SCIENCE, REASON AND CONSCIENCE: A PHILOSOPHICAL JOURNEY FROM THE CHAIR TO THE CREATOR – 16

As the Believer's profound questions echoed through the room, everyone fixed their gaze downward, not daring even to take the next breath. The Deist furrowed his brows slightly, his lips parted, but no words came forth. His fingers traced along the edge of the table thoughtfully, and the flicker of doubt in his eyes drew everyone's attention. Those watching the debate bore silent witness to the Deist's inner transformation, grappling with new questions forming in their own minds.

Noticing the hesitation in the Deist's expression, the Believer narrowed his gaze slightly, preparing to speak. The tension in the room grew almost tangible as everyone wondered how the Deist would respond to this new challenge. Would he continue to defend his own beliefs, or would he begin to reshape his perspective in the face of the Believer's sharp and penetrating arguments?

This was the moment to confront the most challenging and pivotal point of the discussion. The Believer was about to reveal the contradictions lurking behind deist thought; perhaps, in an unexpected way, the truth would come to light. Everyone held their breath, eagerly awaiting where this philosophical journey would lead.

After a pause that gathered everyone's attention, the Believer began to speak with a calm yet resolute tone.

Believer: I'll help you examine the arguments you've presented through the lens of reason, logic, and conscience. But first, I'd like to clarify an important point, prompted by your statement: "I had never thought of it this way. Our ideas seemed logical; how did we miss this? It's surprising."

The Believer paused momentarily. The Deist furrowed his brows, lifted his head in surprise, and asked with curiosity:

Deist: What do you mean exactly?

Believer: In scientific and philosophical debates, sometimes complex language is used to make it difficult for the other side to understand. Such tactics are unethical. They aim to make the other party feel inadequate and force them to retreat. Unfortunately, we encounter such methods frequently.

The Believer stopped and turned thoughtfully toward the Agnostic. The Agnostic, watching intently and trying to understand, responded:

Agnostic: Interesting... Can something wrong be made to seem right by complicating it? Could you give us an example of this?

Believer: Certainly. Now, let's try to defend an obvious falsehood like "2 x 2 = 5" using complex concepts. You'll see that even such a clear error can be vigorously argued and made convincing. Yet, we all know that "2 x 2 = 4." Let's see how this mistake could be defended:

"Many people think 2 x 2 equals 4. However, this only applies to those considering basic mathematical operations. If you delve into the depths of mathematical formulations, in modern theories—particularly the 'parallel number' theory—you'll see that 2 x 2 is actually 5. This isn't just a surface-level calculation; it's an approach that redefines the relationship between numbers. Traditional education has taught everyone that 2 x 2 equals 4, but this reflects a narrow perspective. Modern mathematician John Doe, in his book Mathematics Beyond Arithmetic, notes that numbers can be viewed in different dimensions, where outcomes may vary. The theory of 'number dynamics' in the multiplication of 2 and 2 yields results beyond conventional multiplication. Those unfamiliar with this perspective continue to think in outdated terms. Claiming that 2 x 2 equals 4 is, therefore, mere superficial knowledge and has lost its validity. If we don't think in light of mathematical advancements, we mislead ourselves. Thus, we must accept the fact that 2 x 2 is indeed 5. The fact that this theory is not widely known doesn't mean it's wrong; it simply indicates that it hasn't yet been fully understood by everyone."

As the Believer explained the example, the Deist seemed lost in deep thought. Narrowing his eyes, the Agnostic asked:

Agnostic: Do people actually defend it this way?

The listeners fell silent in astonishment, and a deep hush filled the room. The Atheist, narrowing his gaze, expressed his amazement:

Atheist: So, it's possible to present something clearly wrong as if it were true by making it complex.

This example really shows how an obvious falsehood can be made to appear real through convoluted arguments.

The Deist nodded in agreement and murmured thoughtfully:

Deist: It seems that even such an obvious error can be accepted when wrapped in complex terms.

The Believer continued, looking around the table at each of them:

Believer: This example illustrates how a flawed argument can be presented in a complex way to mislead. There's an attempt to deceive the other side based on logical fallacies. By implying a

lack of knowledge and highlighting "attachment to outdated ideas," it manipulates the listener. Furthermore, by citing imaginary authorities like John Doe, it exploits trust.

He paused briefly, then added:

Believer: Let's remember that clear and straightforward communication is the foundation of knowledge sharing and healthy debate. Unfortunately, these kinds of complexities can easily persuade many people. We know that words and body language can impact others; these effects can be used ethically, but also unethically. Additionally, we often see scientific claims presented as hard evidence later revealed to be fraudulent.

