

# Review of: "Science That Swears by Objectivity Is Half-Blind"

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## Review of "Science That Swears By Objectivity Is Half-Blind" by Vijayaraghavan Padmanabhan

### Introduction

In his thought-provoking article, Dr. Vijayaraghavan Padmanabhan advances an intriguing argument regarding the interplay between objectivity and subjectivity in scientific inquiry. He posits that while science has historically been perceived through the lens of objectivity, the subjective experiences and common sense of the individual scientist play an equally crucial role in shaping scientific knowledge. This review aims to critically assess Padmanabhan's arguments, highlighting both the strengths and weaknesses of his claims within the broader context of scientific methodology and philosophy.

### Advantages of the Argument

#### 1. Highlighting the Role of Subjectivity

One of the most significant contributions of Padmanabhan's article is its emphasis on the role of subjectivity in science. While traditional views often elevate objectivity as the gold standard for scientific inquiry, Padmanabhan correctly points out that all observations and interpretations are ultimately filtered through the human experience. This recognition is vital, as it allows for a more nuanced understanding of how scientific knowledge is constructed.

- **Importance of Personal Experience:** Padmanabhan notes that scientific understanding is often shaped by personal experiences and intuitive insights. These subjective elements are essential, particularly in the formulation of hypotheses and in the creative aspects of scientific discovery. The reliance on intuition and creativity—elements often sidelined in strict empirical approaches—can lead to significant breakthroughs, as evidenced by historical figures such as Albert Einstein and Niels Bohr.

#### 2. Elevating Common Sense

Padmanabhan introduces the concept of common sense as a mediating factor between objectivity and subjectivity. By acknowledging common sense, he provides a pathway for integrating diverse perspectives in scientific discourse, ultimately enriching the scientific process.

- **Balanced Approach:** His argument suggests that a balanced application of common sense can guard against the pitfalls of excessive objectivity. This notion resonates in the philosophical frameworks that advocate for a more

integrative approach to science, which considers both empirical data and human experience as foundational elements in the pursuit of truth.

### 3. Critique of Rigid Scientific Norms

Padmanabha's critique of the prevailing norm that scientific arguments must be supported by objective evidence resonates with ongoing debates in the philosophy of science. Since Newton's time, the expectation that new scientific ideas are framed primarily in mathematical language can limit creative and intuitive approaches.

- **Flexibility in Scientific Methodology:** By arguing that the rigidity imposed by the requirement of objective evidence can stall progress, the author encourages a reconsideration of how scientific inquiry is conducted. The flexibility to accommodate subjective insights can lead to a more robust understanding of complex phenomena, especially in fields like quantum mechanics, where traditional interpretations fall short.

### 4. Integration with Quantum Mechanics

Padmanabhan makes a compelling reference to quantum mechanics, a domain characterized by both its empirical successes and its theoretical uncertainties. He sheds light on how reliance on mathematical equations in quantum physics underscores an implicit recognition of the subjective nature of knowledge.

- **Incompleteness of Objective Science:** The acknowledgment that scientists do not fully understand how quantum mechanics "works," yet continue to utilize its mathematical framework, serves as a robust example of the necessity for both subjective insight and objective formulation in scientific practice. This duality is crucial for advancing our understanding of complex scientific theories.

## Disadvantages of the Argument

### 1. Ambiguity in Conceptual Definitions

While Padmanabhan effectively argues for the integration of subjectivity within science, his treatment of concepts such as objectivity, subjectivity, and common sense could benefit from clearer definitions. The fluidity of these terms may lead to misunderstandings or misinterpretations of his core message.

- **Need for Clarity:** A more precise delineation of these concepts would strengthen his argument, especially for readers who may not possess extensive background knowledge in philosophy or the philosophy of science.

### 2. Overemphasis on Subjectivity

Though the role of subjectivity in scientific inquiry is vital, there is a risk that Padmanabha's argument may unintentionally undermine the value of objectivity in the scientific method. While he correctly asserts that knowledge is shaped by subjective experiences, the potential consequences of disregarding objectivity could lead to relativism, where all scientific claims are viewed as equally valid regardless of empirical support.

- **The Balance of Objectivity and Subjectivity:** It is essential to argue for a balance, emphasizing that while subjectivity is important, the objective methodology remains a fundamental pillar of good science. Objectivity is crucial for replicability, validation, and the systematic testing of hypotheses—a foundation upon which scientific progress rests.

### 3. Methodological Implications

Padmanabhan's perspective implies a shift in how scientific methodologies should be approached. However, he could more thoroughly address how integrating common sense and subjective insights can be systematically applied in scientific practice without compromising rigor.

