ФИЛОСОФИЯ И СОЦИОЛОГИЯ

The Development and Manifestations of Fallibilism in the Epistemology of Descartes and Hume

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Ֆալիբիլիզմի զարգացումը և դրսևորման ձևերը Դեկարտի և Հյումի իմացաբանությունում

Աքելյան Դավիթ Գ.

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

Ամփոփագիր. Անտիկ հունական սկեպտիցիզմը ներկայացնող տարատեսակ դպրոցները և ուսմունքները հիմնարար նշանակություն են ունեցել հավանական գիտելիքի, սխալական համոզմունքների, մեթոդաբա-նական ռացիոնալ կասկածի վերաբերյալ նախնական իմացաբանական պատկերացումների ու մոտեցումների ձևավորման համար: Իմացաբանական այսպիսի ավանդույթների վրա ձևավորված մեղմացված սկեպտիցիզմի անտիկ ուսմունքը հիմք հանդիսացավ անտիկ փիլիսոփայությունում ֆալիբիլիզմի նախնական ընբռնման և դրա տարրերի ձևավորման համար: Ֆալիբիլիզմը, լուրջ հայտ ներկայացնելով դասական իմացաբանությանը, այնուամենայնիվ, դարեր շարունակ մնում էր տիրապետող դոգմատիկական և ֆունդամենտալիստական հայեցակարգերի ստվերում: Ֆալիբիլիզմի հետագա զարգացումը կապված է Ռենե Դեկարտի և Դևիդ Հյումի իմացաբանական հայացքների և ուսմունքների հետ, որտեղ իմացաբանական և մեթոդաբանական մի շարք սկզբունքներ ու մոտեցումներ մի կողմից սերում են հին հունական փիլիսոփայությունից և, հատկապես, սկեպտիկական ուսմունքներից, իսկ մյուս կողմից մոտենում են ֆալիբիլիզմի ժամանակակից ընբռնումներին՝ հիմք հանդիսանալով ֆալիբիլիզմի տարրերի և հիմնական սկզբունքների ձևավորման և զարգացման համար: Սույն աշխատանքը նպատակ ունի պարզելու ֆալիբիլիզմի զարգացումը և դրա դրսևորման ձևերը Դեկարտի և Հյումի իմացաբանական հայացքներում: Առաջադրված նպատակին հասնելու համար ձևակերպվել են հետնյալ հարցադրումները՝

1. Ի՞նչպիսի՝ դեր ունի ֆալիբիլիզմը Դեկարտի ինֆալիբիլիստական և ֆունդամենտալիստական իմացաբանությունում և որո՞նք են դրա դրսևորման ձևերն ու տարրերը:
2. Ի՞նչպե՞ս է զարգանում ֆալիբիլիզմը Հյումի իմացաբանական հայացքներում:

Կատարված վերլուծության արդյունքում պարզ է դառնում, որ թեև Դեկարտն ու Հյումը լիարժեքորեն չեն մնում ֆալիբիլիզմի շրջանակում, այնուամենայնիվ, Դեկարտի կասկածի մեթոդը և կասկածին հակադրվող ֆունդա-մենտալիզմն ու ինֆալիբիլիզմը և Հյումի ինդուկտիվիստական սկեպտիցիզմը հիմնարար դեր և նշանակություն են ունեցել ֆալիբիլիզմի հետագա զարգացման համար և ֆալիբիլիզմի հիմնական սկզբունքների ձևավորման համար:

Հանգուցաբառեր՝ ֆալիբիլիզմ, դեկարտ, հյում, իմացաբանություն, գիտելիք, համոզմունք, սկեպտիցիզմ, մեթոդաբանական սկեպտիցիզմ, ինդուկտիվիզմ, ինֆալիբիլիզմ, ֆունդամենտալիզմ

