
THE MEANING OF METHOD SEARCHES IN THE CONTEXT OF THE CLAIM OF FICTIONALITY OF ARISTOTELIAN LOGIC

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Abstract

The goal of Aristotelian logic is to produce a method to reach universal and definitive knowledge. According to this logic system, universal, definitive and unchanging knowledge can be reached by deduction. According to Aristotle, information obtained through other methods has an epistemologically weaker information value compared to information reached by deduction. However, philosophers have searched for various alternative methods throughout the history of science. This has led to the questioning of the universality of the method of Aristotelian logic. Because this method has sometimes failed to provide a sufficient answer in reaching the requested information. Thus, together with deduction, the functionality of Aristotelian logic has also gained a debatable quality. In this study, deduction, which is the method of Aristotelian logic, will be questioned in terms of its information value. In addition, the method searches mentioned above and the basic motivations that gave birth to these searches will be investigated. In addition, the fictionality of Aristotle's logic and method will be discussed and the meaning of method searches will be tried to be determined. Thus, it is aimed to inspect the universal certainty claim of Aristotle's logic by comparing it with different method acceptances and their fictionality. In this context, the study aims to conduct an epistemological discussion focused on functionality in the light of historical information.

Keywords: logic, Aristotle, method, fictionality, epistemology

1. Introduction

In Aristotelian logic, knowledge is produced through thought, which forms the philosophical infrastructure and elements of logic. The reliability of knowledge is determined in the context of its relationship with inspection. In Aristotelian logic, which is based on knowledge and inspection, it is aimed to establish a consistent ground within itself. This logical fiction should be examined in terms of its acceptance of episteme and methodology, specifically in Aristotelian logic. The possibility of achieving the goal of basing the system on a rational ground is possible by being inspectionable. Inspection should include

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validity and reality as logical concepts. Otherwise, the accuracy of the information obtained through syllogism, which is the method of Aristotelian logic, will be open to discussion. In this case, uncertainty is unacceptable for Aristotelian logic, which seeks universal certainty. On the other hand, fiction does not aim to find the definite results of a mandatory inspection as in the method of Aristotelian logic. Thus, fictionality is completely unacceptable in terms of Aristotelian logic. Despite this, the consistency of claiming that any system of thought is purely given and defending its complete independence from fiction is debatable. The claim that Aristotelian logic does not contain fictionality as a system is also open to debate. So, although the structure of fictionality that does not contain certainty is not acceptable from the perspective of Aristotelian logic, it may not be correct to state that it is absolutely independent from fictionality.

With the New Age, the certainty of logic was tried to be proven mathematically. Thus, it became possible to discuss whether the basis of certainty is independent of fiction. The logistic understanding, which has two truth values, which is the symbolized form of the factual part of classical logic, is based on mathematics [1, p.355]. According to some views, the elements of mathematics are based on fiction. In this view, called fictionalism by Hartry Field, numbers and sets in mathematics are products of fiction. Field also states that mathematical knowledge consists of logical knowledge and initiates a discussion on whether science can be done with mathematical objects, which are products of fiction, based on this acceptance [2, p.58]. In this case, the subject can be considered in the context of the relationship between Aristotelian logic and symbolic logic.

2. The Relationship Between Aristotelian Logic and Fiction

Symbolic logic, unlike Aristotelian logic, does not have a conceptual structure in the verbal sense. In symbolic logic, consistency and validity checks are made between propositions by symbolizing them. Symbolic logic, which is two-valued, has a strong similarity to Aristotelian logic in terms of form. On the other hand, the lack of a conceptual and linguistic structure makes symbolic logic somewhat empty of content compared to Aristotelian logic. In addition, symbolic logicians, who prefer science to have a measurable basis, demand something more precise in terms of language. The main purpose in mathematization is to meet this search for precision. For this reason, symbolic logicians, unlike Aristotelian logic, extract the concepts of language in their methods. They also use mathematical symbolization based on the mathematical inference form. As a natural result of this attitude, since the objects of metaphysics, theology and aesthetics cannot be proven mathematically, they have no direct place in symbolic logic. So, when the relation between symbolic logic and Aristotelian logic is accepted with its mathematical structure, it can at least be said that it is not independent of fiction due to factual propositions and inferences. Otherwise, it is accepted that Aristotelian logic and symbolic logic are separated from each other.

If the necessity of mathematical certainty is accepted, deduction in Aristotelian logic and mathematical inspection in symbolic logic also yield necessary results. However, Francis Bacon argues that more precise and

practically functional results can be achieved through induction. Bacon establishes the infrastructure of both his own philosophy and his new method with his theory of four types of idols. According to Bacon, idols are prejudices in the mind. As an inductivist, his idols are things that the human mind needs to get rid of and that restrict it. The fourth of these idols, the idol of the theater, is the fictional things that the human mind does not have to do with reality and that cannot always be related to time. Bacon's other three idols are tribal idols, which are common to all people and are based on their nature, race and lineage, cave idols, which express the illusions that arise from individuals' personal qualities and cultures, and market idols, which characterize the mistakes in people's agreements and relationships with each other, especially language-focused ones [3, p.128].

