

Are Faith and Scientific Reasoning Compatible?

Hartmut Ising

Are faith and scientific reasoning mutually exclusive? One of the first to address this question was the psychologist J. Leuba who conducted the following survey in 1916. He chose a random sample of 1000 American scientists and interviewed them in writing about their belief in God and in eternal life. He described the belief in a personal God with the words: "*God to whom one can pray expecting an answer.*" He found that about 60% of the Scientists denied such belief in God. Leuba deducted the prognosis that with increasing scientific education, faith will wane completely.

In 1996, Leuba's prediction was tested by E. Larson and L. Witham in an investigation using the same methodology. The results were published in the science journal Nature (1). In the table the survey results of both studies are compared.

Table 1. Comparison of the responses to the surveys in 1916 and 1996

Subject of the question:		
Belief in a personal God	1916	1996
1 Belief	41, 8%	39,3%
2 Disbelief	41,5%	45,3%
3 Doubt or agnosticism	16,7%	14,5%
Believe in the immortality of men		
1 Belief	50,6%	38,0%
2 Disbelief	ca. 20%	46,9%
3 Doubt or agnosticism	ca. 30%	15,0%

Contrary to Leuba's prognosis, the percentage of believers in a personal god among American scientists remained constant within the scope of research accuracy, although the scientific training and knowledge had increased since 1916 tremendously.

Even today, a significant number of researchers worldwide do not find that their belief in a personal God and Creator contradicts or interferes with their scientific work. Yet it is popular opinion to find faith and science incompatible. The goal of this paper is to further investigate this controversy.

The concept of infinity turns chance into a divine creator

First, how did the generally recognized principle of thought change? Why did atheism replace belief in a divine creator?

The French philosopher Voltaire scrutinized the fundamentals of atheistic thinking. He wrote (2): *In England, as everywhere else, there have been, and there still are, many atheists by principle; for there are none but young, inexperienced preachers, very ill-informed of what passes in the world, who affirm that there cannot be atheists. I have known some in France, who were quite good natural philosophers; and have, I own, been very much surprised that men who could so ably develop the secret springs of nature should obstinately refuse to acknowledge the hand which so evidently puts those springs in action. It appears to me that one of the principles which leads them to materialism is that they believe in the plentitude and infinity of the universe, and the eternity of matter. It must be this which misleads them, for almost all the Newtonians whom I have met admit the void and the termination of matter, and consequently admit a God.*

According to Voltaire, believing that matter is finite would necessitate belief in God. Postulating the eternity of matter on the other hand is a fundamental prerequisite for atheism. In the following, we will use examples from the history of the natural philosophy as a demonstration.

Darwin's book, "On the Origin of Species" was published in 1859. A few months after the publication T.H. Huxley and the Archbishop of Canterbury, S. Wilberforce, discussed the question whether random development of life and the evolution of the human species is conceivable, 200 scientists were in the audience. Wilberforce based his defense of belief in creation with the well-known argument, that the existence of a pocket watch is a compelling inference to a watchmaker; the existence of animals and humans can be taken, likewise, as proof of a wise creator. (Richard Dawkins wrote in 1987 in response to this, his book "The Blind Watchmaker" (3)).

Huxley began his reply by asking Wilberforce: "Do you think it is possible that the Lord's Prayer could come about, if the corresponding number of letters are randomly strung together? Wilberforce's answer was "No". Then Huxley wrote down a formula^{*)} at the blackboard showing the final probability of the outcome of an experiment in which an individual test is repeated frequently.

*) The total probability is $p_t = 1 - (1 - p_s)^n$. n: repetitions of the experiment and p_s : single probability.

When n approximates infinity $(1 - p_s)^n$ approaches zero and p_t becomes 1; that means that the event occurs with certainty if the experiment is repeated infinitely often and if p_s is $\neq 0$.

If the attempt is repeated infinitely often then the total probability is equal to one. The individual probability may be as small as you like but different from zero. Huxley explained this result: "If the attempt is infinitely often repeated the result is not only probable but the Lord's Prayer will with certainty come about purely by chance. Of course, the probability for an accidental emergence of the human organism is much less than for the Lord's Prayer. But in an infinitely long time the human organism will – just like the Lord's Prayer – come about through the blind game of chance".

The scientists present could not rebut Huxley's reasoning. And based on this hypothesis, the concept of blind chance leading to evolution was considered an alternative possibility alongside the belief in divine creation. This shift has laid the groundwork of the modern scientific worldview and led to the widespread inclination that faith and belief in a divine creator is incompatible with science.