Развитие и проявления фаллибилизма в гносеологии Декарта и Юма

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Аннотация. Различные школы и учения, представляющие древнегреческий скептицизм, сыграли фундамен-тальную роль в формировании первоначальных эпистемологических представлений и подходов к вероятност-ному знанию, ошибочным убеждениям и методологическим рациональным сомнениям. Древнее учение умеренного скептицизма, сформировавшееся на таких гносеологических традициях, явилось основой перво-начального понимания фаллибилизма и формирования его элементов в античной философии. Фаллибилизм, представлявший серьезный вызов классической эпистемологии, тем не менее, на протяжении веков оставался в

тени господствовавшего догматизма и фундаментализма. Дальнейшее развитие фаллибилизма связано с гносео-логическими взглядами и учениями Рене Декарта и Дэвида Юма, где ряд гносеологических и методологических принципов и подходов вытекают из древнегреческой философии и, особенно, скептических учений, а с другой стороны, приближаются к современные представления о фаллибилизме, являющиеся основой формирования и развития элементов и основных принципов фаллибилизма. Целью данной работы является выяснение развития фаллибилизма и его проявлений в эпистемологических воззрениях Декарта и Юма. Для достижения постав-ленной цели были сформулированы следующие вопросы:

1. Какова роль фаллибилизма в инфаллибилистской и фундаменталистской гносеологии Декарта и каковы формы и элементы его проявления?

2. Как развивается фаллибилизм в гносеологических воззрениях Юма?

В результате анализа становится ясно, что хотя Декарт и Юм не остаются полностью в рамках фаллибилизма, тем не менее, фундаментализм и инфаллибилизм Декарта, противостоящие сомнению и методу сомнения, а также индуктивистский скептицизм Юма, сыграли основополагающую роль и значение в дальнейшем развитии фаллибилизма и формировании основных принципов фаллибилизма.

Ключевые слова: фаллибилизм, декарт, юм, эпистемология, знание, убеждение, методологический скептицизм, скептицизм, индуктивизм, инфаллибилизм, фундаментализм

The landscape of the modern Western philosophy, particularly within the domain of epistemological inquiry, has been profoundly influenced by the seminal contributions of the encyclopedic thinkers: the French philosopher René Descartes (1596-1650) and the Scottish philosopher David Hume (1711-1776). Their perspectives have redefined numerous epistemological challenges inherent to both philosophy and science, laying the groundwork for the advancement of novel conceptual and methodological frameworks to address these challenges. Despite the marked differences between their epistemological frameworks, the philosophies of Descartes and Hume share several significant points of convergence that are particularly relevant to general fallibilism. For Descartes, the path to effective knowledge and the apprehension of truth is primarily forged through reason, emphasizing the understanding and application of its most fundamental principles and laws. Conversely, Hume posits that the foundation of epistemology rests upon experience and direct observation. Nonetheless, both philosophers' systems exhibit several notable similarities, especially pertinent in the context of fallibilism. These include:

1. A pronounced skepticism and doubt concerning the external world, questioning the veracity of our perceptions and the existence of an external reality.

2. An earnest quest for indubitable and definitive epistemological foundations, which are deemed essential for the attainment of true knowledge.

3. The indispensable role of rationality and thought in the process of cognition and the formation of knowledge, underscoring the cognitive faculties' centrality in epistemological endeavors.

4. The significance and function of methodological approaches in the acquisition of knowledge, highlighting the importance of systematic inquiry and analysis.

5. An acknowledgment of the inherent limitations of human cognitive capabilities, recognizing the bounds within which human understanding operates.

6. The challenges associated with securing certain and reliable beliefs and knowledge, reflecting on the inherent fallibility of human epistemic endeavors.

Descartes' epistemological framework is predicated on the dual principles of methodological skepticism and foundationalism. Methodological skepticism advocates for a universal doubt in the cognitive process, compelling a thorough scrutiny of all purported knowledge. Foundationalism, on the other hand, posits the existence of certain, indubitable epistemological foundations for all knowledge. This foundationalist stance is based on the following two epistemological propositions:

1. some of our beliefs are epistemologically privileged and have higher certainty, are indubitable, incorrigible and infallible (dogmatism),

2. any other beliefs that we consider justified derive their justification through the support provided by these privileged beliefs (Euclideanism) [**10**, p. 168].