The Agnostic looked intently at the Believer and asked:

Agnostic: Could you give a concrete example of what you just mentioned?

The Believer smiled meaningfully and began to explain his example:

Believer: Certainly, here's a striking example.¹ In 1912, a fossil called the "Piltdown Man" was introduced to support Charles Darwin's theory of evolution from his 1859 book *On the Origin of Species*. This fossil, claimed to be a major discovery for human evolution and found in England, was later revealed as a hoax in 1953, after 41 years.

The Deist interrupted in surprise:

Deist: What? How could such a massive fraud stay hidden for so long?

Believer: The fossil, presented by archaeologist Charles Dawson, was actually a combination of a human skull and an orangutan's jawbone. The deception was so skillfully and meticulously executed that the fossil was immediately displayed at the British Museum and carefully preserved. It was kept in a glass case, and requests to examine it were denied—not to protect its authenticity, but to conceal the fraud.

The Agnostic's eyes widened, and he leaned back slightly in his chair. Barely audible, he muttered, "Really? Do such things actually happen in the scientific world?"

The Believer, capturing everyone's attention, continued:

Believer: At that time, scientists who questioned evolution and wanted to examine the fossil were consistently turned down; this led to critics of evolution being ostracized from the scientific community. For 41 years, suspicions about the fossil were suppressed through intense pressure. Finally, in 1953, investigations revealed the fraud.

Everyone fell silent in amazement. The Agnostic took a deep breath and asked one final question:

Agnostic: This is truly a serious example regarding the impartiality and reliability of science... Was this entirely a case of individual fraud?

Believer: No, later research revealed that this was a state-backed, organized operation.² Scientists who questioned the fossil were labeled as "ignorant" and removed from their positions. Those who resisted were pressured into silence. This indicates that the organizers, knowing the fake fossil would one day be exposed, prepared for such an outcome. Traces of this plan can be found across institutions, from universities to scientific organizations.

The Believer looked up at the ceiling. Shadows of the past lingered in his eyes as he took a deep breath and sighed quietly. A profound silence filled the room; the astonishment on the Deist's face was unmistakable. The Atheist, head bowed, gently nodded in quiet contemplation. After a sorrowful sigh, the Believer looked at the Agnostic's face and continued speaking.

Believer: Let me give you another example, this time related to you.

The Agnostic's eyes widened in surprise as he quickly looked up, directing a curious yet defiant gaze at the Believer. Unable to hold back, he interjected in a loud and protesting tone:

Agnostic: There's no deceit with us. We listen to everyone impartially, guided by reason, logic, and, most importantly, science. Everyone presents their arguments within a scientific framework, and we act as neutral referees. Whatever science approves, we also endorse.

Believer: I didn't say you were being deceitful. But let's see what you think about the example I'm about to share.

As all eyes turned to the Believer, a silence so complete settled that not even the creak of a chair could be heard. The Agnostic gripped his pen tightly, raising his eyebrows slightly. Everyone was curious: how could this involve the Agnostic? The Agnostic seemed to be searching for a possible scenario in his mind. Everyone knew the Believer always supported his arguments with sources and scientific data.

Believer: You say, "Science is also skeptical," correct? You argue that it advances because of this quality, right?

The Agnostic, feeling momentarily relieved, jumped in:

Agnostic: Absolutely. That's a fact. What's the issue with that?

Believer: You've used this argument before, and I didn't have the chance to respond then. It's been eating at me because it's an important point for the listeners. Now that the opportunity is here, I want to respond. This, too, is a form of misleading.

Agnostic: What do you mean? This is an accepted truth in the scientific world. How can you call it "misleading"? We say what science says. This is science's stance, and we find it logical and correct.

Believer: Throughout our conversations, you've approached the arguments I presented with skepticism, attributing this to "scientific skepticism." But skepticism should not turn into paranoia; after all, science "cannot be paranoid." Skepticism should be grounded in a specific methodology and logic.⁴

The Deist asked thoughtfully:

Deist: Scientific skepticism shouldn't turn into paranoia... That's something to ponder. What do you mean by "paranoia"?

Believer: I mean that the phrase "science is skeptical," often misinterpreted, suggests that science is inherently "inquisitive and investigative"; it tends to constantly test the validity of knowledge or theory. However, this skepticism is not limitless and is based on reasonable grounds. Scientific skepticism is not about rejecting existing knowledge but about continuously questioning and testing it to confirm its truth.⁵

The Agnostic nodded with curiosity:

Agnostic: So, science's skepticism doesn't mean questioning everything?

