INTERPRETATION OF SCIENTIFIC REASONING, EMPIRICISM OF FRANCIS BACON, AND THE INDUCTIVE REASONING MODEL OF THE HOLY BOOKS

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Received: Filled Out by the Editor	**Accepted:** Filled Out by the Editor	**Published:** Filled Out by the Editor

Abstract

Interpretation is often attached to a reading product that is constrained by various hegemonic means that oppress the text and force the text to produce exposed, ideologically dominant meanings. In this space, interpretation or reading transcends the intended meaning of the text. Various philosophical arguments participate in imprisoning the objective sacred meaning of the text's simple and unpretentious content. This paper aims to analyze the simplicity of the object as the narrator by attaching scientific criteria that align with more standardized interpretation standards. The method chosen for this research is the qualitative method with an interpretive approach. The approach that begins with an examination of this interpretative model is present to dissect objects such as sacred texts and other texts. In this context, the framework of scientific critical reasoning, often called the objective empiricism of Francis Bacon, serves as the foundation for the inductive interpretation model. This research attempts to offer a critical scientific methodological effort as proposed by Francis Bacon by trying to restrain oneself and maintain distance from the object so that the purity of the object being interpreted is visible. The findings of the research indicate that the effort to apply Bacon's empiricism theory can be implemented in the realm of texts, including sacred texts, as an effort to purify the meaning as it is. The possible reductive effort born from the involvement of readers or interpreters in an understanding is avoided in this interpretation model.

Keywords: *Tafsir; Empiricism; Francis Bacon; Inductive Reasoning; Holy Scriptures*

A. Introduction

All forms of understanding are essentially born from a certain reasoning. It is called so because, in truth, every understanding is never born alone, without any cause or without going through a process of understanding. It is very unlikely that understanding emerges without a certain model or method.

The text will not deviate from its meaning if it is not placed in a certain position or read the existing approach. Among the many variants of textual meanings that emerge, the issue of reader confusion becomes a problem for many followers of religions, including Islam, regarding the value of truth that is intended to be used as a guide in interpreting the text. A question arises regarding this issue: among the many existing variants of meaning, can one of them be used as an authoritative guarantee of truth to represent the truth presented by the text in the holy scripture.[1] Here, Francis Bacon's thought offers a pattern of text understanding on critical empirical inductive aspect of the meanings presented to the reader.

Bacon's efforts regarding text interpretation are an attempt to present a process of understanding the text in a strictly objective scientific manner. Through this process, the elimination of the reader's arbitrary involvement is suppressed and adjusted to a more objective side of reality. The objective criteria themselves are a form of anticipation against the emergence of meaning bias or the appearance of truth outside the text's own intent. This method was introduced by Bacon with the aim of purifying the meaning of the text without mixing it with interventions outside the text or the objective truth itself.

On the side of the space for interpreting sacred texts, readings or understandings that emerge amidst the struggles of human history in the development of knowledge in world civilisation until the peak of the late seventeenth century mark a crisis of understanding experienced by many interpreters.[2] Forms of reading without reflecting on the significance of the

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[1]Zulkarnain Yani, Nining Nur Alaini, Agus Heryana, Khairul Fuad, Rohim Rohim, and Lalu Muhammad Ariadi, Traditional Ways of Caring for Historical Manuscripts in Lombok (Indonesia), Restaurator. International Journal for the Preservation of Library and Archival Material, Volume 46 Issue 2, 2025.

[2]Amsal Bakhtiar, *Filsafat Agama* (Jakarta: PT Logos Wacana Ilmu, 1997), 28

truth's meaning give rise to rigidity and confusion over the objectification of empirical reality in its true position. All this time, we see that the truth tends to be biassed and quite far from the scientific standards of evaluating a fact. In essence, if examined scientifically, what God has created has already been present and directly contributed to becoming a part of life without needing human intervention to exist again. Humans are only expected to enjoy these objective means by maintaining and using them properly. This vast expanse of creation marks the truth and astonishing grandeur.

