

The Scientific Falsification of Scientific Materialism

The proposition of scientific materialism

Materialism asserts that the universe consists entirely of physical components; nothing exists beyond the natural world. The notion of a supernatural Creator is rejected outright.

The scientific form of materialism rests on this proposition, condensed from a statement by Einstein^[1]:

It is possible, in principle, to demonstrate by experiment a natural cause for every event, thus scientifically eliminating God as the cause of any event.

There are two components in the statement of the proposition: the demonstration of a natural cause for every event, and the elimination of God as the cause of any event.

The demonstration is a necessary condition for the elimination. Without demonstration of natural cause, there is no elimination of God as cause.

If natural cause is demonstrated, does it necessarily follow that God is eliminated as cause? The answer can only be yes if belief in God is founded solely on ignorance of the natural world. (Whereas, it is a tenet of Judeo-Christian faith that knowledge of the natural world leads to appreciation of its supernatural Creator.)

There is thus a third, unstated component of the proposition: the assumption that God is not a real God, but a God of the gaps in human knowledge, to be driven out by the advancement of science. Scientific materialism tacitly assumes the thing it purports to prove, and so fails as a logical proposition.

Nevertheless, scientific materialism has a firm grip on the minds of many scientists, and on Western culture at large. In this environment, an abstract logical argument is not likely to be effective. It is necessary to evaluate the first component of the proposition on scientific grounds.

Accordingly, this statement will be tested:

It is possible in principle to demonstrate by experiment a natural cause for every event.

This is the burden of proof:

Whenever someone says, "God has caused this", the materialist must be able, in principle, to point to the experimental evidence and say, "No, this physical factor is the cause."

This is the burden of falsification:

It must be shown that the experimental results rule out, in principle, the discovery of a natural cause for at least one event.

Summary of the evidence

In a baseball game, the pitcher throws the ball at high speed toward home plate. Suddenly, the ball reverses course, and travels at high speed over the head of the pitcher. What is the cause of this event? The force of the bat hitting the ball, of course.

The laws of physics that govern this event are well understood, when the ball is considered as a whole. Given the mass of the ball and its velocity, and also the mass and velocity of the bat, the path of the ball into the outfield can be predicted accurately.

The situation is very different when the fine details of the event are considered. To appreciate the difference it is necessary to drill down to the smallest constituents of the ball: the different materials in the ball; the molecules in each material; the atoms in each molecule; the subatomic particles in each atom—its electrons, protons, and neutrons.

Advanced students of physics learn that electrons cannot be broken down into constituent particles; they are said to be fundamental particles. Protons and neutrons, on the other hand, are composed of fundamental particles called quarks, the quarks being bound together by gluon particles. In all, physicists have identified 25 fundamental particles. Among these is the photon, the light particle. The photon is of immediate interest because it transmits the electromagnetic force.

When the ball hits the bat, the force is transmitted by photons. The details of the interaction are beyond the scope of this article. The relevant fact is that the reversal of the ball's path is brought about by interactions between subatomic particles.

The branch of physics that deals with the behavior of subatomic particles is quantum mechanics. Nearly a century of experimentation has resulted in consensus on two key points.

First, every observed phenomenon in the universe, with the exception of gravity, resolves to one or more discrete interactions between fundamental particles.^[2] We have seen this in the example of the baseball. Another familiar example is the warmth we feel as sunlight—a shower of photon particles from the sun—excites electron particles in our skin.

With this first point in mind, the test statement becomes:

It is possible in principle to demonstrate by experiment a natural cause for the result of every individual interaction between fundamental particles.^[3]

The second point of consensus is that it is impossible to predict the outcome of an individual interaction between fundamental particles. The laws of nature at the particle level are statistical

only; they are laws of probability, not laws of certainty. The physicist can calculate only the chance that something will happen, never what will in fact happen.^[4]

Given an interaction with two possible outcomes, A and B, the probability of outcomes A and B can be precisely calculated, but there is no reason or cause for an outcome of A rather than B.^[5]

In light of this second point, consider again the baseball's reversal on contact with the bat. The cause of the reversal is the force on the ball. That force is the sum of many individual particle interactions—not one of which has a cause.

When the reversal is considered at the superficial level, its cause can be identified. When the event is considered in the finest detail, there is no cause at all.

