first attempts to formulate the conceptual debate between fallibilism and infallibilism, argued that knowledge does not require infallibility and that all our knowledge is fallible. Skeptical infallibilism partially agrees with the first claim of Cartesian infallibility and the second claim of Peircean infallibility, arguing that knowledge requires infallibility as a condition but that all our knowledge is fallible. Optimistic or weak fallibilism is the position that some of our knowledge is infallible but also claims that it does not really matter because

infallibility is not a necessary condition for knowledge [11, pp. 54-55]:

The mentioned and other versions of concepts are attempts to bypass or overcome the epistemological and methodological obstacles that the concepts face. Moreover, it's worth noting that no matter how, throughout the entire history of philosophy, epistemologists have tried to finally solve the problem in favor of one of the concepts, today the final solution of the dispute is not pursued as a goal due to a number of epistemological-methodological complications of each of the concepts. In this regard, Kraft first notes that "**no matter whether fallibilism or infallibilism turns out to be true the sceptical problem remains**" [11, p. 49]. Here it is important to highlight that if none of the conditions necessary for infallible beliefs, knowledge, and justification can be met or are deemed essential for obtaining certain knowledge, the precise level of justification required for fallibilistic beliefs and knowledge remains unclear. Furthermore, the criteria and justifications for deeming a belief A as true or classifying it as knowledge remain ambiguous. Within the context of

the ongoing challenges in the conceptual dispute between fallibilism and infallibilism, it is yet to be ascertained whether the concepts or their variations hold any superiority over their counterparts or specific subtypes based on any argumentative grounds. Furthermore, the next focus should be on determining whether any of the mentioned concepts is more advantageous in addressing potential epistemological-methodological complexities and issues.

Infallibilism in its strict form, in the form of Cartesian infallibilism, requires the infallibility of knowledge and claims that we can satisfy this condition and have infallible knowledge. It is known that historically, both academic and methodological skepticism have prepared solid foundations for establishing fallibilism and formulating its arguments in the conceptual dispute over infallibilism. At the same time, infallibilism, a desirable solution to the debate for centuries, has been underestimated by a number of epistemologists because it somehow fails to provide an infallible basis for knowledge and its justification, inevitably leading to skepticism. Knowing well about the limitations of human knowledge and cognition and human fallibility, ancient philosophers were still very skeptical about the possibility of infallible and fully justified knowledge. The ancient philosopher Protagoras (490-420 BCE ca) believed that “*Man is the measure of all things*”, meaning that each person can claim a certain opinion, belief, or justification in one way or another, and ultimately, to the formation of true belief or knowledge [6]. Philo of Larissa (159/8-84/3 BCE) considered errors during the formation and acquisition of beliefs and knowledge as inevitable, but he believed that the formation of more solid beliefs will allow to avoid the errors occurring during the acquisition of knowledge as much as possible [7]. Unlike Protagoras and Philo, the Armenian philosopher Grigor Tatevatsi (1346-1409 AD) had optimistic epistemological views. In particular, Tatevatsi believed that the external world, objects, and entities that exist are real and can be known because knowable entities and things precede recognition; nature precedes our cognition. The Armenian philosopher believed that a person has sufficient abilities and means to infallibly recognize not only sensual but also mental and supersensual phenomena, such as the truths of revelation [19, p. 4]. Doubts concerning the infallible nature of revealed truths and highly abstract categories surfaced even in the early development of philosophy and science. However, unwavering faith in the absolute certainty of some empirically and rationally derived knowledge, encompassing various facets of philosophical and scientific understanding,