Believer: Yes, exactly. In science, a theory or hypothesis is accepted once there's enough evidence to support it. Even then, this acceptance doesn't carry eternal certainty. Science seeks provisional truths, not absolute ones, and is open to revisiting these truths when new evidence emerges. This is part of science's "self-renewing nature."

The Deist, trying to understand the point, asked:

Deist: But doesn't this mean that all truths are temporary?

Believer: This means that knowledge is open to constant review. Islam, in a similar way, has presented its evidence for 1,400 years, declaring it to the entire universe and challenging anyone to refute it. The Qur'an contains what are called the "Challenge Verses." For 1400 years, even those who sought to disprove Islam have been unsuccessful. In fact, materialist thinkers like Roger Garaudy, who initially attempted to refute Islam, ultimately became Muslim.

When the Believer paused, the Deist looked at him thoughtfully, narrowing his eyes; meanwhile, the Agnostic lowered his head, silently considering these statements. The Atheist, astonished, spoke up:

Atheist: Are you suggesting a truth that grows stronger over time—a reality that persists despite all objections for so long?

Believer: Yes, indeed, this truth should now be accepted as a scientific reality. In science, it's fundamental for a hypothesis to rest on a solid foundation and be tested repeatedly. If a hypothesis is confirmed time after time, it becomes a robust and unshakable truth. With this in mind, Bediüzzaman Said Nursi proclaimed, "As time ages, the Qur'an grows younger." However, you keep searching for a counterargument with a paranoid "what if?" approach.

The Agnostic, a bit confused, asked:

Agnostic: What do you mean by a "paranoid approach"?

Believer: A paranoid approach is to approach all knowledge and evidence with relentless skepticism, often without any logical basis, usually stemming from a lack of trust. We've provided objective and logical responses to our arguments, but you ultimately say, "Let's see what science says," implying that we haven't given an objective answer. This isn't scientific skepticism; it's either a refusal to accept or an attempt to mislead.

The Deist, somewhat defensively:

Deist: But we saw this as skepticism by citing science's questioning nature.

Believer: Science doesn't reject established truths; it merely acknowledges that they are open to inquiry. This is what separates science from paranoid doubt. You, however, define science's "inquisitive and investigative" nature solely as skepticism and use it to appear rational. Yet, in doing so, you adopt a paranoid stance, failing to provide the audience with full information.

The Deist and the Agnostic listened intently to the Believer's words as if hearing them for the first time, their eyes fixed on his face. The others in the room felt a mix of satisfaction and amazement as

they processed these new insights, the realization of how they had been misled evident in their expressions.

A Listener: Things we believe to be true can turn out to be false or misleading. So, what should we do? How can we protect ourselves from such deceptions?

Believer: This is crucial for all of us, as technology today facilitates large-scale lies, misdirections, and fraud. Especially our youth, with limited life experience and the eagerness that comes with being young, are more vulnerable to these traps. We must all be cautious and take steps to protect ourselves from misleading information:

- 1. Learn Well What You Believe In: Whatever ideas, beliefs, or perspectives we hold, we should study them in depth and question them. This is not disrespecting our beliefs; rather, it is a way to understand them more deeply. We should always be skeptical of those who avoid scrutiny. A perspective that shies away from being questioned is often incomplete or flawed, and these flaws will be revealed through inquiry. Many people live without sufficient knowledge about their beliefs. This is often evident in street interviews, highlighting the importance of fully understanding and questioning what we believe.
- 2. **Make Decisions with Reason and Conscience, Not Emotion**: Instead of allowing emotions to guide our decisions, we should use our reason and conscience. When emotions take the lead, reason is sidelined, making it harder to find the truth. Thus, we should base our decisions on logic and not let emotions mislead us.
- 3. **Rely on Credible Sources**: We should read works written with solid, reliable, and scientific methodologies and evaluate them with a critical eye. Just because a source is scientific doesn't mean we should accept it unquestioningly; we must verify the accuracy and reliability of sources.
- 4. **Don't Fear Making Mistakes**: As humans, we can be mistaken, and we should accept this as natural. When we make mistakes, instead of feeling distressed, we should view it as part of the journey to finding the truth and approach this process with maturity. However, we should avoid rushing our decisions and approach them with patience and care.
- 5. **Develop Critical Thinking Skills**: Before accepting any information or claim, we should question its source, logic, and the evidence it relies on. Critical thinking is the key to distinguishing truth from falsehood.
- 6. Continually Renew Ourselves: Science and knowledge are constantly evolving. Therefore, we should keep ourselves up-to-date and be open to new information. We must remember that old knowledge can change with new evidence and stay informed to adapt accordingly. This means reading continuously and mindfully, as conscious reading protects us from errors.