This historical event demonstrates that the concept of infinite and eternal matter is essential to the atheistic argument and confirms Voltaire's assessment cited above. But what are the origins of the concept of infinite matter?

Ancient ideas about the origin of the world

The Atomists in Greece as well as Democritus believed, the genesis was initially chaotic, and natural forces forged an orderly system. They argued that infinite time was available for this process, that eventually resulted in the observable order of the natural world.

On the other hand, Aristotle, a pupil of Plato, argued that the functions of the natural world followed a well-conceived intelligent plan. In his metaphysics he refuted the views of the

atomists who did not seek answers beyond the material composition of their research object. For Aristotle, this “material causation” was only the overture to grasp the principles of nature. The question of the purpose of nature was of the utmost importance.

The teachings of Aristotle were merged in the Scholastic with the Jewish-Christian worldview and became the ideology of the Christian West until this was challenged by atheistic materialism.

Huxley recycled the argument of the atomists in the panel discussion with Archbishop Wilberforce. But does the concept of infinite matter, the prerequisite for the atheist hypothesis of origin and development of life by chance, withstand present-day scientific scrutiny?

The concept of infinite matter is obsolete

Hubble discovered the redshift of distant galaxies. This observation was explained by a high-speed expansion of the universe and led to the big bang theory. According to this idea, the universe began expanding after the “explosion” of an infinitely dense, hot mass nearly 14 billion years ago. Therefore 14 billion years is the assumed timeline for the emergence of the cosmic order and life on earth. The same applies in case of the hypothesis that the universe is expanding periodically and then shrinking again until the next big bang and this process is repeated an infinite number of times. One expansion cycle would be the timeline for evolution.

However, 14 billion years since the Big Bang is not sufficient for Huxley’s thought experiment. The possibility of spontaneous evolution of life without an intelligent plan depends on the concept of infinite time. Modern astrophysics has crushed the fundamental argument of the atomists and the Darwinists which was previously considered logical and scientific. Nevertheless, the notion of creative power of chance maintains its popularity. This belief has never been validated by science. In the words of respected scientist L.H. Matthews 1971 in preface to Darwin’s “Origin of Species”: *“The belief in evolution ... corresponds exactly to belief in a special creation – both are concepts, of whose correctness the believers are convinced, but to this day none of the groups have been able to prove this.”*

In October 2007, John Lennox had his first panel discussion with Richard Dawkins (4). Lennox emphasized several times that no naturalistic model can explain the origin of life. Recognizing the strength of this argument, Dawkins opened his part in the second panel discussion in October 2008 in Oxford with the statement: *"Serious arguments could be made for a deistic God"*(5).

Faith in God among scientists

The survey by Leuba referenced in the beginning did not inquire about belief in a divine creator, but about a personal God, to whom believers faithfully pray even today. To challenge the popular stigma that faith is incompatible with science, I will conclude with the words of several distinguished scientists:

Albert Einstein (6) wrote about science and religion: *"Even with a clean separation of religion and science strong mutual relationships and dependencies remain. Although religion determines the goal, it learned from science by what means these goals can be reached. Science, however, can only be built up by people who are fulfilled by the strife for truth and knowledge. But the source of this attitude arises again in the religious field."*

This also includes the belief that the world of appearances is directed according to the laws of reason and that this world can be grasped with the mind. Without this belief I can't imagine a real scientist. A picture may illustrate this relationship: Science without religion is lame, religion without science is blind."

Werner Heisenberg (7) described a conversation from 1927 in dialogue in which he talked with Wolfgang Pauli, Paul Dirac and other physicists about the relationship between science and religion. Heisenberg was the first to interpret Max Planck's attitude with the words: *"Max Planck, if I understand him correctly, choose clearly the Christian tradition. His thinking and acting, especially in human relationships, takes place without reservation in the framework this tradition, and no one will deny to respect him. For him the two areas, the objective and the subjective side of the world, appear to him neatly separated – but I have to admit, that I am not comfortable with this separation. I doubt if human communities can live in the long run with this sharp division between knowing and believing."*

Wolfgang (Pauli) agreed with this concern. "No," he said, "that will hardly be able to go well. ... With Planck's philosophy I don't know what to do, even if it is o.k. logically and also if I respect the human attitude that emerges from it. I agree more with Einstein's opinion. The "dear God" to whom he likes to appeal, has something to do with the inevitable laws of nature. Einstein has a feeling for the central order of things. He feels this order in the simplicity of the laws of nature Einstein is hardly bound to a religious tradition, and I would believe that the idea of a personal God is quite alien to him. But there is no separation for him between science and religion. The central order belongs for him to the subjective as well as to the objective area."

