

Scientism

Scientism is a term that stirs up debate in philosophical, scientific, and general audiences alike. As a belief system, it asserts that science is the exclusive or superior way of understanding and interpreting the world. While scientism has its advocates, it also invites strong criticism. In this article, we aim to explore the concept, its history, its pros and cons, and its influence in today's society.

Defining Scientism

Scientism is the idea that any philosophical or other inquiry can only be properly conducted using natural science methods or by using the categories and objects that are accepted by natural science. In essence, it is an overconfidence in the efficacy of scientific knowledge and methods. It's important to make a distinction between using the scientific method to understand things and scientism's claim that this is the only method that works.

Hard Scientism vs. Soft Scientism

There are two types of scientism: hard and soft. Hard scientism asserts that something is true and valuable only if it is scientifically provable, rejecting other forms of knowledge as invalid. Soft scientism, on the other hand, values other forms of knowledge but considers scientific knowledge superior.

The History of Scientism

Historically, the Enlightenment era was a significant period for the development of scientism. It was a time when great faith was placed in human reason's ability to unlock the mysteries of the universe.

The Enlightenment and Scientism

During the Enlightenment, thinkers like Francis Bacon advocated for a method of inquiry that relied on empirical evidence, which laid the foundation for modern science. As scientific discoveries began to challenge traditional religious and philosophical views, some people began to argue that science was the only reliable source of knowledge.

The Positivism Movement

The positivism movement in the 19th century, led by thinkers like Auguste Comte, was also influential in shaping scientism. Positivism argued that knowledge should be derived from sensory experience, interpreted through reason and logic, within the framework of the scientific method.

The Pros and Cons of Scientism

While science is a robust methodology for understanding the world, the idea that it is the only means of obtaining knowledge can be problematic.

- **Advantages of Scientism**
 - **Predictability:** Scientism promotes predictability by encouraging reliance on data, facts, and evidence.

- **Empiricism:** It emphasizes empirical evidence, which is often more reliable and less prone to bias than subjective experiences or anecdotal evidence.
- **Progress:** The reliance on science has led to technological and medical advancements, improving human quality of life.
- **Disadvantages of Scientism**
 - **Reductionism:** Scientism tends to reduce complex phenomena to simpler components, often missing the holistic perspective.
 - **Dismissal of Other Knowledge Forms:** It devalues other forms of understanding, such as philosophy, literature, and the arts, which can provide unique insights into human experiences.
 - **Ethical Considerations:** Science can explain how things are but not how they ought to be. Scientism may neglect ethical, moral, or societal considerations in its pursuit of knowledge.

Scientism in Contemporary Society

Scientism's influence is evident in many aspects of contemporary society, from education to public policy and technology.

- **Influence on Education and Public Policy**

Scientism impacts how we perceive and value different academic disciplines. Science, technology, engineering, and mathematics (STEM) fields often receive more attention and funding than humanities and social sciences.

- **Role in Technological Advancements**

The faith in scientific knowledge and techniques has spurred remarkable technological advancements. However, it also raises questions about technological solutions to human problems, without considering the ethical implications.

Critique of Scientism

Several critiques question scientism's validity, offering alternative perspectives on knowledge and understanding.

- **The Self-Defeating Argument**

One primary critique of scientism is that it's self-defeating. The claim that "only scientific claims are valid" is not itself a scientific claim, but a philosophical one.

- **The Limits of Science**

Science is a powerful tool, but it has its limits. Some aspects of human experience, such as consciousness, morality, and aesthetics, cannot be fully understood or evaluated through empirical evidence alone.

Conclusion

Scientism, with its dedication to empirical evidence and technological progress, offers a lens to understand our world. However, it's important to recognize that it's just one lens. Embracing a diverse range of perspectives can enrich our understanding and help us navigate the complexities of life. As we continue to progress scientifically, maintaining this balance becomes even more essential.

What is scientism, and why is it a mistake?