The Believer fell silent for a moment; the fatigue in his eyes was evident. But seeing the listeners taking notes brought a peaceful smile to his face; the weariness faded, replaced by a sense of contentment. Sharing the truth and being able to shed even a little light for others was a beautiful feeling.

The Agnostic rubbed his brow, deepening the lines on his forehead. "I never thought skepticism could be interpreted this way," he muttered to himself. Perhaps he hadn't questioned enough or had let his emotions take over.

The Atheist nodded slightly with a faint smile. The Believer narrowed his eyes momentarily, trying to discern what the Atheist might be thinking. Meanwhile, the Deist looked between the Atheist and the Believer, deeply absorbed in the new information he had heard. The Believer remembered the other arguments the Deist had raised, which he wanted addressed. Turning to him, he began to speak:

Believer: From the start, I've tried to present these matters as simply and clearly as possible. I've aimed to explain complex philosophical issues using simple examples that everyone can visualize in their own lives—examples that have been tried countless times. Wherever possible, I've supported these examples with scientific references in the footnotes. In this approach, Bediüzzaman Said Nursi has guided me. In his work *Risale-i Nur*, he brings even the most intricate and challenging concepts closer to the intellect through simple and relatable examples.

The Believer took a deep breath, as though calming the storm within his mind. Then, with a composed determination, he turned his gaze to the Deist. His eyes carried the depth of a sage looking over the horizon from a mountaintop, while his expression held the calm of a silence before a storm. Weighing each word in his mind like a jeweler handling precious stones, he spoke with care:

Believer: We have much more to discuss. It's easy to say, "I don't believe in religions, prophets, or scriptures," or that "religions are mere human inventions." But each of these claims needs to be addressed one by one. Many young people—even students at religious schools and theology faculties—are left confused by such ideas. So, we have a lot of work ahead of us.

The Believer's resolute words deepened the silence in the room, and for a moment, the Deist froze. The astonishment on his face was evident in his eyes as if he was trying to grasp the meaning behind the words. The Agnostic looked downward, a sense of uncertainty in his gaze, while the Atheist quietly folded his arms, lost in thought.

Deist: (breaking the silence) Yes... But how will you provide these answers? There are doubts that have never been silenced. People have never stopped questioning the truth, and they never will.

Believer: (with a calm but impactful smile) The truth cannot be concealed. I will respond to you and your doubts, even to the slanders against Lady Aisha (ra), one by one, with evidence... You believed your arguments seemed right and that logic supported them. But we'll soon see how such obvious truths were overlooked, how misunderstandings occurred—we'll understand this together.

The Deist frowned slightly, giving a concerned look. His voice took on a challenging tone:

Deist: And what about science? Isn't science always a step ahead?

Believer: (with a deeper gaze) Science should walk hand in hand with reason and conscience. But not everything can be explained by science alone. To see the truth, a deeper inquiry and a broader perspective are necessary. The ideas I've presented are just the beginning... We still have much to discuss.

The tension in the room became palpable. The Agnostic shook his head slightly, lost in thought, while the Atheist crossed his arms with a subtle smile, settling into a quiet anticipation.

Believer: (looking around at each person in the room) In the next step, we'll see how the truth hides behind masks and how it emerges into the light. We have much more to cover together...

In the room, it was as if everyone had fallen silent, their thoughts growing deeper. The Believer's words hung in the air, echoing in each mind like a lingering resonance. The astonishment on the Deist's face bore traces of deep inner questioning, and the uncertainty in his gaze was almost palpable. The Agnostic and Atheist had both lowered their heads, absorbed in thought. Everyone was pondering what the next step in this philosophical journey would bring.

The Believer straightened, glancing around the room. His eyes seemed to read the thoughts of everyone present, and his voice was soft yet resolute.

Believer: "Truth sometimes hides behind masks," he said slowly, a wise smile appearing on his lips.

"But masks fall... and the light of truth always shines through. There is still much to be shared."

As his words echoed through the room, new questions began to sprout in everyone's minds. Curious about what the next discussion would unveil, each person looked at the Believer with eager anticipation. It was as if the silence of that moment was a sign of a great storm approaching.