Descartes espouses an infallibilist stance, firmly believing that knowledge as a condition requires infallibility (excludes the existence of doubt and mistakes), and we know certain things infallibly (have indubitable and finally justified knowledge) [**15**, pp. 54-55]. This infallibilist and foundationalist perspective is prominently reflected in Descartes' rules for scientific inquiry and method:

1. The objective of scientific endeavors ought to be the cultivation of the mind's ability to formulate accurate and verifiable judgments regarding any phenomena it encounters.

2. The interrelated nature of all scientific disciplines suggests that an integrated approach to

study is more efficacious than the isolation of individual fields. A comprehensive understanding of truth necessitates an engagement with the entirety of scientific knowledge and not focusing on a specific field of science, as all disciplines are fundamentally interconnected and mutually reliant.

3. Rational investigative efforts should be confined to question within the capabilities of our cognitive capacities, ensuring that the knowledge acquired is both certain and beyond dispute [**3**, pp. 78-79].

However, according to Descartes, a method is necessary for cognition and the discovery of the truth about things, and only as a result of a certain epistemological process can final and infallible epistemological foundations be reached [**3**, p. 85]. In discussing his epistemological approach and methodology for uncovering the truth, Descartes writes: "*I would devote myself solely to the search for truth, I thought it was necessary that I should . . . reject, just as though it was absolutely false, everything in which I could imagine the slightest doubt, so as to see whether after that anything remained in my belief that was entirely indubitable*" [**9**, p. 101]. "*I shall proceed by setting aside all that in which the least doubt could be supposed to exist, just as if I had discovered that it was absolutely false*" [**9**, p. 149]. Certainly, in the pursuit of identifying absolute and incontrovertible epistemological bases, Descartes required a proper framework and scenario that would justify questioning the objective reality, thereby enabling the application of radical doubt to all propositions as a foundational principle. For this purpose, Descartes proposes the allegory of a deceiving demon, designed to illustrate the susceptibility of all human knowledge to potential errors and misconceptions. This allegory serves to underscore the precariousness of human cognition and the necessity of methodological skepticism in establishing firm epistemological foundations. "*I shall then suppose, not that God who is supremely good and the fountain of truth, but some evil genius not less powerful than deceitful, has employed his whole energies in deceiving me… I shall consider myself as having no hands, no eyes, no flesh, no blood, nor any senses, yet falsely believing myself to possess all these things. I shall remain obstinately attached to this idea, and if by this means it is not in my power to arrive at the knowledge of any truth, I may at least do what is in my power*" [**9**, p. 148]. Applying the principle of doubt as a method, Descartes *"attempts to overcome skepticism through doubt"*, searching for unquestionable and infallible epistemological foundations upon which all knowledge can be securely established [**4**, p. 114]. The essence of Descartes' method is to subject existing beliefs to a severe test, as a result of which only those beliefs that have passed the intended test should be preserved. Moreover, it should be taken into account that this kind of epistemological process can also allow errors to appear. Therefore, the test for beliefs must be strict enough to exclude as much as possible the possibility of even slightly vague beliefs escaping the test. Beliefs that do not pass the test, that are uncertain, must be suspended and put aside, although to do so, if the beliefs are well-entrenched, it may be necessary to make some mental effort to think skeptical and feign skepticism about them [**10**, p. 163].