In the theater idol, there is the adoption of a system or ideology as a preconception. This idol has a quality that is not innate, is based on false rules of proof and is accepted by assuming that it is definitive. Unlike the other three, the theater idol is never based on any concrete observation or reality. Bacon argues that it is necessary to get rid of the idols mentioned in order to achieve objective reality in science. Bacon sees this as a way to reach the reality of the object [3, p.145]. However, the idols he classified in a fictional way actually reveal the chains of relationships of human nature and the changes that exist in it along with the differences. Therefore, all idols, especially the theater idol, have a fictional quality inspired by reality. This also expresses the fictionality of the proposed new method in addition to its being more functional, as it carries a kind of philosophical infrastructure feature for the method.

At this point, the mathematicization of Aristotelian logic with a symbolic language seems at first glance to have distanced it from being fictional in a direct sense. However, due to the fictional substructure of mathematics, the aforementioned effort leads to some contradictions. In fact, a similar situation is also the case in Bacon's understanding of the method based on induction. This method was developed based on observation and even by negating them. However, the groundwork for induction is prepared by creating a fictional chain of idols. However, it may not be possible most of the time to make an observation that allows a definite judgment to be reached regarding the whole for a set that contains an infinite or indefinite number of elements. In deduction, many criticisms are made regarding the invalidity of the necessary conclusion obtained by assuming the certainty of the universal proposition. These criticisms can also be made for induction, where an assumption is accepted regarding the determination of the whole being made definitively. In this case, induction is fictional to the same extent as deduction contains assumptions and fictions. Therefore, another analytical method, induction, can be criticized in a similar way to deduction. In other words, it can be said that induction contains fiction due to both its methodological similarities and its acceptance as an idol with a fictional basis. Deduction-induction debates emerge as a result of the necessity of searching for an alternative method. However, the doubts created by the discussions regarding the certainty of the result in the search for a mandatory method are remarkable.

In addition to determining the fictional structure of logic, the search for a method can be examined under different headings. These are universal-particular understandings, classification of objects and issues related to abstraction in thinking about existence. Problems related to these headings pave the way for the discussion of Aristotelian logic. So much so that, in the logical sense, the quantity and quality of the proposition, the universal or particular classification that the existence corresponds to are the basic foundations of Aristotelian logic. In this case, the problem of whether the elements of logic such as concept, proposition and syllogism are fictional or not arises. However, these problems can be solved by discussing the understanding of universality-particularity, division, distinction, abstraction and concepts such as genus and species where the existence is positioned. These concepts and any classification made regarding them serve the purpose and field of use of the method. In addition, they also provide a lot of information about the constructor of the method. Because every method is produced by its addressee to meet a need. When the need in question is eliminated or another alternative that responds to it more effectively is developed, the method loses its effectiveness. Then, a new method design, that is, a fiction, is needed for the new method, again related to its own needs. Therefore, fictionality does not distance anything it prepares the ground for production from reality. It does not give it a fantastic quality. On the contrary, it appears before us as a kind of projection of what is produced.

It can be claimed that the distinction between the fictional and the fantastic is not highlighted and that they carry the same meaning. In these cases, the necessity of postponing fiction brings about methodological uniformity. Because the functionality of the previous method is left out, and the benefits it aims for in practice are ignored. Thus, accepting the development of an alternative becomes difficult despite all its necessity. The primary way to avoid these difficulties is to highlight the difference in functionality between the old and new hypotheses that constitute the method. Knowing that the qualities of the method will be separate and therefore different from each other allows the fixed, definite method discourse to gain a debatable quality. Feyerabend rejects the aforementioned understanding of method in the following context:

“The requirement of consistency that new hypotheses must agree with accepted theories is unreasonable. Because it protects old theory, not better theory. Hypotheses that contradict well-confirmed theories give us evidence that cannot be obtained in any other way. While uniformity weakens the critical power of science, the proliferation of theories is beneficial for science. Uniformity also endangers the free development of the individual.” [4, p.29].

Therefore, it may not always make sense to create a new method search with the basic conditions that are accepted to exist for old theories. Because the primary condition for talking about an innovation is to free mental activity from the yoke of cumulative limitations.