TO BE CONTINUED (GOD WILLING)

The Piltdown Man Hoax and Its Exposure in 1953:

- Weiner, J. S. (1955). The Piltdown Forgery. Oxford University Press.
- Spencer, F. (1990). Piltdown: A Scientific Forgery. Oxford University Press.

Charles Dawson and the Introduction of the Fossil:

¹ Darwin's "On the Origin of Species" and the Theory of Evolution:

[•] Darwin, C. (1859). On the Origin of Species by Means of Natural Selection. John Murray.

 Gardiner, B. (2003). The Piltdown Man Hoax: Case Closed. Endeavour, 27(4), 155-159. https://doi.org/10.1016/j.endeavour.2003.10.006

The Fossil's Display in a Glass Case and Denial of Examination Requests:

 Walsh, J. E. (1996). Unraveling Piltdown: The Science Fraud of the Century and Its Solution. Random House.

Exclusion of Skeptical Scientists:

- Kohn, M. (2000). A Reason for Everything: Natural Selection and the English Imagination. Faber and Faber.
- Gould, S. J. (1980). The Piltdown Conspiracy. *Natural History, 89*(8), 6-15.

Claims of an Organized Effort Behind the Hoax:

- Hinton, M. A. C. (1979). *The Piltdown Hoax: British Archaeology's Greatest Deception*. Thames and Hudson.
- Stringer, C., & Andrews, P. (1988). The Complete World of Human Evolution. Thames and Hudson.

² Scientific Fraud and Social Dynamics:

Collin, R. (1987). Piltdown Man: The Secret Life of Charles Dawson. London: The Bodley Head. This
book discusses the motivations and possible organizational structures behind the Piltdown hoax,
addressing such speculations.

National Prestige and Political Impacts:

• Halpenny, B. A. (1990). *The Piltdown Plot: Britain's Greatest Hoax*. Littlehampton Book Services Ltd. This source discusses the national prestige and political implications behind the Piltdown hoax.

Historical and Speculative Approaches:

Hancock, G., & Faiia, S. (1996). The Message of the Sphinx: A Quest for the Hidden Legacy of Mankind.
 Crown Publishers. This book discusses historical frauds like the Piltdown Man and the potential organizational structures behind them.

³ **Paranoia:** Refers to a condition in which a person believes others are constantly trying to harm them or think ill of them. Such individuals often believe in threats that do not exist and exhibit extreme distrust towards others. In essence, a paranoid person continuously perceives danger or conspiracy, even when no such threat is present.

⁴ Appropriate Scientific Sources to Support this Statement:

- 1. Popper, K. (1959). The Logic of Scientific Discovery. Hutchinson & Co.
 - This source includes Karl Popper's work on the nature of the scientific method and provides significant insights into how scientific skepticism should function. Popper emphasizes that scientific theories must be constantly tested, but this process must be grounded in logic and reason.
- 2. Chalmers, A. F. (2013). What is this thing called Science? (4th ed.). Hackett Publishing Company.
 - This book offers a comprehensive overview of how scientific methods operate and the role of skepticism in science.
- **3. Feyerabend, P. (2010).** *Against Method* (4th ed.). Verso Books.
 - Feyerabend provides an in-depth analysis of the questioning of scientific methodology and the place of skepticism within science.
- **4. Pigliucci, M., & Boudry, M. (Eds.). (2013).** *Philosophy of Pseudoscience: Reconsidering the Demarcation Problem.* University of Chicago Press.
 - This compilation offers modern perspectives on how scientific skepticism distinguishes between science and pseudoscience.
- **5. Hansson, S. O. (2017).** *Science and Pseudo-Science.* In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition). Metaphysics Research Lab, Stanford University.
 - This source provides a current academic discussion of the differences between scientific skepticism and pseudoscience.

These sources provide in-depth information on the nature and limits of scientific skepticism and are part of modern academic discussions.

⁵ Recent Scientific Sources Supporting the Statements Made:

- **1. Hansson, S. O. (2017).** *Science and Pseudo-Science*. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition). Metaphysics Research Lab, Stanford University.
 - Hansson discusses how scientific skepticism differs from pseudoscience and how scientific inquiry operates.
- **2. Pigliucci, M., & Boudry, M. (Eds.). (2013).** *Philosophy of Pseudoscience: Reconsidering the Demarcation Problem.* University of Chicago Press.