Physicist John Wheeler put it this way: "Society charges science with the task of prediction. Science makes some progress with the task. In the individual quantum process, however, prediction comes to the end of the road. Science does not have to be ashamed of its finding. It only has to be honest about it. Why demand of science a cause when cause there is none?"^[6]

The proposition may now be evaluated on scientific grounds.

Before moving on to the evaluation, it is important to appreciate how *alien* to the scientist is the finding of "no cause". Science, at its heart, is the explanation of reality by *determination* and *demonstration* of cause and effect. Science has been wonderfully successful in explaining the structure of reality at every level, except at the foundations upon which the structure rests. At its foundations, reality cannot be explained in terms of cause and effect—or in any other terms—because scientists are in a state of profound and inescapable ignorance in regard to individual particle processes.^[7] That is why Wheeler rejects shame, and calls for honesty, at the end of the predictive road.

Evaluation of the proposition

As to the burden of proof:

When someone says, "God has caused this", the materialist is *never* able—not even in principle—to point to the experimental evidence and say, "No, this physical factor is the cause."

As to the burden of falsification:

The experimental results rule out, in principle, the discovery of a natural cause for *any* event in the universe.

Conclusion

Science declares that no natural cause can be demonstrated for any event in the universe. Thus, God cannot be scientifically eliminated as the cause of any event. Scientific materialism is falsified by science.^[8]

Implications of the falsification

There is nothing scientific about materialism. Scientists are not in possession of any knowledge whatsoever that warrants denial of God's existence.

The scientist is free to consider whether the appearance of design that pervades the universe is evidence of a real supernatural Designer.

The theist is released from the charge of being anti-science simply because he is a theist.

Notes:

1. The proposition is a condensed version of this statement by Einstein:

All these [aforementioned] space-like concepts already belong to pre-scientific thought, along with concepts like pain, goal, purpose, etc. from the field of psychology. Now, it is characteristic of thought in physics, and of natural science generally, that it endeavors in principle to make do with "space-like" concepts *alone* [emphasis Einstein's], and strives to express with their aid all relations having the form of laws. The physicist seeks to reduce colors and tones to vibrations, the physiologist thought and pain to nerve processes, in such a way that the psychical element as such is eliminated from the causal nexus of existence, and thus nowhere occurs as an independent link in the causal associations. It is no doubt this attitude, which considers the comprehension of all relations by the exclusive use of only "space-like" concepts as being possible in principle, that is at the present time understood by the term "materialism".

Albert Einstein, "Relativity", 1916. Appendix to 15th edition, 1952: "Relativity and the Problem of Space".

2. See the Overview section of the Wikipedia article on the Standard Model of particle physics: https://en.wikipedia.org/wiki/Standard_Model

3. The modified test statement is less general than the original, as it specifies "quantum events" in place of "every event", so excluding gravity events. For the purposes of this discussion, little is lost with the substitution, as there can be no gravity events without massive particles, and massive particles result from quantum events.

4. Kenneth W. Ford, "The Quantum World", 2004: Chapter 6.

5. For an example of the probabilistic behavior of individual particles, see the Wikipedia article on the well-known “double slit experiment”: https://en.wikipedia.org/wiki/Double-slit_experiment

6. See John Wheeler’s article, *Law Without Law*, in “Quantum Theory and Measurement”, Princeton University Press, 1983. The article is also available at: https://what-buddha-said.net/library/pdfs/wheeler_law_without_law.pdf

7. For a frank discussion of the ignorance of “the deeper foundations of the quantum”, see again John Wheeler’s article. See also Feynman, in the introduction to his series of popular lectures on quantum electrodynamics. He asks his audience, “Why are you going to sit here all this time, when you won’t be able to understand what I am going to say? It is my task to convince you *not* to turn away because you don’t understand it. You see, my physics students don’t understand it either. That is because *I* don’t understand it. Nobody does.” (Feynman’s book, QED, is published by Princeton University Press.)

8. Barring some experimental breakthrough, and the development of a new theory of physics.

The author

Gregory Ashmore
gregoryashmore@how-do-i-know-its-true.net

Download this document at:

www.how-do-i-know-its-true.net/public/docs/scientific_materialism_falsified.pdf

Revision history:

2018 09 02 First release.
2018 12 15 Rewrite to improve clarity.