persisted until the first quarter of the 20th century. The skeptical stance toward revelation and other forms of inherently infallible knowledge gained momentum, particularly as a number of thinkers began to challenge the feasibility of a priori truths. As highlighted in Seyran Zakaryan's article, Tatevatsi staunchly defends the core principle of Aristotelian epistemology, asserting that human knowledge lacks an a priori nature and is instead acquired through experience. This perspective is rooted in the absence of innate ideas or pre-existing knowledge within the human soul [19, p. 4]. It appears that Tatevatsi's optimistic views on epistemology rested on the foundation of a belief in the infallible nature of empirical knowledge. It's worth noting that proponents of infallibilism, in general, do not impose stringent requirements on beliefs, knowledge, and their justifications, and they do not insist on the infallibility of all beliefs. Consequently, the fundamental argument highlighting the fallible nature of human cognition not only fails to create a contradiction between fallibilism and infallibilism but is embraced by both perspectives. Infallibilists acknowledge the fallible nature of some beliefs while maintaining the possibility of achieving complete justification for certain beliefs, ultimately leading to the formation of infallible, definitive knowledge. Therefore, the inquiry becomes crucial: **is it possible to attain knowledge that satisfies the criteria set for infallibilistic knowledge?** The establishment of infallible empirical knowledge necessitates justifications capable of dispelling any potential doubts about the nature of such knowledge and rulling out all possible errors from the knowledge. It is known that any synthetic or empirical judgment must be grounded in specific experiences and observations. This prompts the question of whether experimental research and observations yielding unquestionable and absolute results are achievable. Within the modern scientific community, there is a widely accepted belief that knowledge derived from observations and experiments cannot be infallible. Several reasons and arguments substantiate the impossibility of absolutely true and infallible empirical knowledge, including the **problems of sensations, induction, and theory-ladenness** [5].

The problem of sensations and perception stands as one of the most extensively debated topics in philosophical epistemology. To confidently assert the judgment “A exists and it is white” regarding an object A that exists objectively and independently of our consciousness, it becomes imperative to establish the reliability of our sensual perception of A's existence and whiteness. The challenge lies in determining how to ensure that our senses convey an accurate representation of reality. This

determination cannot be made infallibly, as we lack an alternative means to relate to objective reality apart from our senses and to compare sensory data with a different, non-sensory reference point to verify their authenticity. Even if our sense perception were to be corroborated by numerous others, such confirmation would essentially constitute “another sense perception” aligning with our sensory data but not eliminating the possibility of a disparity between sensations and reality. In other terms, *“I can only confirm that my senses align with each other. However, this does not guarantee that the world is there precisely as my senses suggest”* [5]. This doesn't imply that sensations fail to provide us with reliable beliefs or an adequate perception of reality. The challenge with sensual perception lies in our inability to be entirely, infallibly, without any doubt, certain that our senses are not deceiving us and that we are not mistaken on this occasion. The problem of induction arises from the constraints of human experience, casting doubt on the infallibility of inductive conclusions drawn from a limited number of observed cases. In the process of induction, we extrapolate conclusions from a restricted set of concrete instances within a given class to apply them universally across the entire class. Can we be certain that the conclusions drawn from the limited cases studied so far will hold true for all future instances within the class? Consider a scenario where the number of observed cases within the class is finite. In such instances, it is feasible to observe all cases and logically deduce a true conclusion about them. However, complete and limited classes in inductive experiences are seldom encountered. Simultaneously, other factors, such as the problem of theory-ladenness and sensations, can introduce elements of uncertainty that may impact the reliability of the conclusion. Another obstacle to the possibility of infallible empirical knowledge is the problem of theory-ladenness, according to which any experimental observation is influenced by some other accepted theory(s). The tools and devices employed in making observations are constructed based on specific theoretical foundations, such as the application of optical theory in the construction of telescopes and microscopes. Moreover, the data obtained from observations are also subject to the influence of these theories. Discussing the issue in relation to the problem of forming theories through new observations and experiments, Manasyan fairly underscores this connection when discussing the formulation of new theories through observations and experiments, noting that *“...If the certain theory is considered true and confirmed, then the new theories, which act as a further deepening of our knowledge about the given subject area, should*