- This compilation presents modern discussions on the boundaries of scientific skepticism and the methodological foundations of science.
- 3. Chalmers, A. F. (2013). What is this thing called Science? (4th ed.). Hackett Publishing Company.
 - Chalmers addresses the nature of science and how scientific skepticism should operate.
- **4. Skeptical Inquirer. (2016).** Scientific Skepticism: The Role of Doubt in Science. **Skeptical Inquirer, 40**(3), 42-48.
 - This article offers a comprehensive discussion of the role and limits of scientific skepticism in scientific research.

These recent sources emphasize the importance of scientific skepticism in modern science.

⁶ Recent Scientific Sources Supporting the Statements:

- Godfrey-Smith, P. (2003). Theory and Reality: An Introduction to the Philosophy of Science. University of Chicago Press.
 - This book provides a comprehensive introduction to the philosophy of science, addressing the provisional nature of scientific theories and the need for constant review.
- 2. **Oreskes, N., & Conway, E. M. (2011).** *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming.* Bloomsbury Press.
 - This book discusses the need for scientific theories to remain open to new evidence and revisions rather than being regarded as final truths.
- 3. **Sober, E. (2015).** Ockham's Razors: A User's Manual. Cambridge University Press.
 - o Sober explores how scientific theories are evaluated and how they change with new evidence.
- 4. Potochnik, A. (2017). Idealization and the Aims of Science. University of Chicago Press.
 - This book explains the provisional nature of scientific theories and their role in the process of achieving scientific goals.

These sources highlight the dynamic and evolving nature of scientific theories and are critical works in the modern philosophy of science.

⁷ The Challenge Verses in the Qur'an:

- Say: "If you are consistent in your claim, then bring a book from Allah that is more correct and reliable than these two (the one revealed to me and the one to Moses), and I will follow it!" (Al-Qasas, 28:49)
- Say: "I swear! Even if all humans and jinn were to come together to produce the like of this Qur'an, they could not produce anything like it, even if they helped one another." (Al-Isra, 17:88)
- If they are consistent in their claims, let them bring forth speech like that of the Qur'an! (At-Tur, 52:34)
- Or do they say, "He has fabricated the Qur'an himself"? Say: "If you are consistent in your claim, then bring forth ten surahs like it, even if they are of your own invention, and call upon whomever you can besides Allah to help you!" (Hud, 11:13)
- This Qur'an could never have been fabricated by anyone other than Allah. Rather, it confirms the previous scriptures and explains the ordained laws and truths. There is no doubt about it; it is from the Lord of all worlds. Or do they say, "He has fabricated it"? Say: "Then produce a surah like it, and call upon whoever you can besides Allah to assist you, if you are truthful in your claim." (Yunus, 10:37-38)
- And if you are in doubt about what We have revealed to Our servant, then produce a surah like it and call upon all your witnesses (those you rely on for help) besides Allah, if you are truthful in your claim. (Al-Baqarah, 2:23)
- ⁸ From the Risale-i Nur Collection by Bediuzzaman Said Nursi, The Words, Lemaat 734
- ⁹ The phrase "**Not everything can be explained solely by science**" points to the limitations of science and suggests that scientific methods may be insufficient for addressing non-scientific topics, particularly in areas like metaphysics, ethics, aesthetics, and spirituality. This argument is frequently discussed in fields such as the philosophy of science and epistemology. Below are some explanations and references that provide scientific foundations for this idea:
- 1. Limitations of the Scientific Method: Science examines phenomena that can be verified through direct observation and experimentation. However, there are certain subjects that lie beyond the reach of science and cannot be fully addressed through scientific methods. Examples of these include:
 - Metaphysical Questions: Questions like "Why is there something rather than nothing?" or "What is
 the ultimate purpose of the universe?" cannot be tested or falsified by scientific experiments. Science
 cannot provide definitive answers to such inquiries.
 - Morality and Ethics: While science can study the consequences or biological foundations of certain behaviors, it cannot answer questions of what is right or wrong. These matters fall under the domain of ethics and philosophy. David Hume's "Hume's Guillotine" (the is-ought distinction) highlights that it is impossible to derive moral values from mere facts.

- Aesthetics and Art: Beauty, as an aesthetic value, is subjective and personal. While science can
 explore the neurological or biological aspects of beauty, it cannot fully explain aesthetic judgments.
- Spirituality and Religion: Science can explain the workings of the physical universe but is not equipped
 to answer questions about the meaning of religious experiences, the existence of God, or the nature of
 the soul. Philosophers of science like Karl Popper argue that topics such as the existence of God cannot
 be proven or disproven through scientific methods, and thus are beyond the realm of scientific debate.