The existence of life gives rise to formulations of truths. The struggle of the search for truth has existed in life. By Bacon, this space of understanding is then connected with the emergence of religion with its various holy scriptures. Islam, in this regard, views it as an objective panorama presented in all of creation. The Holy Qur'an has described this in Surah Fusshilat, verse 53, which reads as follows:[3]

سنريهم أياتنا في الأفاق وفي أنفسهم حتي يتبين لهم أنه الحق أولم يكف بربك أنه علي كل شيئ شهيد

"We will show Our signs in the universe and within themselves until it becomes clear to them that it is the truth (Al-Haq). "Isn't it enough that your Lord is a witness to all things (Quran 41:53)".[4]

The presence of humans often marks the beginning of the movement of life. This can be seen in the lives of some people who drive the formation of a monopoly on truth. Any form of source can be used as a benchmark for truth, especially since it directly touches on the struggles and interactions of humans themselves and is an integral part of humans in the dimensions of space and time. This issue always captures human attention in the

[3]M. Quraish Shihab, Tafsir AL-Misbah, (Jakarta: Lentera Hati, 2003, Volume 12, Fushlisat), 440-441.

[4]Afaaq is a concept of microcosm in Islam. This concept refers to the form or place of one of God's tajalli in introducing the truth about Himself. See A.E. Affifi, *Filsafat Mistik Ibnu Arabi*, terj, Sjarir Mawi dan Nandi Rahman (Jakarta: Pt Gaya Media Pratama, 1995), 48-49.

pursuit of profound truth. The philosophy of critical rational empiricism presented by Bacon is something urgent and considered the most important among the various pleasures that humans wish to achieve.[5] In this regard, Aristotle once commented, "Plato is valuable, and truth is also valuable. However, truth is more valuable than Plato."

B. Method

This research is a study that is based on the careful effort to present a critical objective meaning, which in this case uses an interpretative approach to delve deeper into the scientific reasoning of Francis Bacon.[6] In this context, Baconianism and the perspective of modern empirical scientific criticism prioritize objective values or standards in providing something by emphasizing objectivity and distancing from subjective elements in an understanding.[7] This is considered to be more capable of minimizing errors in interpretation, especially in the discourse of sacred texts. Because Bacon held the principle that truth indeed exists in the objective spaces and realms exposed in these empirical domains.

Empirical truth is the starting point of knowledge that necessitates inductive reasoning in a critical and progressive manner. This approach is emphasized by some of Bacon's readers as an absolute prerequisite for presenting the truth as it is by highlighting the aspect of self-restraint or maintaining distance from the object to preserve the values within it.

Empirical objects are kept from being corrupted by the subject of human desires, which would transform knowledge into something limited and dogmatic, or in other words, non-independent. This is what Bacon criticized by offering a way or method of thinking that later became known as inductive empiricism.

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[5]Yeni Setianingsih, "Induktivisme-Empirisisme Francis Bacon dan Relevansinya Bagi Ilmu-Ilmu Keagamaan." Indonesian Journal of Islamic Theology and Philosophy 1.2 (2019)
[6]Michael Quinn Patton. *Qualitative Evaluation and Research Methods* (Newbury Park, London, New Delhi: Sage Publications, 1990).
[7]Francis Bacon, et al. *Francis Bacon* (Oxford: Oxford University Press, 1996)

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C. Results and Discussion

1. Result

a) Conditions for the Birth of New Meaning in an Interpretation

The critical rationalism of empiricism strives systematically in the realm of reading literary texts or sacred scriptures, which has always been pursued throughout the history of interpretation and understanding to address several readings that tend to be non-objective and non-neutral. All forms of this truth problem certainly begin from the epistemic perspective of objective empiricism contained in the theories of Baconian inductive empiricism, which were initially initiated by some of his predecessor colleagues in the approach of philosophical conceptual understanding.[8]

The people recognize various truths of knowledge, usually through the methods of rationalism or empiricism. Which was previously emphasized by thinkers such as Parmenides, Plato, Descartes, Spinoza, Leibniz, etc. Meanwhile, empirical knowledge was asserted by Francis Bacon, Locke, Berkeley, Hume, etc. The difference between the two slices of knowledge sourced from the rationalism method on one side and those sourced from the empiricism method on the other is what ignites the endless debate over truth and creates a contrast between the two.[9] The author adopts this inductive empiricism model as a highly significant offer in providing a solution to the deadlock in resolving truth claims that are considered detached from the interests of the subject, which is deemed the root of all truth persecution.

The author views that the problem of truth. especially the truth derived from empirical knowledge, as mentioned above, is a natural matter and can be scientifically and truthfully justified based on the epistemology of revelation as explained in various texts from the verses of God. As quoted in Surah Fussilat, verse 53, where the verse prioritizes the truth of empirical knowledge by mentioning the term "Afaq," which

[8]Ahmad Tafsir, *Filsafat Ilmu* (Bandung: PT Rosdakarya, 2013), 4
[9]Loren Bagus, *Kamus Filsafat* (Jakarta: Gramedia Pustaka Utama, 2002), 213.

encompasses all important information about the universe, both in the heavens and on the earth.[10]

The attitude of scrutinizing truth in text especially employs a reflexive reading, which highlights the dominant subject aspect, unlike the Bacon model approach, where reading is directed toward the general model of empirical theory, which can be identified with the correspondence theory of truth.[11] The correspondence theory seems to be the most reasonable view for ordinary comprehension. According to this theory, statements are true if they correspond (*match*) with the world (*reality*), and ideas correlate with reality through the perceptions we receive from the world.