- **Establishing Practical Frameworks:** Discussing how to balance subjective input with empirical methods would make his suggestions more actionable, providing concrete pathways for researchers to incorporate these ideas into their work.

### 4. Risk of Misinterpretation

Emergent ideas about gravity, particularly those questioning established norms, can be easily misinterpreted or misapplied. Readers may assume that Padmanabhan's arguments advocate for a complete rejection of established scientific methods in favor of intuition and subjectivity alone.

- **Clear Communication of Intent:** Consequently, it is essential for Padmanabhan to clarify that recognizing subjective elements does not imply discarding established scientific protocols; rather, it encourages a more inclusive and comprehensive approach to knowledge production.

## Potential Extensions and Further Research

### 1. Interdisciplinary Perspectives

One of the areas ripe for further exploration is how different scientific disciplines incorporate subjectivity and emergent perspectives into their methodologies. Examining how fields outside of physics, such as biology or social sciences, embrace both subjective and objective elements can provide valuable insights.

### 2. Case Studies in Scientific Discovery

A collection of case studies examining significant scientific discoveries characterized by a blend of objectivity and subjectivity could illuminate the practical implications of Padmanabhan's arguments, showcasing how intuition and common sense played roles in groundbreaking work.

### 3. Philosophical Examination of Dualism

Further philosophical inquiry into the dichotomy between objectivity and subjectivity is warranted. Such analysis might reveal deeper insights not only within the realm of physics but across various domains of knowledge and inquiry.

### 4. Methodological Frameworks

Developing robust methodological frameworks that integrate subjective understanding with empirical validation would be a significant contribution to the philosophy of science, providing researchers with practical tools to navigate these complexities.

## Conclusion

Dr. Vijayaraghavan Padmanabhan's essay "Science that Swears by Objectivity Is Half-Blind" serves as a compelling critique of traditional notions of objectivity in science. By emphasizing the roles of subjectivity and common sense, the article invites readers to rethink the foundation of scientific inquiry.

While the arguments presented reveal valuable insights into the relationship between human experience and scientific knowledge, the necessity for a balance between objective and subjective elements cannot be overstated. As the scientific community grapples with evolving theories and technologies, fostering a dialogue that embraces both perspectives will be essential for advancing our understanding of the natural world.

Ultimately, Padmanabhan's contribution may allow scientists to retain a rigorous, empirical approach while also acknowledging the rich, subjective tapestry that underpins the scientific endeavor. By continuing to explore and reconcile these dimensions of scientific inquiry, the field can aspire toward a more profound quest for truth in the complex and evolving landscape of knowledge.

Based on the provided content and feedback, here are some considerations for recommending the article for publication:

## Advantages for Publication

1. **Innovative Concept:** The article addresses a cutting-edge idea within the field of gravity and physics—Emergent Gravity—which challenges traditional viewpoints and encourages a reexamination of established scientific paradigms.
2. **Relevance to Current Research:** The topic is highly relevant, especially in the context of modern physics, where there is significant interest in concepts that bridge quantum mechanics and general relativity, as well as those that explore the relationship between entropy and gravitational phenomena.
3. **Comprehensive Analysis:** The article presents a structured analysis of the concept, exploring its implications, theoretical foundations, and possible experimental applications, which adds value for readers seeking to understand the broader aspects of the theory.
4. **Integration of Interdisciplinary Ideas:** It successfully weaves in elements from thermodynamics and information theory, suggesting a more holistic view of gravity that aligns with contemporary scientific discourse.

## Areas for Improvement Before Publication

1. **Reference and Citation:** Ensure that all claims, particularly those about significant scientific intersections and past research, are well-supported with appropriate and current references. All citations should follow a consistent format, including authors, year, title, journal, volume, issue, pages, DOI, and web links.
2. **Clarity and Depth:** The introduction and core concepts may benefit from increased clarity and depth. Expanding on

critical variables and their implications can enhance comprehension and engagement among readers. Each formula should be accompanied by comprehensive explanations and interpretations that emphasize both the mathematical and conceptual significance.

3. **Addressing Potential Misunderstandings:** It may be useful to include a section that clarifies any potential misinterpretations of the theory, particularly in relation to traditional views of gravity. This will help to rebut possible critiques and misconceptions that readers might hold.
4. **Editing for Structure and Flow:** The article may benefit from a thorough proofreading to enhance the flow between sections and ensure that each paragraph transitions smoothly to the next. This would further improve readability and coherence.

### Recommendation

Given the innovative nature of the topic, the potential for contributions to the scientific community, and the identified strengths, I would recommend the article for publication, provided that the areas for improvement are adequately addressed. A revision that incorporates deeper explanations, enhances clarity, and ensures proper referencing will significantly bolster the manuscript's quality and suitability for peer review in a reputable journal.

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