Here we can make a detailed examination of the part of the claim that is open to criticism. It is not possible to abstract the mind from all kinds of previously acquired knowledge. In addition, it is not possible to deny the existence of a history of science that is internalized by science. Scientific data is used in the

development of every theory. However, the distinctions that are characterized as the field of application of these should be well understood. Otherwise, a dogmatic understanding of science brings with it an unchanging understanding of method. Perhaps the most fundamental distinction that needs to be emphasized is the difference between the history of science and science. Because the field where the search and functionality of the current structure of science are determined and the ability to inspection is methodically examined will also reveal its counterpart in practice. In addition, a method understanding that is clearly accepted as not functional for some fields will be as important as all other method searches in terms of the history of science. Although this method will not find an effective place for itself in the understanding of science of the period, the situation does not change. According to Feyerabend, it is not possible to expect any theory to overlap with all the facts, even in its own field. The reason for this is that the facts are established by the ideologies of the period. In addition, the conflict between facts and theories often indicates progress. These ideologies also have an important place in determining the implicit principles that exist outside of what is known [4, p.29]. At this point, it is important that Feyerabend rejects a methodology independent of the ideologies of the period. Because it can be said that this attitude has been effective in the objections to the universal methodology. In this context, it is not possible and meaningful for a periodic ideology to reveal a method beyond periods.

The first step in discussing the functionality of the method mentioned above is a priori. A priori are the basic assumptions on which all other inferences are built. Therefore, a priori should be reconsidered. The most basic a priori principles of reason are at the center of Aristotelian logic. Reason principles form the basis of Aristotelian logic because the inferences obtained through them give necessary results. These principles are a priori. In other words, no inference is required regarding their acquisition. However, there are also logical systems that are built on more truth values than the two-valued truth system of Aristotelian logic. For example, fuzzy logic and probability logic are among them [5, p.35; 6, p.435-446]. Fuzzy logic is a very valuable logic system called Fuzzy Logic, Fuzzy Logic and Fringed Logic, which includes inferences created with partial propositions that are not definite in validity [7, p.59]. These new searches show that everything that is subject to change is far from a fixed necessity. Therefore, the principles of reason, which are constructed with necessity for the inferences of Aristotelian logic as a priori, become debatable when the assumptions of Aristotelian logic are moved away. In this case, it is not meaningful for all systems that contain fiction to argue that any completely universal, fixed and self-necessary method and the elements that constitute this method exist in an unchangeable sense.

In addition to fictionality, the issue at the center of criticisms about the method of Aristotle's logic is that it is not always possible to use his method in practical life. There are even claims that even Aristotle did not fully define the subjects whose structure he determined formally in his own works. In fact, these criticisms about functionality can be considered as the basic dynamic that reveals both the search for a method and the fact that the method is designed to meet the current need.

Another important subject of traditional logic, which is criticized in terms of method, is definition (Greek *ορισμος*, Lat. *horismos*), which expresses what the thing is and therefore its essence. It is clear that in the theory of definition, the method that determines how the unknown can be known based on the known; that is, the syllogism is tried to be characterized in its most perfect form. According to the theory of definition, the only way to know the thing completely is again possible by defining it. This is why the subject has such an important place in Aristotle's logic system. Because the purpose of this system is to establish the method necessary for the discovery of true and scientific knowledge. In addition, the inspection of the method is also included. Therefore, in addition to the concepts discussed in the previous headings and focused on in Aristotle's logic, the essence of the definition is also important. Essence is the explanation of what something is, "What is this?" The answer to the question is the expression that brings the object together with those of the same kind and separates it from those of different kinds. It expresses the application of the genus-species, intension-content relationship to concepts and objects [7, p.300].

In the fictional structure of classical logic, the definition of concepts whose reality is determined by experiment and observation in the external world is expressed as real/true definitions. Concepts that have no individuals outside the mind are called nominal/literal definitions. Real definitions are open to inspection because they have objects in the external world. In nominal definitions, as in real definitions, a search for harmony is not possible because their objects do not exist [9, p.93b-94a]. Although the definition process is accepted as a completely mental process by abstracting the concept from the object, the two types of definitions are separated from each other due to the definitive attitude of Aristotelian logic based on experiment and observation. Verification or falsification of nominal definitions is not possible according to the inspection rules of formal logic. Similarly, in real definitions, taking formal inspection rules as a basis and observing the reality in the external world completely gives the definition made the quality of being universal and even definite [8, p.94a-94b]. Accordingly, in traditional logic, both definition constructs are not suitable for falsification, albeit for different reasons, when they are formed in accordance with their rules. Therefore, it can be said that the definite attitude of classical logic continues to exist in the subject of definition. It should be known that the limit of definiteness here is valid within the construct in which classical logic creates its own theory of definition. In addition, the statement that any rejection of the rules will also eliminate the validity accepted as mandatory will significantly reduce the criticisms on the issue.