In the world of exegesis, scientific prerequisites are essential to avoid the blind persecution of texts. This becomes an important part in building a conceptual framework of comprehensive understanding of values and providing enlightenment to the text structure in maintaining the text's objectivity as a measurable source of truth. So, what people need to learn from nature is how to fully use it to dominate the entire natural world and also others. All this time, managing and generating knowledge or understanding rarely returns it to the realm of the objective world itself, so what is seen is not the object or text itself but what is outside the substance of the object itself.

Based on the problem of thinking, the method of induction is an important foundation in maintaining the neutrality of the objective world from external constraints. The reading of this inductive model will give birth to an independence of meaning that is not detached from the substantive values it possesses. Understanding, as in this inductive method, begins with a careful and thorough examination of particular data, which at the next stage allows reason to move forward toward the interpretation of nature. Textual data is prioritized over the preconditioning of the subject to be observed. In this case, Bacon's well-known statement "Knowledge is power" emphasizes the value of precise and factual knowledge in empowering people and society. He thought

[10]M. Quraish Shihab, Tafsir AL-Misbah..., 443
[11]Basil Montagu, *The Works of Francis Bacon Vol. 1.* (Parry & McMillan, 1857)

that humans could regulate nature and enhance human well-being by comprehending the rules of nature and actual phenomena. The "inductive method" he proposed reflects his contribution to the scientific process.[12] This approach entails gathering particular data via testing and observation, then extrapolating broad conclusions from those facts.

Bacon's contribution to the formation of a scientific paradigm centered on empirical observation and inductive procedures remains a crucial beginning point for the advancement of modern science, despite the fact that he did not always consistently apply his empirical principles in his own research.[13] Bacon believed that with this inductive method, truths could be discovered. He proposed that there are two methods that must be undertaken as prerequisites to achieve a truly objective certainty of meaning, namely: first, using reason/intellect that must refer to particular sensory observations. Secondly, attempting to reveal existing facts and data in general. Next, to avoid the incorrect use of the inductive method, Bacon suggests avoiding four types of "idols" or obstacles in thinking, namely, Idols of the tribe, which are errors caused by tendencies inherent in human nature.

The idol case is proven when humans tend to measure from their own perspective, not basing their views on the reality they see. As a result, namely, 1) they overlook the objects they see because they apply standards that do not actually exist in those objects. 2) Idols of the cave, meaning the errors caused by human subjectivity that tend to be prejudiced and overly confident in their own assumptions, influenced by character, education, reading, and specific influences embedded within the individual. 3) Idols of the marketplace are the errors caused by humans' excessive belief in language or the power of words. This part of the obstacle is the most dangerous obstacle. Because the reference is the opinion of others, which he accepts without question, leading his beliefs and judgments to be based on invalid matters. 4) Idols of the

[12]Lukmanul Hakim, Filsafat Umum: Upaya untuk Lebih Mengenal & Memahami Filsafat Lebih Awal (Yogyakarta: Zahir Publishing, 2022)
[13]Nurazila Sari, Sangkot Sirait, *Metodologi David Hume (Empirisme) dalam Pemikiran Pendidikan Islam*, HEUTAGOGIA: Journal of Islamic Education 1.1 (2021).

theater.[14] Idols (idols of the mind) show that humans tend to believe in knowledge derived from traditions or cultures that have been passed down through generations without critical thinking.

b) Reading the scientific reasoning of inductive empiricism

The emergence of knowledge or understanding of the correct text, according to Bacon, must begin with or be based on a meticulous and diligent examination of particular data and then reflect on a clear mind. Thus, one then progresses to the next level toward an interpretation of nature or any form of object and/or text.

The working method of induction proposed by Bacon is as follows: the first stage is the stage of presenting types of data in nature that are observed and experimented upon. In this stage, the compilation of types of data (instances) obtained from nature is carried out in several steps. There are three steps that must be taken to obtain certainty in the form of knowledge. The three steps are: 1. Cataloging the existence and presence (part of Existence and Presence); 2. Creating distance (self-deviation) or eliminating assumptions or prejudices (part of Deviation, or Absence in Proximity); 3. Creating levels or making comparative steps (part of degrees or part of comparison). After the three steps of data compilation in the first stage are completed, the next step of the process enters the second stage of Bacon's method, namely, the examination of the three parts in the first stage to find what he calls "the form" or "the shape" of general knowledge that can be concluded from the observation and experimentation of the natural phenomena being studied.