Sources:

- Hume, David. A Treatise of Human Nature (1739-1740).
- o Popper, Karl. The Logic of Scientific Discovery (1959).
- o Gould, Stephen Jay. Rocks of Ages: Science and Religion in the Fullness of Life (1999).
- 2. Karl Popper and the Principle of Falsifiability: One of the leading figures in the philosophy of science, Karl Popper, argued that scientific theories must be falsifiable. For a theory to be considered scientific, it must be testable and subject to falsification through experimentation. However, many domains such as moral values, aesthetic judgments, and metaphysical beliefs cannot be falsified, and thus they cannot be evaluated through scientific methodology.
 - Source: Popper, Karl. The Logic of Scientific Discovery (1959).: Thomas Kuhn and Paradigm Shifts
- 3. Thomas Kuhn, who studied the development of science, claimed that science does not always progress in a linear fashion and that "paradigm shifts" occur periodically. This indicates that scientific theories have their own limitations and may be insufficient to explain all aspects of reality. According to Kuhn, even scientific knowledge reaches its limits when stepping outside the current paradigms.
 - **Source:** Kuhn, Thomas S. *The Structure of Scientific Revolutions* (1962).
- 4. David Hume and the Limits of Scientific Knowledge: David Hume argued that scientific knowledge is inherently limited, particularly in its understanding of causality. Hume suggested that scientific observations are based on past experiences and cannot provide certain knowledge of future events. This demonstrates that science cannot offer absolute truths in all areas and often operates within the realm of probabilities.
 - **Source:** Hume, David. A Treatise of Human Nature (1739-1740).
- 5. Gödel's Incompleteness Theorem: Mathematician Kurt Gödel's incompleteness theorem demonstrates that within any sufficiently complex formal system, there are statements that cannot be proven or disproven. This theorem reveals that both mathematics and science have inherent limitations, and that scientific methods cannot encompass all truths or explain the entirety of reality.
 - **Source:** Gödel, Kurt. *On Formally Undecidable Propositions of Principia Mathematica and Related Systems* (1931).
- 6. Stephen Jay Gould: Science and Religion: Renowned paleontologist Stephen Jay Gould proposed that science and religion represent two distinct and non-overlapping areas (non-overlapping magisteria, NOMA). Science focuses on understanding how the natural world functions, while religion addresses moral values and the meaning of life. According to this view, the two fields address different questions, and science cannot explain everything.
 - Source: Gould, Stephen Jay. Rocks of Ages: Science and Religion in the Fullness of Life (1999).
- 7. The Limitations of Scientific Realism: Scientific realism holds that science aims to understand the universe "as it really is." However, many philosophers and physicists, particularly in fields like quantum physics, argue that science only addresses certain models of reality and does not necessarily reflect universal truth. This suggests that science may not be sufficient to fully explain everything.
 - Source: Van Fraassen, Bas C. The Scientific Image (1980).

There are also more contemporary sources that address the limitations of scientific methods in modern philosophy of science and scientific research. Below are additional references that support the argument that "not everything can be explained by science":

- 1. Ian Hacking Representing and Intervening (1983)
 - Hacking examines the differences between scientific realism and instrumentalism and argues that
 science does not directly represent reality but rather addresses aspects that can be represented.
 According to him, scientific theories may be insufficient to fully explain the universe, as they always
 involve some degree of interpretation. Science, therefore, represents the world through a limited
 perspective and as a tool for understanding.
 - **Source:** Hacking, Ian. *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science* (1983).
- 2. Massimo Pigliucci Nonsense on Stilts: How to Tell Science from Bunk (2010)

 Pigliucci explores the limits of the scientific method and how certain subjects that lie beyond science's boundaries are often conflated with pseudo-scientific speculation. The book highlights the distinction between science and pseudoscience and discusses the areas in which science is applicable and where it falls short.

Source: Pigliucci, Massimo. Nonsense on Stilts: How to Tell Science from Bunk (2010).

- 3. Sean Carroll The Big Picture: On the Origins of Life, Meaning, and the Universe Itself (2016)
 - Carroll examines how science explains the workings of the universe while acknowledging that science
 cannot provide definitive answers to certain questions, particularly "the meaning of life" and similar
 philosophical issues. He argues that while science is a powerful tool for understanding the natural
 world, it cannot address metaphysical or spiritual questions, which lie beyond its scope.

Source: Carroll, Sean. The Big Picture: On the Origins of Life, Meaning, and the Universe Itself (2016).