One of the criticisms brought to the definition theory of Aristotelian logic belongs to Sextus Empiricus. According to Sextus Empiricus, who claims that definition is not necessary and even useless, since it is not possible to define something precisely, no theoretical necessity can be attributed to it. Because the person who makes the definition must know the defined object completely and be capable of doing so, and therefore must make a definition structure suitable for the object he grasps. The fact that he has this information in the logical sense beforehand is an indication that a definition is not necessary to obtain this

information [9, p.175]. The criticism in question was anticipated by Plato and pointed out the conversation between Socrates and Menon in the Meno dialogue about what virtue is. In the dialogue, it was aimed to know the general of the defined object and access information about its details. For this reason, it was argued that definition was necessary and the question was tried to be answered. Despite this, the answer given due to the obligation imposed on recognition and its rules does not seem satisfactory [8, p.71a; 10, p.53; 11, p.169; 12, p.23; 13, p.31]. In this dialogue, Meno argues that it is impossible to learn and teach something that is completely unknown. Meno finds this contradictory in terms of the mind making an effort to discover something that it knows nothing about and therefore cannot define. According to him, what is defined is known, and making an effort to determine or define the known is contradictory. What is not defined is unknown, and since it is never possible to be sure of the definition of the unknown, this is not possible. [14, p.80d].

The source of these criticisms brought to the theory of definition in Aristotle's logic is related to the understanding of knowledge. In this respect, the subject of method, which is directly related to knowledge, can be criticized both in the context of its fictionality and the rejection of universality, just like the definition, and because of its claim to provide definitive knowledge. In other words, the criticizability of the definition allows the criticizability of the method. These criticisms also lead to the emergence of new searches.

In addition to these criticisms, according to Sextus Empiricus, since the definition of things will create an infinite chain, it is not possible to determine the object that will be defined. In other words, a priority qualification cannot be made between objects defined in relation to each other due to the unlimited regression [9, p.176]. Another reason for criticism is that the definition includes all of the individuals defined and that a inspection that will take place in this context is not always possible. This criticism, which seems to be in line with Sextus Empiricus's general skeptical approach, cannot be found meaningful in terms of the formal and cumulative understanding of science. However, it can be accepted when the assumptions regarding the understanding of science in Aristotle's logic are ignored and evaluated with a skeptical attitude.

In the texts where Aristotle deals with the subject of definition, there are very few examples of full definitions. These are mostly made on concrete entities that are relatively easy to divide formally, that is, to identify the universals of the defined. This is another criticism directed at Aristotle. The problem here is that it is not always possible to make a qualification in accordance with the scope of the theory of definition for words used by everyone in practical life, other than those that are clearly stated to be indefinable in the theory of definition. However, it is observed that these words are encountered much more frequently in practical life.

According to the definition theory of Aristotle's logic, the result of not being able to define a thing in accordance with all formal rules is that all necessary correct information about its qualities cannot be given. In this case, the need to provide information about the qualities of the thing, apart from the definition, arises. As a natural result of this need, some alternatives are developed by the definer. The most important of these are undoubtedly the meaning carriers

determined by the person making the qualification about the qualified, that is, the external factors that allow the qualification to be made in relation to it. Therefore, the characteristics of the defined and the ability of the person making the qualification to express the characteristics in relation to the relationship he/she establishes with these meaning carriers are important. Although it is clear that alternative interpretations will not contradict each other, the claim that they are similar/same is also meaningless. In this case, it can be stated that there is a clear distinction between definition and qualification.

However, it is clear that although Aristotle focuses on defining the essential epistemic value in accordance with the exact essential definition of the defined, he does not define many basic concepts that are important for his system, but only qualifies them. In this context, the possibility of claiming that defining by enumerating the mentioned features does not have a definite value may lead to the possibility that there are some deficiencies in the philosophical system constructed by Aristotle. Because enumerating the features of a thing does not provide access to universal knowledge about it. This also reveals in a practical sense that the exact essential definition of the whole of existence cannot be made. Claiming the opposite, that is, defending the idea that such rational inferences have a definite epistemological value in themselves, can be discussed in the context of this methodology that claims universal certainty. This may mean that the system can be improved or transformed.

In addition, it can be stated that Aristotle emphasizes the idea accepted by the majority in the propositions he prefers when making a definition, namely endoxa [15, p.27]. However, it can be expected that endoxa is used in dialectical reasoning such as deduction and induction, where obtaining a definite or mandatory result is not fundamentally aimed. At this point, it should be noted that the rules for definition are determined in a formal sense and it is emphasized that the thing is what it is and that there cannot be anything other than what it is. Therefore, the use of endoxa, which is not usually based on a scientific inference, as a tool in the definition issue may elicit some criticisms due to the demand for certainty required of it. In other words, it is expected that universals obtained through induction and sensations will be the source of the definition [8, p. 81a]. However, Aristotle's decision to qualify the object defined by previous theories and opinions, namely by endoxa, may lead to the conclusion that dialectics is more functional in terms of definition in practice [16, p.133]. Because the definitive doctrine's handling of dialectics, which carries the possibility of probability and variability, on a fundamental subject such as definition may be seen as open to criticism.