Bacon asserts that a true scientist is an objective observer who can free humanity from the illusions and myths of the past. Bacon also likened the scientist to a bee, which collects material from flowers in gardens and parks, then processes and transforms it with its own strength. Unlike a spider that weaves a web from its own imagination or an ant that merely piles up materials.

Bacon's analogy of the spider is said to resemble the workings of the syllogistic-deductive method. Meanwhile, the ant is likened to the old (traditional) inductive method. The characteristic of induction is that it

[14]Yundi Fitrah, M. Karim, Teori Bacon dan Mill dalam Kajian Ilmu Apresiasi Sastra Indonesia, 2024, Kajian Sastra Nusantara Linggau, 3(1), 45–58.

is capable of finding the core foundation (formae) that transcends particular data, no matter how large the quantity.[15] Therefore, what needs to be done here is to collect heterogeneous data about a particular thing. From this, the concrete particular event that actually occurred (latens processus with its efficient cause) will become clear, followed by more general matters (latens schematismus with its material cause), and only then will the core foundation be found.

2. Discussion

a) Model of Applying Scientific Empirical Reasoning to the Holy Books

Bacon's method criticizes the inductive empiricism of the syllogistic-deductive logic developed by Aristotle, which is considered not to produce empirical discoveries. Bacon stated that the syllogistic-deductive method can only help realize the deductive consequences of what is already known. In order for knowledge to develop and to obtain truly useful and concrete knowledge, the deductive method must be abandoned and replaced with the inductive method. Thus, it can be said that Bacon's inductive theory was born as an answer to the weaknesses of the deductive theory that was previously often used by Aristotle.[16]

The inductive method can become a method for all sciences. In general, induction is explained as a thinking process where people move from the less universal to the more universal, or more strictly from the individual/particular to the general/universal. Induction can lead humans from sensory and individual levels to intellectual and universal levels.

More specifically, inductive reasoning is a procedure that starts from specific events as a result of empirical observation and ends with a conclusion or new knowledge that is general in nature. Therefore, this method of induction cannot be separated from the issue of empiricism, which is a school of thought that considers experience

[15] Junihot M. Simanjuntak,, *Filsafat Ilmu dan Penalaran Teologis* (Yogyakarta: Andi, 2022).
[16]Lukmanul Hakim, Filsafat Umum...

and the five senses as the source of knowledge. For that reason, it can be said that in all its more specific forms, induction is a matter of empirical generalization; namely, we argue that because something has been proven true in a number of observed cases, the obtained probability is not certain. But it can be very likely, and all our rational predictions about the future depend on empirical references. Inductive reasoning is certainly not merely an empirical matter because we use it to conclude what we have not yet observed.

Referring to David Hume's statement that inductive arguments rely on diversity, habit, and experience. This aligns with what Bacon emphasized, highlighting the aspect of experimentation as crucial for conquering nature with its secrets.[17] Where, in this case, Bacon refers to it as the composition of natural and experimental history. According to him, experiments are very important because if the reader simply observe what happens around the society, the people views are limited by the data. When the subject conduct an experiment, the subject control the observation conditions as much as possible and manipulate the experimental conditions to see what happens in environments where the opposite never occurs. Experiments allow us to ask, "What happens if...?" Thus, the essence of Bacon's model of induction is that science must begin from and be governed by observations that are not influenced by any assumptions.

Scientists must approach nature or their research objects with innocent eyes, untainted by any assumptions. He must not be dominated by any preconceived notions. So, he must let the object speak to him without trying to make the object fit into the framework or assumptions that already exist in his mind. Therefore, there are three main points that Bacon wants to convey through this empirical-inductive method. First, when conducting scientific research, scientists must be free from all assumptions. We must be free from all kinds of initial speculation, which can deceive us in observing our

[17]M. S. Alias, M. S. (2016). Dialektika Tokoh-Tokoh Falsafah Barat Zaman Revolusi Sains Mengenai Sains dan Nilai. UMRAN - International Journal of Islamic and Civilizational Studies (EISSN: 2289-8204), 3(3). https://doi.org/10.11113/umran2016.3n3.89

research object. Roughly speaking, all kinds of theories, assumptions, suspicions, and thoughts about the research object must be discarded to enable us to capture the object as it is. The goal is to prevent scientific bias. Scientific bias can occur when scientists use data and facts merely to justify their thinking.[18]