The allegory of the deceiving demon in Descartes' epistemology may be interpreted as symbolizing the intellectual endeavor and the establishment of a skeptical framework essential for challenging objective reality, all of existence, and even the most secure and dependable beliefs. For Descartes, this foundation is encapsulated in the maxim **"Cogito, ergo sum"** ("I think, therefore I am") (only doubt itself is indubitable, which becomes evident to Descartes when he applies his method of doubt. And the act of doubting itself presupposes thinking, and the latter in turn presupposes the existence of self or subjectivity), which according to philosopher, can be a reliable and unquestionable starting point for the construction of further considerations. In general, throughout the history of philosophical epistemology, there are many epistemological concepts that in various ways, draw upon the foundational principles of skepticism, including the epistemological and methodological role and importance of doubt. It is widely acknowledged that academic and methodological skepticism have laid the groundwork for the development of fallibilism. [**8**, p. 77]. With this in mind, defined broadly, fallibilism is the epistemological viewpoint that all human knowledge and beliefs are inherently fallible and can never be completely justified to exclude rational doubt entirely. This perspective underscores the provisional nature of our understanding and the perpetual possibility of revision in light of new evidence or reasoning [**1**, pp. 76-77]. Descartes' skeptical views, and especially methodological doubt, aligns closely with the contemporary understanding of fallibilism. However, whereas fallibilism regards doubt as an essential and enduring component of epistemological inquiry, for Descartes, doubt functions as a preliminary yet transformative instrument within his methodological framework, intended to be set aside upon the identification of indubitable epistemological foundations. For Descartes, the method of doubt is the *initial and critical stage*, after which the philosopher moves to the *constructive* stage wherein

the irrefutable foundations uncovered through methodological doubt serve as the immutable base upon which all subsequent knowledge and further considerations are established. Susan Haack observes that Descartes arrives at two significant conclusions: (1) that at least one belief is indubitable, that is, successfully passes the test of the method of doubt (infallibilism), and (2) from this belief, it is possible to derive a criterion of truth. This, according to Descartes, underpins the proof of God's existence, which, in turn, facilitates the attainment of comprehensive knowledge regarding a multitude of phenomena and entities. Haack posits that the acknowledgment of the first conclusion is sufficient to categorize Descartes as adopting a dogmatic stance, given his assertion of possessing an indubitable belief as the cornerstone for further epistemological construction [10, p. 168].

Susan Haack is not the sole critic of Descartes' application of methodological doubt, foundationalism, and infallibilism. Charles Peirce (1839–1914), who was the first to formulate fallibilism as an epistemological concept and principle, offered a rigorous critique of Descartes' epistemological stance, particularly targeting the method of doubt for being both impossible and meaningless. According to Peirce, we are not endowed with the intuition that would allow us to achieve self-awareness through reflection, as Descartes suggested. Here, cognition can only take place through the study of external facts. *"There is no fact that we have such a faculty (intuition), except that we may think that we are endowed with it"* [18, p. 103]. We do not have the faculty of intuition. What we have is our hypothetical and fallible knowledge. Humans are incapable of thinking beyond certain signs with direct judgment and cannot conceive of the absolute unknowable [18, pp. 103-114]. Peirce's criticisms of Descartes' methodological approach are multifaceted:

1. The method of doubt is impossible, and instead we must start with the beliefs we actually have,

2. Descartes' epistemology is impermissibly individualistic, and we must base our epistemology on community (scientific) and the experience and knowledge produced by collective effort,

3. Descartes' epistemological-methodological procedure is based on a singular chain of reasoning and arguments. But a more scientific epistemology would prefer a diversity and plurality of arguments,

4. A genuine skepticism and doubt must be based on some concrete reason, and not be voluntary,

5. Descartes ultimately relies on inexplicable facts, such as the idea of God, which is unacceptable in epistemological discourse [19, pp. 140-157].