3. Criticisms Focused on Functionality of Aristotelian Logic and Searches for Alternative Methods

At this point, determining the functionality of the method can only be related to whether it solves problems in a practical sense. For example, the scientific theories produced by authorities can only be meaningful if they are openly or secretly subject to public scrutiny and are useful. If this is not possible,

the best thing to do would be to separate scientific research from authority and reject its status as the sole criterion of truth. Achieving this reveals the fact that the preferred scientific data is not always the only one for truth and is the most effective among the options. It is clear that if a method is sought in which change is advocated even in a field such as physics, where mathematical certainty is adopted, the search in question is much more meaningful for the social sciences.

This search may not go beyond the existing methodical acceptances for new problems created by current issues. It can be observed that it often manifests itself with an effort to construct a new attitude at certain points. Whether this attitude will yield results is debatable. Because methods developed by focusing on past problems cannot provide the desired level of response to current problems. On the contrary, it may cause the emergence of different related problems. Therefore, it is not right to use a method, even if it is forced, in cases where its functionality is not at the desired level. This choice not only does not solve the problem, but it can also pave the way for new problems to emerge and for the method to be questioned. One of the ways to avoid these problems is to determine the limits and possibilities of the method's expression in language and to determine the position it is positioned in terms of the person using it. This necessarily requires the establishment of the relationship between language and people.

The mental designs of all methods can be understood by determining its relationship with both fictionality and language. The concrete manifestation of language is realized through speech. It is the act of speech, which is the embodiment of all kinds of thoughts, whether they claim to be logical or not. According to the theory of definition of Aristotle's logic, language is determined as a part in determining the nature of man. However, claiming that language and speech are simultaneous with the existence of man does not seem very meaningful according to Steinthal. He constructs a human (*homo alalus*) who does not have the ability to speak as a given from birth and has not yet discovered it. He places man before speech and tries to make an inference that language was produced. There is a power in man that is capable of creating language, and this exists in man as a stage before language. The idea that language is not inherent in human nature, which he puts forward as a justification, makes his fiction legitimate [17, p.303].

The distinction between humans before discovering language may lead to criticisms regarding the invalidity of the Aristotelian definition of humans. In this context, Aristotle's definition of humans may be acceptable for humans who have discovered and developed the ability to speak. There is no definition developed for humans who have not yet made this discovery. However, in this case, this definition, that is, the qualification of humans as speaking beings, may be open to criticism for humans who have not yet discovered this ability and have not started to use it in a practical sense. Despite this, the attempt of humans who have not discovered the ability to speak to define their own existence is an absurd expectation. It may also be seen as problematic that humans who have acquired this ability do not retrospectively make any definition for the said being.

Of course, the claim that the real meaning of the verb to speak is not just speaking but thinking should not be ignored. It should be known that speaking is

expressed with the assumption that it is truly speaking. However, it is not meaningful to defend the existence of a speech independent of thinking. Therefore, a human being who comes into existence simultaneously with the ability to think discovers or reveals the ability to speak through this ability. The solution to the problem that has arisen at this point only reveals the possibility of accepting that a human being exists with his developed intuition [18, p.41]. The claim that the ability to speak quickly emerges along with the ability to think solves the problem to a certain extent. However, the issue cannot avoid jumping to another point in terms of classical logic and epistemology. According to Aristotle, although the first principle can be known intuitively, intuition is not a knowledge produced by inference in the scientific sense [8, p.100a-100b]. Therefore, there are some issues such as thinking and speaking that do not allow for a definite inference, especially in terms of temporality. It cannot be claimed that these can neither be solved by the method of logic nor that even if a result is obtained, it can be evaluated with an expectation of logical certainty.

Differences in language and speech are an indication that different social origins approach the world in different ways. This situation reveals differences in perception, attitude and inference in a social and historical sense. As a natural result of differences, it is possible to obtain different information about the world with different methods. In fact, different methods will be tested with different inspections. Therefore, the necessary result of many methods also means accepting the existence of many types of science. According to Feyerabend, claiming the existence of a single understanding of science is to defend a theoretical anarchism. The reason why it is theoretical is that, contrary to the claim in theory, it is of a quality that cannot be found in a practical sense. In other words, a method whose functionality is defended provides a benefit regarding the solution of the problems within its scope. In addition, the method should have a quality that responds to practical, that is, current issues.

One of the clearest examples of the variability of science in practice is the following: The possibility of putting forward new hypotheses that object to or contradict established experimental results that are assumed to be verified or accepted as true. Therefore, when there is a methodical progress or change in scientific terms, it is possible to talk about a kind of counter-induction [4, p.29]. What should be noted here is not that the concept of counter-induction is claimed to be the only method of science. It must contain the usability of any method that can be put forward at certain times, that is, when suitable conditions are met.