*derive from it, take it into account and conform to it* [2, p. 304]”. Consider the act of pointing a telescope at the sky to observe distant objects. While the telescope may capture an image of an intense bright light source, the observer alone cannot conclusively determine whether it represents a distant star, planet, or another celestial body within a solar or extrasolar system. Expertise in optics, astronomy, cosmology, and related theories is required for a comprehensive analysis and clarification. This reliance on theories underscores the importance of ensuring the accuracy of both the devices used and the results obtained. The precision of the device and the accuracy of result processing and interpretation hinge on the truthfulness of the underlying theories. However, empirical theories, predominantly derived from observations and empirical propositions within a given theoretical framework, are subject to confirmation or rejection through experience. This iterative process, embedded within the framework of experience, cannot entirely eliminate rational doubts and the possibility of errors in the obtained results. **Hence, the enduring challenges posed by the problems of sensations, induction, and the theoretical influence on observation present compelling arguments against the attainability of infallible empirical knowledge.**

If experience cannot provide infallible knowledge, then the possibility may lie within formal sciences with logical-mathematical propositions and axiomatic systems. If some of the mathematical judgments are necessarily true and incompatible with contradicting judgments, then can mathematical-logical knowledge be completely infallible? A number of representatives of the philosophy of science, referring to the problem, discuss the latter in the context of the problem of the justification of knowledge. Referring to mathematical and geometrical truths, Peirce asks, *“how do we know that a priori truths are valid and accurate?”*. After all, according to the philosopher, *“they cannot be known through reasoning”*. If the justification of knowledge, in turn, is based on a priori judgments, then it turns out that *“justification, in turn, is knowledge that is given in advance or derived from one's own definition and epistemological value, which is formed without a certain examination and evidential apparatus”* [15, pp. 54-56]. Discussing the nature of a priori and empirical knowledge, Lakatos argues that even the Kantians were mistaken in thinking that a priori synthetic judgments were possible, as the later emergence of non-Newtonian and non-Euclidean theories proved otherwise. On the other hand, the empiricists understood that it is impossible to create absolute empirical bases and inductive logic, because *“no logic can infallibly increase content”*

[12, p. 10]. Peirce also noted that, starting with Descartes at least, the intricacies surrounding the understanding of truth, true and infallible knowledge, and the feasibility of justification have become more pronounced. This is primarily due to the discovery of errors and contradictions within several well-argued and seemingly unexamined scientific theories. These discoveries have prompted the revision, replacement, or outright rejection of these theories. Illustrative instances of such theories describing the same phenomenon can be found in the history of science. It is apt to recall the transition from the Cartesian theory of gravity and celestial bodies to the theories of Kepler and Galileo, followed by the displacement of the latter with Newton's classical mechanics. Newton's paradigm, in turn, was subsequently supplanted by the general theory of relativity. Notably, the replacement of Euclidean geometry, regarded as true for centuries, with alternative non-Euclidean geometric theories adds another layer of significance to these transformations. Recognizing the changing nature of knowledge, truth, and scientific theories, Peirce concludes that *“reason can never achieve absolute certainty, absolute exactitude, absolute universality. We cannot be absolutely certain that our conclusions are even approximately true”* [15, p. 56]. Stephen Hetherington highlights that *“mathematical propositions, like all other propositions, can, at most, be justified with the potential for error. Even if the proposition in question is deemed true in itself, the reasoning used to demonstrate its truth may, in turn, be fallible”* [8]. Adam Leite points out that even every day knowledge often stems from facts and inferences that don't inherently imply or demand the truth of our beliefs [13, p. 372]. For instance, a straightforward survey among ethnic Armenians or individuals interested in Armenian history would reveal that a majority of respondents are aware that Armenians were the first to accept Christianity as the state religion. However, if we ask how this knowledge is epistemologically justified as infallible knowledge, many individuals may encounter difficulty in providing a clear answer. Baron Reed suggests that *“many people not only lack a clear recollection of how they acquired specific knowledge, and are unable to infallibly justify it, but also may not be astonished if their presumed belief or knowledge is ultimately proven incorrect”* [17, pp. 585-586].