As a result, there is a tendency to only pay attention to data that is relevant to the existing framework of thought, and conversely, to ignore facts and data that contradict the existing framework of thought. Thus, the conclusions drawn are indeed valid. Second, as much as possible, pay attention to data and facts that contradict each other. Third, after observing the object as it is and collecting data and facts about the object. The data and facts should be evaluated, classified, formulated, and concluded according to the abilities possessed by the scientist. So, it is only at this level that scientists can use various known concepts and theories to process the existing data. At this stage, reason and sensory observation support each other to obtain reliable conclusions.

b) The Use of Francis Bacon's Inductive Reasoning in the Interpretation of the Holy Books

The problem all along has been that human knowledge is never independent and tends to hastily draw conclusions, which ultimately leads to a more dogmatic false truth. Knowledge is no longer truly a presentation of the natural empirical show but rather values of mastery over human emotions that are paganistic in nature or a forced grip on thought. If religious texts are present in cases as commonly seen today in the world of interpretation, then the confusion of hegemonic meaning against false truth is unavoidable.

One of the key turning points in the history of the advancement of philosophy and science is the empiricist ideas of Francis Bacon. The 16th-century scholar and scientist Bacon developed a novel theory of knowing that has a profound impact on how we comprehend the universe and advance science. This idea challenges the prevalent theoretical and speculative methods of his day by emphasizing

[18]Misbah Yazdi, Muhammad Taqi, *Buku Daras Filsafat Islam* (Bandung: Mizan, 2003).

experience and observation as the primary means of gaining authentic knowledge.[19] Views that were dominated by conjecture and abstract philosophy had impeded the advancement of science during his time. Bacon's ideas became a revolutionary alternative in this setting. He underlined that meticulous observation and exploration of nature and actual phenomena are the only ways to acquire legitimate knowledge. From here, actually, the thought offered by Francis Bacon is to purify the empirical realm to a neutral point and follow its own scientific procedures. And of course, this process requires many experiments and allows for freedom in the knowledge derived from those experiments. All of that is presented objectively and does not close off opportunities or constrain future predictions or the conclusions that will be drawn, which is more open to the possibilities of new knowledge and neutral interpretations.

Bacon's model of thought tends to adopt a stance of maintaining distance from the object of scientific knowledge until the knowledge produced is truly pure and unadulterated as it is. This empirical model of thinking promotes independent reasoning and greater freedom regarding the possibilities that may arise. Interpretation and reading of sacred texts are greatly needed with a pattern or model of relationship as applied in the model of the relationship between empirical knowledge and Bacon's inductive logic. This involves establishing a natural relationship and objective standards. That is the solution that is greatly needed in the era of uncontrolled text reading. Models and principles of natural and neutral standards are needed to ensure the sustainability of measurable truth.

D. Conclusion

This research presents a perspective on text interpretation or understanding using the model of critical reasoning reading of Bacon's inductive empiricism, which views objective truth as something that has been naturally created by the Creator along with the rhythm of life itself. The

[19]Kees Bartens, *Ringkasan Sejarah Filsafat* (Yogyakarta: Kanisius, 2005).

convergence of Bacon's thought with the concept of truth thru his inductive-empirical method, with a theory built upon the postulate of revealed truth that introduces truth thru the aspect of the universe's creation—which, according to the author, is pure empirical critical reasoning. The uniqueness of Bacon's thought is precisely seen in the consistency of the concept of objective truth with Bacon's effort to maintain the totality of empirical purity as much as possible without human intervention in interpreting or managing his own knowledge of reality as it is.

Bacon's model or method appears more objective and maintains a distance from the possibility of falling into the idol of knowledge, which seems to be born from the human ego's will rather than originating from the purity of knowledge offered by empirical reality itself. Herein lies the alignment of Bacon's thought with the concept of the purity of the existing wahyu-based empiricism, which is more inclusive and trustworthy. Why is it called that? Because empirical knowledge, as offered by revelation, is not tainted by the idols of human thought, which is also what Bacon proposed to purify empirical knowledge from the grip of human prejudice. Just like the verse text that has been analyzed in the introduction and in the above explanation. Reading or understanding scientific reasoning like this allows for an alternative fertile ground for the objective meaning of the text by prioritizing scientific interpretation options that conceptually embody a very objective understanding and represent a positive leap in reading to discover pure truth.

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