There are certain conditions for being able to talk about a science, along with thinking, which is directly related to logic, and speaking, which is its expression. According to Aristotle's logic, the first condition is that knowledge is included in a class of sciences, that is, it is positioned somewhere in the classification of sciences. The most basic thing that is necessary for sciences is proof, and proof is syllogism [8, p.62b]. However, especially for sciences where change and therefore development are accepted as the basis and where humans are taken as the center, talking about a universal proof method may not always find a response in practice. In clearer terms, there may be issues that do not always have the possibility of being concretized in these sciences, but sometimes they

arise from a social need. It is often not possible to create a structure that complies with the necessary rules of concrete reasoning, and then to prove it with the necessary inspection methods of Aristotle's logic. Using an alternative method may not correspond to certainty or even accuracy in the context of the method of Aristotle's logic, which claims absolute truth value. Therefore, some criticisms can be made regarding the universality of this system's ability to respond to problems related to its method. However, a scientific understanding that clearly declares that its method claims universality cannot be expected to leave out basic areas.

The aforementioned inadequacy of the method claiming to be certain, in some areas where humans are centered, constitutes a place in method studies. Feyerabend does not find it scientific to transform any kind of data, the nature of which is assumed to be predetermined, through requirements. However, he argues that the method used by the current understanding of science in the production of episteme is no different from this. Because the unlimitedness of invention, the method based on the unchanging method, contradicts the inherently limited structure of science. Forcing an unlimited mind to think limitedly through the effort of method, on the other hand, is contrary to the nature of discovery and has a quality that inhibits it. In this context, even if we are going to talk about producing a method, it is necessary for it to be established with clear rules. What is meant by clear rules here is not a universal rigid structure, but can be transformed for any special situation required by the conditions. In fact, it has a renewable chain of rules. The understanding of clear rules, which is a necessary requirement of unlimited rationality, is what can develop science. Otherwise, it can be claimed that the accepted data of science try to produce knowledge with a coercive effect through every kind of sharp, rigid, definite and universally claiming attitude [4, p.7]. Accordingly, it can be said that what should be rejected is not the method, but the definitive method approaches that carry the presupposition of universality.

Another criticism that can be made to the method of Aristotle's logic and that may indicate the necessity of searching for an alternative method is as follows: When the contradiction of what is present in Aristotle's philosophical system can be proven, the thing in question cannot be called science [15, p.104]. Because the thing called science cannot be shaken by reasoning. In this case, Aristotle's method should be adopted either for axiomatic knowledge that cannot be criticized or for the assumption that his deductive method gives definite results. Thus, it is accepted that the method provides the fixed certainty. Otherwise, the probability of falsifying any deduction that is not axiomatic and is formed in accordance with logical rules is low. In other words, the method's claim of certainty will be weakened due to Aristotle's idea that the contradiction proven will lose its validity. In a formal sense, the problem arises when the universal premise cannot be questioned in the deductive understanding of classical logic. The problem can be solved in the traditional sense by accepting that a deductive inference will necessarily yield a result. Because the universal proposition will necessarily contain the result due to its form, it is not possible for it to produce a

result that contradicts itself. What is important here is to determine to what extent the universal proposition coincides with reality.

A particular result obtained by deduction from a universal proposition that completely coincides with reality can be accepted in a scientific sense outside of a skeptical perspective. However, a universal proposition that does not coincide with practice will not be functional even if a correct inference is made in a logical sense. Essentially, this is the starting point of alternative method searches. Because even if a dysfunctional method is accepted as mandatory in the traditional sense, it may not be universally adopted except by its staunch advocates. As a natural result of this, as mentioned in previous headings, it is clear that many methods have been sought throughout history. Deduction, which is at the center of Aristotelian logic in particular, has been criticized by many thinkers, especially Descartes, in the modern period [19, p.27].

Descartes, who determined the criterion of truth as clear and distinct designs, accepted matter and soul (Lat. *Anima*) as two separate substances. According to him, the world of matter operates according to mechanical laws and the subject of method is also included in the mechanical understanding in question. Although his method structure, which is directly related to his understanding of nature, does not completely overlap with the method of Aristotelian logic, it is a system in which rationality is central. In this context, what distinguishes him from Aristotle is that he accepts mathematical inferences as the basis due to his analytical thought structure. Due to this difference, he is called a mathematician who does metaphysics in the history of philosophy [20, p.215]. His acceptance of nature as measurable also leads to the development of an idea that necessary knowledge about nature is based on mathematical inferences rather than sense data.

According to Descartes, the way to reach clear and definite knowledge by using the mind and intellect correctly is possible by following the methodical doubt, analysis, synthesis and inspection steps. As a result, mathematical certainty is expected to provide access to necessary knowledge. However, all areas about which definite knowledge cannot be reached or results cannot be obtained through mathematical methods are uncertain. Descartes considers all information that the mathematical method cannot obtain (Lat. *cognitionem*) as uncertain and therefore invalid in the mathematical sense. His method structure is accepted as a basic assumption built on necessity and that the determination of necessity can be obtained through mathematical methods. Because science consists of definite and clear knowledge [21, p.10].