According to Peirce, it is not possible to start from doubt, as mandated by Descartes' methodological skepticism. Philosophy should start from all the presuppositions and beliefs that we have at the onset of investigation and inquiry. Attempting to eliminate all beliefs is misguided, because there are beliefs that cannot be refuted only through doubt. Peirce contends that universal doubt constitutes a form of self-deception, given that genuine doubt cannot be voluntarily and artificially induced but must arise from specific, concrete reasons and motives [19, p. 140]. *"No one who follows the Cartesian method will ever be satisfied until he has finally recovered all the beliefs he had originally renounced"* [19, p. 141]. Science is a collective endeavor and it cannot be brought to the individual and its consciousness. Descartes' method of doubt is generally criticized by Peirce in two main ways: (1) doubt cannot be voluntary, and (2) it requires a very clear and specific reason. Susan Haack, responding to Peirce, notes that Descartes' skepticism is, in fact, predicated upon specific reasons. The allegory of the deceiving demon, along with Descartes' other skeptical propositions, provides just such reasons that could justify doubt, necessitating a thorough examination and critique. This, Haack indicates, is precisely what Descartes endeavors to achieve with his methodological approach [10, p. 163]. It should be noted that Descartes' method of doubt, exemplified through the allegory of the deceiving demon, laid the groundwork for the conceptualization and evolution of the "Brain in a Vat" thought experiment, introduced by Gilbert Harman and further popularized by Hilary Putnam. This thought experiment has emerged as a pivotal argument in contemporary skepticism, sparking significant epistemological debates among proponents of various philosophical positions, including fallibilism [21, pp. 213-222]. Descartes noted that *"it is sometimes requisite in common life to follow opinions which one knows to be most uncertain"* [9, p. 100]. The philosopher acknowledged very well that it is not possible to always clear the mind of uncertain and doubtful propositions and that sometimes we have to be guided by seemingly probable, dubitable and uncertain propositions. *"Not that indeed I imitated the skeptics, who, only doubt for the sake of doubting, and pretend to be always uncertain. My approach was only to form a good basis for my assurance"* [9, p. 99]. Susan Haack considers Charles Peirce's critique of Descartes' method of doubt—for lacking specific reasons—as somewhat misplaced. The allegory of the misleading devil and the general skeptical context created in Descartes' epistemological system was intended to show the unreliable and uncertain nature of sensory

cognition and beliefs formed through concrete sensations. In this context, Descartes did not regard the allegory or the deceptive scenarios as the reasons themselves, but rather the fallible and error-prone nature of sensory-based cognition as revealed through such allegorical scrutiny. Peirce himself believes that any of our beliefs can be wrong and that even though we have knowledge, we cannot be certain which of our beliefs genuinely constitute knowledge and which are mistaken or unfounded [10, p. 166]. Furthermore, Peirce incorporates the examination of hypothetical scenarios, such as dreaming or being under hypnosis, to argue that one cannot be fully confident in the veracity of their beliefs, particularly those acquired through sensory experience. This stance serves as a cornerstone for his argumentation on the fallibility of beliefs (fallibilism) [17, p. 1150]. Haack asserts that Peirce is most effective and persuasive in his critique of Descartes' foundationalism, infallibilism, and dogmatism by grounding his arguments in the fundamental precepts of fallibilism. Peirce does not believe that anything will remain indubitable after applying Descartes' critical method, because, according to Descartes, all our beliefs are potentially doubtful and erroneous, and therefore if we endeavor to cleanse our knowledge of uncertain beliefs, we will have to give up all our beliefs. This approach would not only halt scholarly inquiry but also fundamentally undermine knowledge itself. Analyzing Descartes' epistemological system and the method of doubt, Peirce concludes that Descartes' method does not make sense because, on the one hand, it is too skeptical of everything and thus eliminates all epistemological foundations on which cognition and any system of reasoning can be built. On the other hand, it is highly dogmatic, because it considers the possibility of infallible and absolute epistemological foundations possible and derives them through a chain of arguments to establish its further considerations. Peirce himself relies on doubt to form his fallibilism and overcome dogmatism, but on the other hand, he rejects extreme skepticism, trying to build his epistemology on fallible but valid, credible beliefs and arguments. Haack draws a similar inference, stating: *"Peirce rejects Descartes' excessive optimism, because the latter does not realize the impossibility of infallible beliefs. However, at the same time, he also rejects Descartes' pessimism, viewing the method of doubt and its resulting chain of arguments as a precursor to radical skepticism. And this is unacceptable because, according to Peirce, all our beliefs cannot be wrong"* [10, pp. 172]. Stephen Hetherington also criticizes Cartesian fundamentalist approaches, noting that Descartes also needs additional, properly supporting, and trustworthy knowledge to have