Science is a method of inquiry about nature, while scientism is philosophy. And scientism is no longer up to the challenge of meeting the most pressing issues of our day.

KEY TAKEAWAYS

- Science and Scientism are not the same. You can deeply value the former while rejecting the latter.
- Scientism is the view that science is the only objective means by which to determine what is true or is an unwarranted application of science in situations that are not amenable to scientific inquiry.
- Science is a method for asking questions about the world. Scientism is just one philosophy among many about the relationship between human beings and their experiences.

It is strange to live in a world that depends so deeply on science and yet is full of people who revel in science denialism. Over the last 15 years of being a scientist who writes about science in a variety of forums, I have watched as voices that call established science a hoax or a lie rise in prominence. In response, much of my writing has been a strident defense of science, its methods, its value, and its authority in critical issues facing humanity, like climate change and pandemics. But vigorously defending science does not mean defending *scientism*. Today, I want to highlight the distinction between them and why it is important.

What is scientism?

Ask Google to define scientism, and you will get “excessive belief in the power of scientific knowledge and techniques.” Wikipedia calls it “the view that science is the best or only objective means by which society should determine **normative** and **epistemological** values” and goes on to say that it’s “an unwarranted application of science in situations considered not amenable to application of the scientific method...”

People like Francis Bacon established methods back in the 16th and 17th centuries that would go on to become formalized as “scientific practice.” This way of asking nature questions and getting back answers turned out to be powerful beyond anyone’s wildest dreams. This success is a story I don’t need to recount because every one of us who lives without fear of famine or having a small cut turn deadly already lives its reality.

But as the method’s success was being worked out, a philosophical perspective about the nature of the world also emerged. This philosophy attached itself to science and got to bask in the reflected glory. In this philosophy, the meaning of the word “objective” shifted in an important way. That shift represents one way scientism begins.

Changing the meaning of objectivity

In scientific practice, “objective” simply means that two people do an experiment and get the same result. The experiment is a kind of recipe for asking nature a question. Since anyone, anywhere, and at any time can carry forward the recipe and repeat the experiment, if everyone gets the same result, then that result is said to be objectively true. It becomes a collectively established fact about our shared experience of the world.

In the philosophy that would come to underpin scientism, “objective” came to mean something more like “the world without us.” In this view, science was a means of gaining access to a perfectly objective world that had nothing to do with humans. It gave us a “God’s eye view” or a “perspective-less perspective.” Science, according to this philosophy, revealed to us the “real world,” which was the world independent of us. Therefore, its truths were “deeper” than others, and all aspects of our experience must, eventually, reduce down to the truths that science reveals. This is scientism.

The folly of scientism

Now I am a passionate scientist who is passionate about science, but I also think scientism is a huge mistake. The most important reason it is a mistake is because it is confused about what it’s defending. Without doubt, science is unique, powerful, and wonderful. It should be celebrated, and it needs to be protected. Scientism, on the other hand, is just metaphysics, and there are lots and lots of metaphysical beliefs.

You do not need to believe in the existence of a perfect and perfectly accessible “God’s eye view” of reality to believe in the power and value of science. The “perspective-less perspective” as a kind of timeless, eternal domain of perfect mathematical truths (which many proponents of scientism advocate) is just a philosophy. It is a position you can take or not. The methods that folks like Bacon and others laid out will still work and still produce remarkable results either way.

There are in fact many philosophical positions — many kinds of metaphysics — that you can adopt about reality and science depending on your inclinations. The good ones illuminate critical aspects of what is happening as human beings collectively go about trying to make sense of their experiences. Scientism claims to be the only philosophy that can speak for science, but that is simply not the case. There are lots of philosophies of science out there.

It is really important to distinguish between science as a method and scientism as metaphysics. The point is that a lot has happened since the metaphysics underpinning scientism emerged a few hundred years ago under very specific historical pressures. History has moved on, and that metaphysics — that view of the relationship between humans and their world — is no longer up to the challenge of meeting the most pressing issues of today.