- 4. Jim Baggott Farewell to Reality: How Modern Physics Has Betrayed the Search for Scientific Truth (2013)
 - Baggott critiques speculative theories in modern physics and argues that science sometimes oversteps its bounds, entering into areas that are not scientifically grounded. He specifically addresses theories like the multiverse and string theory, claiming that such concepts lack sufficient scientific evidence and are more metaphysical than scientific. He argues that such concepts challenge the limits of science.
 Source: Baggott, Jim. Farewell to Reality: How Modern Physics Has Betrayed the Search for Scientific Truth (2013).
- 5. Thomas Nagel Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False (2012)
 - Nagel critiques scientific materialism and Darwinian evolutionary theory. He argues that science is
 inadequate in explaining important issues, especially consciousness, meaning, and value. Nagel
 suggests that the scientific attempt to explain everything through materialism overlooks critical
 metaphysical and moral questions.

Source: Nagel, Thomas. *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False* (2012).

- 6. Edward Feser Aristotle's Revenge: The Metaphysical Foundations of Physical and Biological Science (2019)
 - Feser emphasizes the importance of metaphysical assumptions in modern science and argues that scientific knowledge is incomplete without metaphysical foundations. He asserts that scientific methods cannot fully address metaphysical and philosophical questions, stressing the need for a combined approach to science and metaphysics.

Source: Feser, Edward. *Aristotle's Revenge: The Metaphysical Foundations of Physical and Biological Science* (2019).

The statement "**not everything can be explained solely by science**" applies not only to metaphysical, moral, aesthetic, and spiritual domains but also to other important and complex areas. These include:

- 1. Human Consciousness and Mental Experiences: While science has made significant progress in understanding the structure and function of the human brain, it still struggles to fully explain the nature of consciousness and subjective experiences. Although science can study the neurological basis of conscious experiences, "qualia" (the subjective experience of perception) remain beyond scientific explanation.
 Source: Chalmers, David. The Conscious Mind: In Search of a Fundamental Theory (1996).
- 2. Free Will: Debates surrounding free will often conflict with scientific determinism. While science suggests that all actions are determined by natural laws, it cannot fully explain how free will might exist. The ability of individuals to make choices and decisions appears to transcend purely deterministic scientific explanations.

Source: Kane, Robert. *The Significance of Free Will* (1996).

- **3. Mathematical Truths:** The scientific method is based on observable phenomena, but mathematical truths are not directly observable. Numbers, geometry, and abstract mathematical structures do not exist physically, yet they underpin scientific explanations. This suggests that mathematical truths exist beyond the realm of science.
 - Source: Penrose, Roger. The Road to Reality: A Complete Guide to the Laws of the Universe (2004).
- **4. Art and Creativity:** While science can explore the neurological and psychological foundations of art and creativity, it cannot fully explain the creative process or artistic inspiration. The beauty of a work of art or the value of creative thought cannot be measured scientifically, and science offers no definitive answers as to why they are so powerful.

Source: Dissanayake, Ellen. Homo Aestheticus: Where Art Comes From and Why (1995).

- 5. Social and Cultural Structures: Science, through the social sciences, can study human behavior. However, complex social structures like cultural norms, values, and human relationships cannot be fully understood using scientific methods. These structures are shaped by historical and cultural contexts, and scientific experiments cannot fully capture this diversity.
 - **Source:** Geertz, Clifford. *The Interpretation of Cultures* (1973).
- **6. Historical Events and Their Meanings:** While science can explain certain aspects of historical events (such as through archaeological evidence), the significance, impact, and consequences of historical events go beyond scientific data. The psychological, political, and cultural effects of historical events on societies and individuals cannot be fully explained by science.
 - Source: Carr, Edward Hallett. What is History? (1961).
- 7. Quantum Mechanics and Determinism: Quantum physics, particularly in areas like quantum uncertainty and the measurement problem, poses challenges that go beyond scientific explanation. While science can describe how the quantum world operates, it cannot provide deterministic explanations at that level. This has led to significant debates about the nature of reality and the limits of scientific explanation.

 Source: Heisenberg, Werner. Physics and Philosophy: The Revolution in Modern Science (1958).

Science is an excellent tool for explaining observable and testable phenomena, but its limitations are evident when addressing metaphysical, moral, aesthetic, and spiritual questions, as well as complex topics like consciousness, free will, mathematical truths, art, social structures, and quantum mechanics. Therefore, the phrase "not everything can be explained solely by science" reflects a modern understanding of the limitations of the scientific method and acknowledges the deep questions that cannot be resolved through science alone.