reliable grounds for knowing that reason is not deceived by a misleading source. Any such hypothetical knowledge must be knowledge about the external world, which in turn can be considered knowledge only if it is supported by other reliable knowledge [12, pp. 85-86]. Karl Popper, a prominent philosopher and fallibilist of the 20th century, analyzing Descartes' epistemological views, writes: *"Knowledge is always based on another background knowledge, which assumes a provisional status, serving as the initial point of reference and foundation at any given time"* [5, p. 75]. He further asserts, *"There is nothing in our experience that can be directly received and not mediated. All experience is decoding and interpretation, which we develop as a skill over time, but which does not guarantee the absoluteness of our knowledge. Undoubtedly, the search for knowledge as a reliable basis must be abandoned"* [5, p. 44]. However, **Descartes not only overcomes skepticism, but also moves from fallibilism to fundamentalism and infallibilism, ultimately leading to dogmatic thinking.** For ancient philosophers like Carneades and Philo, who were proponents of moderate skepticism, doubt and early notions of fallibilism held significant epistemological and philosophical value within the context of moderated skepticism. **In contrast, for Descartes, these concepts primarily served a methodological purpose, aiming to purify the mind of potential errors and to seek out absolute epistemological foundations.**

Apart from Cartesian philosophy, Hume's inductive skepticism and fallibilism were also important for the development of the basic principles of fallibilism. It is no coincidence that Hume's contribution to the development of epistemology and inductivism was marked by contemporaries as "a great turning point in Western epistemology" [14, p. 67]. Hume was primarily interested in how people draw conclusions about facts and what the nature of these conclusions are. Moreover, Hume was especially focused on inferences drawn not directly from sensory experiences but from indirect experience, arguing that such inferences cannot be determined a priori and are instead based on accumulated past experiences [2, p. 168]. In this context, Hume poses the fundamental question regarding the problem of induction: **"O*n what grounds do we rely on past experiences to predict future events or situations that are not immediately observable?"*** [7, p. 29]. In his examination of this issue, Hume observes that if we treat the justification for extrapolating past experiences to the future as based on either a priori reasoning or empirical evidence supporting the consistency between past and future experiences,

then such extrapolation cannot be legitimized through either a priori reasoning or empirical evidence. A priori reasoning is insufficient because one can conceive, a priori, of scenarios where the congruence of past and future experiences is disrupted. Similarly, a posteriori or empirical justifications are inadequate because they inherently depend on empirical conclusions, which, in turn, presuppose the application of past experiences to future scenarios as the foundation for further analysis and predictions [**2**, p. 168]. Hume was convinced that observations of past experience and events and rational thought can never guarantee or provide convincing evidence that future events to be observed will be exactly like previously observed events. In order to argue such a proposition, Hume put forward two arguments:

1. Observations made in the present and past are not necessarily indicative of what will be observed in the future.

2. Our cognitive abilities are inherently limited and face their own limitations during observation [**11**].

Hume posited that all beliefs derived from, or potentially derivable from, the inductive generalization of observational data are inherently flawed and susceptible to misleading conclusions. He articulated, *"Even at best, such beliefs are only fallibly justified"* [**11**]. Hume believes that people are often involuntarily and even forced to come to similar conclusions (based on previous experience), *"...and even if a person were convinced that his mind played no role in this process, he would continue to believe otherwise. This seems to be an internal principle, and that principle is a habit"* [**7**, pp. 36-37]. Therefore, people are not only fallible because they have very limited cognitive capacities such as the senses and the mind, but they also very often make conclusions out of habit, each time they study a new phenomenon based on the probable, plausible, and limited knowledge they have about similar phenomena from the past experience. Unlike Descartes, who ultimately builds his epistemology on foundationalist and infallibilist propositions, like the existence and benevolence of God and God as the necessary cause of all that exists, Hume challenges the application of the principle of causality as a linear chain of cause and effect stemming from an absolute cause. Descartes' framework leaves no room for alternative interpretations to the deductions made from this causal chain, nor for the acknowledgment of phenomena unaccounted for within this knowledge system (i.e., random phenomena). Hume fundamentally disputes this methodology, arguing that in examining the principle of causation, it is