Descartes expresses his scientific method within the framework of the following four rules. "The first rule is to accept nothing as true which I do not know to be certain; that is, to carefully avoid haste and prejudice, to include in my judgments only those things which my mind sees clearly and distinctly and of which I will not doubt again. The second rule is to break down each difficulty I undertake into as many small parts as possible, or as necessary for my better understanding. The third rule is to direct my thoughts in a certain order, beginning with the simplest and easiest to know things, and gradually advancing to the most complicated; to examine in a certain order those things which do not naturally

follow or precede one another. The last and fourth rule is to make complete calculations and general checks at every stage, and thus to be sure that I have not forgotten anything.” [19, p.29].

Descartes’ method structure is in a structure that argues that information that is described as *a priori* can be known by intuition (Lat. *intuitus*) and attributes rationality to intuitive data [21, p.17]. According to Descartes, who finds intuition more reliable than deduction, it is inferential and obvious, while deduction has a margin of error because it is based on a rational inference. However, deduction is a reliable method for building new knowledge on existing knowledge through intuition. Descartes, who evaluates induction as a kind of counting method, takes it third [19, p.29]. These explanations also show that two rational philosophers who adopt analytical thinking and even the same methodological acceptance have different constructs in terms of method. It can be expected that the acceptance of a universal, definite and fixed methodology or the defense that the method is the product of a purely rational approach in the traditional sense should distance it from fictionality. However, when the movement of the history of philosophy in this context is observed, it is understood that practical reality is different. Therefore, each philosopher focuses on the solution of the problem in terms of the historical period in which he seeks an answer. Thus, even if they use similar rational inference methods and concepts, they do not make the same claims due to the differences in their constructs. The differences in attitudes in the methodological understandings of Aristotle and Descartes reveal both fictionality and change.

There is another reason why the idea of a single scientific understanding with certain defined principles is discussed in the context of method. Different methodological tendencies can be found under the name of theoretical approaches consisting of perspectives with a certain system, phenomenological approaches formed through a certain phenomenon or concept, and experimental approaches formed according to the cause-effect and causality relationship. Despite this, it is possible for even a single branch of science to present data that bears opposing attitudes and refutes each other. Experiments and observations contain data that are built upon each other and are closed to discussion in subsequent processes because they serve as a step for one another. The Platonic image of science, which contains a chain of propositions that emerge as a result of a pure and continuous rational system, has been criticized on the grounds that it is unsuccessful in current issues. In this context, it should be accepted that a universal scientific understanding may not always be equally successful in solving problems or producing original value. Therefore, it is requested to create a systematic solution order based on the functionality of the methods regarding the problems. Assuming that a method will be successful in a problem that has not yet been used as a construct of a scientific understanding may be contrary to the natural flow of life. The solution to the problems mentioned is possible by accepting that there are many types of science. The necessary differences that will occur in the understanding of the knowledge needed with the problems and solutions according to the worldview of different social origins should be seen as values.

The starting point of the search for universal and definitive methods, as in Aristotle's logic, is the reason why the mentioned qualities are scientific. In other words, any method that does not change according to historical and cultural distinctions, can be used for all times and whose necessity comes from its own definitiveness is scientific because it is obtained through necessary rational inferences. According to this perspective, what is scientific cannot be subject to constant change, the opposite cannot be claimed and proven, and if it is checked, it is not possible to make a contrary inference. As in Aristotle's logic, the source of this definitive claim is because the method is completely rational. However, at this point, the universality of the unchanging method and the knowledge obtained through it can be discussed. Accordingly, the criticism that "Neither science nor rationality are universal measures of superiority. These are particular traditions unaware of their own historical origins" emerges. This criticism contains the claim that even if a skill is considered a measure of periodic superiority, its historicity is always essential and universality should not be sought in it [4, p.32]. However, it is possible to develop the qualities and functionality of these measures. It is impossible for these development principles to be outside or above tradition and to be fixed. Therefore, the search for all kinds of existing and possible methods is extremely meaningful, useful and necessary.

4. Discussion and Conclusion

Developing a method approach in the search for certainty in solving problems that arise later by creating a theory in advance necessitates the evaluation of issues independently of their current contexts. In other words, expecting a method that has been created in advance in terms of time to reach a result that has a definite truth value for a situation where the nature of the problem has not been determined may not always be correct in practical terms [22, p.81]. Such a method claims both objectivity and superiority. This shows that it may not always be equally functional for every type of problem. When it is accepted that what is essential is experience and observation as traditional logic is based on, the possibility that these can transform and develop the method should not be ignored. Therefore, the perception of superior method can be discussed in an understanding of knowledge where experience is the focus. What is functional is that experience encompasses the theory and shapes the method by existing before it. The fact that experience is at the center means that the expectation of benefit in practice can increase for every type of problem that is based on human life.