As a result of combining the presented arguments, it can be deduced that **strong infallibilism, as exemplified by Cartesian infallibilism, encounters numerous epistemological and scientific obstacles, rendering it incapable of establishing the conditions for infallible knowledge.** Skeptical

infallibilism emerges as, at best, a potentially more viable solution for adherents of infallibilism. However, the usefulness of this infallibilist perspective remains unclear, as it raises questions about what problem this version seeks to address. If knowledge requires infallibility as a condition, yet all our knowledge is fallible, the segment of our knowledge labeled as such, grounded in certain justifications, can no longer be regarded as knowledge in the same sense within the framework defined by the given condition. Skeptical infallibilism aspires to an idealized concept of knowledge that is practically unattainable and deems it implausible to satisfy the conditions necessary for knowledge. Consequently, skeptical infallibilism calls into question the very possibility of possessing knowledge in general. In the absence of the requisite conditions for securing infallibilistic knowledge, it becomes imperative to explore how fallibilistic knowledge is tenable. The inquiry extends to whether fallibilism or any of its variants can be deemed more preferable than infallibilism from an epistemological and methodological standpoint. In alignment with Tim Kraft's views, John Kekes has also underscored the distinction between weak and strong forms of fallibilism. According to Kekes, optimistic (weak) fallibilism acknowledges the logical possibility of fallibility in any conclusion reached through rational means. It contends that we can never definitively eliminate the potential falseness of our conclusions. Nonetheless, optimistic fallibilism allows for the existence of highly valid and rational beliefs, accepting them, even as knowledge. On the other hand, strong fallibilism categorically rejects the notion that any belief can possess a rational foundation, thereby disallowing it from being considered well-founded, reliable, and infallible as either belief or knowledge. However, this rigid stance not only strips knowledge of the possibility and necessity of having any epistemological foundations but also casts doubt on its own epistemological justifications, leading to an internal contradiction. Hugo Meynell, recognizing the problematic nature of strong fallibilism, poses the question: *“Does fallibilism, in turn, rely in any way on infallibilism?”* [14, p. 335].

If the epistemological foundations and fundamental propositions of infallibilism are fraught with problems and possess only a probabilistic nature, the question arises: how can fallibilism be tenable, given that it, in turn, relies on certain assumptions? Simultaneously, if fallibilism cannot lean on infallibilism due to the latter's unreliable nature and conceptual opposition, how can fallibilism maintain internal consistency and effectively evade self-destruction? Tirthanath, delving into the intricacies of fallibilism within the

context of Hilary Putnam's perspectives, fairly points out that fallibilism encounters challenges not only in the epistemological processes of denying the truth of belief and knowledge but also in demonstrating errors and confirming the falsity of particular statements. If we, adhering to strong fallibilism and based on certain accepted epistemological premises, highlight errors in a given judgment and deem it false or denied, we must, to remain faithful to fallibilism and the adopted epistemological stance, acknowledge that the presumed false statement has just as many reasons to be considered incorrect as the epistemological foundations from which we assess the truth value of the statement. This leads to the paradoxical conclusion that if strong fallibilism holds true, then the statement “knowledge and true belief are impossible”, which serves as the epistemological foundation and premise for strong fallibilism, is also fallible and fundamentally disputable. This implies that the epistemological foundations refuting the aforementioned statement can be fallible, and the previously deemed false statement might, in fact, be true [14, p. 339]. In this manner, strong fallibilism encounters not just epistemological challenges but also methodological difficulties, as it prevents not only the unequivocal denial of the truth of a given proposition but also the definitive proof of its falsity. Hence, it is asserted that “*we can never have a guarantee that we made a mistake*” [4, pp. 314-315]. Quoting Putnam, Tirthanath articulates: “*For any truth, there are certain circumstances that will force us to accept the denial of those truths or the truth of a statement contradicting them. This will lead us to consider the given truth rationally unacceptable*”. Strong fallibilism posits that any presently accepted truth will inevitably cease to be accepted and true. However, for strong fallibilism to assert this, it must initially rely on true and infallible epistemological foundations, have a clear definition and understanding of truth, and subsequently, methodological grounds for arriving at a correct conclusion. In order to maintain internal coherence, strong fallibilism needs to rephrase its stance: “***A truth that is rationally acceptable today may be (not must) considered rationally unacceptable in the future***” [4, p. 315]. Both Meynell and Tirthanath highlight that fallibilism, particularly in its strongest form, not only succumbs to internal contradiction but also inevitably leads to skepticism. To sidestep these contradictions and surmount existing epistemological-methodological challenges, fallibilism in its robust manifestation should be circumscribed and redefined, anchored in a system of more moderate conditions and assumptions regarding the fallibility of beliefs and knowledge, the potential for truth, and related matters. This can