conceivable to view the cause as distinct from the phenomenon or object it causes. Consequently, if it is possible to conceptualize and observe them independently, it is also feasible to envisage separate phenomena that lack causes within the established knowledge system, thereby being considered random [**6**, pp. 135-136]. Hume's skepticism and critique extend to the formal sciences and knowledge systems characterized by a significantly higher level of validity, such as mathematics. Hume, of course, admits that mathematical-logical propositions are much more well-argued, grounded and certain. In this regard, he writes, *"Mathematical sciences ... are always clear and determinate, the smallest distinction between them is immediately perceptible, and the same terms are still expressive of the same ideas, without ambiguity or variation. An oval is never mistaken for a circle, nor a hyperbola for an ellipsis. The isosceles and scalenum are distinguished by boundaries more exact than vice and virtue, right and wrong"* [**13**, p. 45]. However, he also posits that humans are capable of erring in this domain of knowledge. Consequently, mathematical deductions, or premises predicated on mathematical understanding, should be considered on par with empirical inferences of a similarly probable and fallible nature, whose likelihood of being true, Hume argued, decreases with each additional test. David Stove, addressing the contemporary interpretation of inductivist fallibilism, states, *"To say that inductive inferences are all incurably invalid is another way of saying that there is a permanent possibility of falsity in even the best confirmed empirical generalizations and predictions. This is certainly a belief having extremely wide currency at the present time. Philosophers, I think, almost without exception accept it; but not only they. It has been absorbed into the common-sense philosophy of science which most educated men now share"* [**22**, p. 91]. Furthermore, Stove remarks that the assertion **"Predictive-inductive conclusions are inherently fallible"** emerges from Hume's inductivist skepticism, more accurately termed **Hume's "predictive-inductive fallibilism"**. This is because Hume's inductive skepticism aligns more closely with a less stringent form of skepticism than fallibilism, which contends that induction can never attain certainty (that is, that the inferences are never valid). Nonetheless, Stove highlights that Hume maintained the belief that *"no invalid argument can still be reasonable"* [**16**].

Views on Hume's inductivism and its implications for fallibilism vary within epistemological discourse. Hetherington contends that Hume significantly undermined the notion of science as the ultimate source of knowledge [**11**].

Quine writes: *"For Hume and others, it is disheartening to acknowledge that the science of the external world cannot derive definitive conclusions from sensory evidence"* [**20**, p. 75]. Despite appreciating Hume's critical stance on inductive skepticism, Popper critiques Hume's inductive theory for its potential to render cognition irrational. He argues, *"Hume's claim that repetition has absolutely no evidential value, even though it plays a dominant role in our cognitive life or our understanding, led him to conclude that arguments play only a minor role in the process of understanding. It turns out that our "knowledge" does not undergo rational reasoning, turning into a mere irrational belief"* [**5**, p. 15]. Popper's critique of Hume illuminates a core principle of fallibilism: **the acquisition of knowledge through rational reasoning, criticism and argumentation**. Unlike skepticism, fallibilism acknowledges the feasibility of gaining knowledge and articulates a concept of knowledge where a certain level of validity and argumentation is acknowledged to coexist with the possibility of error within the same knowledge framework. Knowledge growth, in this perspective, is achievable by identifying errors within the knowledge framework and making concerted efforts to rectify them. This approach underscores a dynamic, self-corrective process in the pursuit of understanding, distinguishing fallibilism's constructive response to the challenges posed by skepticism. However, **unlike Descartes, Hume does not destroy all foundations of knowledge and nor attempts to construct his epistemology upon certain definitive and absolute epistemological bases.** Instead, Hume, while acknowledging the comparatively certain and reliable nature of formal-mathematical knowledge over empirical knowledge and experience, asserts that **all our beliefs and inferences are fallible, and that all our conclusions about the future can best be grounded in fallibility and probability. This epistemological stance brings Hume's philosophy and inductivist fallibilism closer to the foundational principles initially laid out by Peirce and subsequently by contemporary fallibilism.**