The part of the relationship between philosophy and science that inherently rejects uniqueness, the fact that philosophy can be understood on continuities, that it contains a critical attitude, and that in this context, the infinite number of reasoning processes also guarantee the continuity of method searches. The continuity here does not support any angularity, uncertainty or inconsistency, but since the search is aimed to produce solutions to problems, it should be rational, consistent, but historical and functional. The effort in question points to the necessity of establishing a new method or paradigm, and also reveals the continuity of the search in methodological terms. Of course, this attitude does not

mean ignoring all methods other than the newly produced ones or completely eliminating their functionality. The pragmatic one is the desire to reach a solution by determining the functionality limits of the method and choosing the most effective one for solving the problem. Otherwise, claiming that the existing one eliminates all other methods reveals a cyclical continuity indicating that the definitive attitude has been restarted for a new period. Therefore, the aforementioned attitude is contradictory to the continuous search that shows the dynamism of the method. In this context, the universal and infinite certainty of judgment contradicts the changing nature of science, while the necessity of method searches comes to the fore.

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References

- [1] D. Özlem, *Logic*, Notos Book Publ., İstanbul, 1991, 423, ISBN 978-6055904487
- [2] B.S. Gür, *Philosophy of Mathematics*, Kadim Publ., Ankara, 2004, 55, ISBN 978-9759000040
- [3] F. Bacon, *Novum Organum*, Bottom of the Hill Publishing, San Francisco, 2012, 166, ISBN 978-1612034478
- [4] P. Feyerabend, *Against the Method*, 3rd Edition, Trans. Ertuğrul Başer, Ayrıntı Publ., İstanbul, 2017, 384, ISBN 978-9755391403
- [5] G. Gerla, Artificial Intelligence, **70(1-2)** (1994) 33-52, doi: 10.1016/0004-3702(94)90102-3
- [6] A. Korkmaz and A. Avar, Journal of the International Scientific Research, **4(2)** (2019) 435-446, doi: 10.21733/ibad.548915
- [7] İ. Emiroğlu and H. Altunya, *Logic Dictionary with Examples*, Litera Publ., İstanbul, 2018, 368, ISBN 978-6052023389
- [8] Aristotle, *The Basic Works of Aristotle*, Trans. G.R.G. Mure, Richard McKeon (ed.), C.D.C. Reeve, The Modern Library, New York, 2011, 1520, ISBN 9780375757990
- [9] S. Empiricus, *Scepticism*, Trans. Mustafa Kaya Sütçüoğlu, Ayrıntı Publ., İstanbul, 2017, 688, ISBN 978-6053142140
- [10] Al-Farabi, *Kitabu'l-Burhan*, 2nd Edition, Trans. Ömer Türker, Mahir Alper, Klasik Publ., İstanbul, 2009, 152, ISBN 978-9758740710
- [11] Al-Farabi, *Philosophical Texts from Islamic Philosophers*, Trans. Mahmut Kaya, Klasik Publ., İstanbul, 2003, 532, ISBN 978-9758740109
- [12] Avicena, *Posterior Analytics*, Trans. Ömer Türker, Litera Publ., İstanbul, 2006, 560, ISBN 978-9756329337
- [13] Averroes, *The Middle Commentary of Posterior Analytics*, Trans. Hacı Kaya, Klasik Publ., İstanbul, 2015, 294, ISBN 9789752484955
- [14] Platon, "*Menon*", *Dialogues*, Trans. Tuna Poyraz, Yargı Bookstore, Ankara, 2010, 183, ISBN 978-6055499525
- [15] Aristotle, *Topics*, Trans. Hamdi Ragıp Atademir, Milli Eğitim Bakanlığı Publ., İstanbul, 1996, 273, ISBN 975-1101522

- [16] D.K.W. Modrak. *Aristotle's Theory of Language and Meaning*, Cambridge University Press, Cambridge, 2001, 302, ISBN 978-0511609008
- [17] H. Steinthal, *Der Ursprung Der Sprache Im Zusammenhang Mit Den Lenzen Fragen Alles Wissens*, Eine Darstellung, Kritik Und Fortentwicklung Der Vorzüglichsten Ansichten, Dümmler, Berlin, 1858, 142.
- [18] G. Agamben, *Openness, Human and Animal*, Trans. Meltem Mine Çilingiroğlu, Yapı Kredi Publ., İstanbul, 2018, 104, ISBN 9789750815607
- [19] R. Descartes, *Discourse on Method*, Trans. Özcan Doğan, Doğu Batı Publ., Ankara, 2014, 92, ISBN 978-6055063
- [20] A. Weber, *History of Philosophy*, 5th Edition, Trans. H. Vehbi Eralp, Sosyal Publ., İstanbul, 1998, 454, ISBN 978-6051273341
- [21] R. Descartes, *Rules for the Direction of the Mind*, Trans. Engin Sunar, Say Publ., İstanbul, 2021, 128, ISBN 978-6050208412
- [22] M.K. Wheeler, *Romanticism, Pragmatism and Deconstruction*, Trans. Hüsamettin Arslan, Paradigma Publ., İstanbul, 2011, 387, ISBN 978-9757819752