be achieved through weak or optimistic fallibilism, which, foremost, allows for the possibility of a fallibilistic concept that is fundamentally compatible with infallibilism. Subsequently, it lays the groundwork for a constructive resolution of the epistemological dispute between fallibilism and infallibilism, addressing the applicability of each concept and reinterpreting the epistemological-methodological significance of fallibilism. Putnam asserted that the problems concerning the epistemological value of knowledge and true belief, as well as the justification of the latter, find resolution within the framework of the theory of rationality of the given time [16, p. 435]. Nevertheless, if the presented theory is incorrect (which may follow from strong fallibilism), then we encounter a dilemma where we are unable to reject the asserted truth or demonstrate the falsehood of any statement. This challenge can be surmounted within the framework of optimistic fallibilism. In this alternative perspective, the proposition “All our knowledge and beliefs are fallible” is substituted with “Some of our knowledge and beliefs are fallible”. Moreover, the statement “A truth that is rationally acceptable at present will necessarily be considered rationally unacceptable in the future” must be reformulated into “A truth that is rationally acceptable at present may be considered rationally unacceptable in the future”. Fallibilism should not condemn and predetermine any attempt to form knowledge and true beliefs. In the absence of facts substantiating or validating the error in a particular statement, it is reasonable to entertain the notion that the given statement is true. “***The essence of fallibilism lies in the understanding that anyone should consistently be prepared for the possibility that a belief or knowledge deemed rationally acceptable at a given moment might transition to being rationally unacceptable in the future. What is presently regarded as an unquestioned truth has the potential to undergo alteration or outright rejection in the future***” [4, p. 317]. Therefore, by replacing the principle of categorical fallibility (strong fallibilism) — which grapples with internal contradiction and stands at odds with infallibilism — with the principle of probable fallibility (weak or optimistic fallibilism), we open the door to a non-contradictory, fundamentally compatible, and more constructive form of fallibilism from an epistemological-methodological perspective. Optimistic fallibilism not only proves to be more constructive and preferable within the realm of epistemology but also holds considerable value from a methodological standpoint. On one hand, optimistic fallibilism acknowledges the potential for forming true beliefs and knowledge within the framework of established theories of rationalism,

accepted scientific methodologies, and other requisite conditions. On the other hand, it serves as a cautionary reminder about the potential fallibility of rationally accepted true beliefs and knowledge. This nuanced stance allows us to recognize several epistemological-methodological functions and crucial implications of optimistic fallibilism. Primarily, if accepted truths and knowledge are deemed fallible — implying the possibility of future revision, modification, or rejection under certain circumstances — there arises a necessity to address the problems of knowledge justification and the preference for competing theories within the context of fallibilism. As articulated by Popper, “*Scientific theories cannot be proved, substantiated, or verified. It is possible to give logical preference to one theory over another only through existing rational arguments*” [3, p. 72]. Fallibilism not only underscores the potential existence of errors in our knowledge but also serves as a methodological foundation and instrumental “tool” for the growth of knowledge and the scientific progress. It achieves this by identifying errors, eliminating them, and overcoming challenges. In this context, Popper articulates the following perspective: “*Undoubtedly, we all strive to avoid mistakes, but we should not be disheartened by them. Simultaneously, evading mistakes is an unambitious ideal. Unless we dare to tackle problems so intricate that errors are nearly inevitable, the growth of knowledge will take place. In reality, our most challenging theories, even those having proven errors, contribute significantly to our understanding. No one is immune to mistakes, and learning from them is a substantial achievement*” [3, p. 182]. Speaking about optimistic fallibilism, Kekes also reaches a similar conclusion. *Learning from mistakes is the characteristic of rationality, which ensures the growth of knowledge*” [10, p. 301]. At the same time, fallibilism can be important in developing more general standards for the justification of knowledge, demarcation of scientific and non-scientific knowledge, and for developing comprehensive methodological foundations of science. If the provision of absolutely infallible knowledge and true beliefs is not practically possible, and the truth is only an ideal that is unattainable, but as a value orientation is necessary for the growth of knowledge and the development of science, then optimistic fallibilism can have a regulatory function for the most valid and error-free beliefs for acquiring and, therefore, building more sound theories and systems of knowledge and forming criteria of preference between competing theories. In the context of the fallibilism and infallibilism dispute, the problem of the possibility of eliminating and ruling out errors is also highlighted, which in the context of the discussed