Descartes and Hume, each operating within the bounds of classical epistemology, have played pivotal roles in shaping post-classical epistemological traditions and addressing their challenges. Their critical examination of classical epistemology's approaches and issues, including the feasibility of cognition, the nature of beliefs, the processes of knowledge acquisition and justification, scientific methodology, and other significant concerns, reveals their substantial impact. Within the scope of these discussions, it becomes pertinent to explore the shared conceptual frameworks and principles that link these two philosophers, despite the distinctiveness of their epistemological systems. The academic community generally recognizes their overarching skeptical tendencies and the nuanced incorporation of skepticism within their philosophical explorations. Yet, the discourse on how fallibilism, along with its core tenets, is reflected and developed in the epistemological theories of Descartes and Hume represents a relatively recent area of inquiry. This burgeoning interest underscores the necessity for further research into the evolution and expression of fallibilism within this critical juncture of philosophical epistemology and the contributions of these thinkers. From the conducted analysis, it can be concluded:

1. The epistemological contributions of Descartes and Hume have been instrumental in the evolution of fallibilism, elucidating its foundational principles. Although both philosophers did not remain fully within the realm of fallibilism, both Descartes' and Hume's skeptical views, studies of the method of knowledge, and critical approaches to epistemological problems have been highly valuable in shaping the more general principles and modern understanding of fallibilism. Furthermore, their contributions have been pivotal in transitioning from classical to post-classical epistemological frameworks.

2. Descartes' employment of the method of doubt played a pivotal role not only in fostering methodological skepticism but also in advancing fallibilism as an epistemological concept, particularly highlighting its methodological relevance. While Descartes recognized the methodological utility of doubt and flirted with fallibilistic ideas under the guise of radical skepticism, he ultimately diverged from fallibilism, dismissing the notion of epistemological uncertainty and the error-proneness of knowledge and beliefs. It can be said that fallibilism served as a ladder in Descartes' epistemological system at the first and disruptive stage of the construction of his epistemology, providing a transition from skepticism to fundamentalism and infallibilism.

3. Even though Descartes leveraged doubt and the acknowledgment of potential fallibility to establish a foundation for infallibilism and definitive epistemological bases, his steadfast positions on foundationalism and infallibilism crucially contributed to the epistemological debate between fallibilism and infallibilism, thereby influencing the further development of these concepts.

4. Hume's adoption of skeptical epistemology, particularly his inductivist skepticism, was vitally important not just for critically

appraising classical epistemology and its reinterpretation but also for advancing the concept of fallibilism. Diverging from Descartes' extreme skepticism, Hume embraced the notion of probable fallibility and the inherent uncertainty of empirical phenomena, aligning more closely with Peirce's conception of fallibilism. Consequently, Hume's approach is often described as inductive fallibilism within contemporary epistemologists.

5. The interplay between fallibilistic and infallibilistic elements within Descartes' philosophy laid the groundwork for numerous critical and constructive debates within philosophical epistemology and the philosophy of science, inspiring noted fallibilists such as Peirce and Popper. It is plausible to suggest that Descartes' methodological skepticism and its critique served as a foundation for Peirce's fallibilistic perspective and the broader development of fallibilism, positioning the epistemologies of both Descartes and Hume as seminal starting points for various interpretations of fallibilism (e.g., mild, optimistic, strong fallibilism).

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