conceptual dispute can best be solved in the case of weak or optimistic fallibilism. [13, pp. 370-371]. In acknowledging the inherent possibility of error, absolute infallible knowledge remains elusive. However, by deeming the most fundamental beliefs as knowledge, an opportunity arises within the optimistic fallibilism framework to establish methodological foundations for detecting, neutralizing, and expelling errors. This holds substantial methodological significance for the growth of knowledge, the enhancement of understanding, and the progress of science. Optimistic fallibilism, in this context, serves as a pathway to refining knowledge, moving it closer to the ideal of infallible and true beliefs, and fostering objective understanding. It does so while upholding the critical epistemological-methodological role of rational doubt and acknowledging the potential for fallibility in the realm knowledge and especially scientific knowledge.

The processes of knowing and gaining knowledge are entwined within an endless chain of potential errors. Our task is to identify these errors, establish methodological foundations to address them, and maintain an ongoing endeavor to shape accurate knowledge that is as error-free as possible. On one hand, we rely on the knowledge, experimental findings, and established theories considered true at the present moment. On the other hand, it is crucial to recognize that, in the event of discovering errors, accepted knowledge may be at risk of undergoing revision, modification, or even rejection. Taking into account the analysis, we conclude that

1. Strong or Cartesian infallibilism encounters challenges when applied to empirical knowledge due to problems of sensations, induction, and theory-ladenness. In the realm of formal-mathematical knowledge, infallibilism grapples with the problem of justifying knowledge infallibly. Consequently, strong infallibilism, hindered by various epistemological-scientific obstacles, falls short of providing the conditions for infallible knowledge.
2. If in the framework of strong infallibilism the satisfaction of the condition of infallible knowledge is not possible, then in the case of skeptical infallibilism the possibility of having knowledge in general is put into doubt. Therefore, in the case of such an understanding of the concept and a deconstructive approach, its epistemological value becomes unacceptable, and its epistemological-methodological significance becomes doubtful.
3. To circumvent internal contradictions, fully embrace the fallibilistic function of detecting



errors, and overcome epistemological-methodological challenges, a strong interpretation of fallibilism needs redefinition. This involves substituting the principle of categorical fallibility with the principle of probable fallibility, a revision that holds superior epistemological-methodological value.

4. Weak or optimistic fallibilism emerges as a more constructive and preferable approach for overcoming potential epistemological-methodological complications and problems. Grounded in the principle of probabilistic fallibility and confined to a specific, well-defined range of applicability, it can be non-contradictory, compatible with infallibilism, offer constructive foundations for resolving the conceptual dispute between fallibilism and infallibilism, and hold epistemological-methodological importance in the domains of philosophical epistemology and the philosophy of science for overcoming problems.

5. Methodologically, optimistic fallibilism proves more valuable and preferable compared to infallibilism and strong fallibilism. Rooted in the epistemological foundations of rational doubt and probable fallibility, optimistic fallibilism assumes a methodological-regulatory role in identifying errors within the reasoning process and the process of gaining knowledge. It serves to rule out errors from knowledge, neutralize discrepancies, and thereby establish robust epistemological-methodological foundations for understanding and addressing issues related to growth of knowledge and the scientific progress.

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