Wolfgang Pauli then mentioned the influence of Bohr's interpretation of quantum theory, particularly highlighting the importance of complementarity for the thinking bases: "We will, when we think about the big picture, be forced in the future to observed the center - which is indicated for example by Bohr's complementarity. A science adjusted to this way of thinking will not only become more tolerant to the various forms of religion, it will perhaps by its better overview of the whole, be able to contribute to the world of values."

In the meantime, Paul Dirac had sat down with us, who - at that time barely 25 years old - didn't have much left for tolerance. "I don't know why we're talking about religion here," he interjected. "If you are honest - and that as a scientist you have to be above all - you have to admit that religion is full of false claims for which there is in reality no justification whatsoever. The term 'God' is a product of human imagination ..."

So, the discussion went back and forth for a while, and we were surprised that Wolfgang did not take part ... Finally, he was asked what he thought. He looked up and almost astonished said: "Yes, yes, our friend Dirac has a religion; and the guiding principle of this religion is: "There is no God, and Dirac is his prophet." Everyone laughed, including Dirac, and that ended our evening conversation in the Hotel lobby."

The well-known physicist Anton Zeilinger was asked in 2008 in an Interview with 'Spectrum of Science' (8): "How do you feel about religion?" Among other things, Zeilinger replied: "... Every conflict between religion and science is - in my eyes - misunderstanding. The discussion about evolution versus

creationism is intellectually terrifying – what fundamentalist representatives of religion are claiming in the US, as well as in part natural scientists; Richard Dawkins' book, The God Delusion, is so simplistic! ...” A little later he said: “I like Einstein’s position that God is the principle of which caused the laws of nature – although, I can imagine a God who can still intervene in the world today ... ”

Spectrum: *“... what Einstein didn't believe.”*

Zeilinger: *“Yes, as far as I know, Einstein assigned God only a role at the beginning. ”*

Spectrum: *“According to him, God has set this great clockwork going, but does not intervene in the process, for example because of a prayer. ”*

Zeilinger: *“At least I know that the world is no clockwork. The quantum mechanics teaches us that every clockwork picture is wrong ... The world is no clockwork. People should worry about the theological consequences.”*

An urgent conclusion

Are faith and science compatible? Why is this question relevant?

Belief in divine creation gives both meaning and purpose to life. According to the Bible the true meaning of life is to know God personally and to learn to love him above all else as and to love ones neighbour like yourself. In Ecclesiastis 12: 7 the goal for humans is described with the words: *“... and the spirit returns to God who gave it.”*

The French mathematician and philosopher B. Pascal discussed the risks of a wrong decision concerning immortality. In his *Pensées* (1657–58), Pascal posed the following argument to show that belief in the Christian religion is rational: If the Christian God does not exist, the agnostic loses little by believing in him and gains correspondingly little by not believing. If the Christian God does exist, the agnostic gains eternal life by believing in him and loses an infinite good by not believing (9).

The Bible describes eternity for both schools of thought with the following words: *Many of them that sleep in the dust of the earth shall awake, some to everlasting life, and some to shame and everlasting contempt* (Daniel 12: 2).

It is, therefore, of the utmost importance to consider the consequences of belief versus disbelief.

Literature

- 1) Larson, E. and Witham, L. "Scientists are still keeping the faith", Nature 386 (April 3, 1997), S. 435-436
- 2) Voltaire. Philosophical Dictionary Part 1, Section II;
- 3) Dawkins, Richard. The blind Watchmaker (1996) [1986], New York: W. W. Norton & Company, Inc. ISBN 0-393-31570-3.
- 4) <https://larryalextaunton.com> – debates
- 5) Phillips, Melanie. "Is Richard Dawkins still evolving?" <https://catholiceducation.org>
- 6) Einstein, Albert. „Naturwissenschaft und Religion“, aus: Aus meinen späteren Jahren, Deutsche Verlags-Anstalt, Stuttgart 1952.
- 7) Heisenberg, Werner. „Erste Gespräche über das Verhältnis von Naturwissenschaft und Religion.“ Der Teil und das Ganze. Gespräche im Umkreis der Atomphysik, R. Piper & Co. Verlag, München 1969.
- 8) „Anton Zeilinger im Gespräch mit Spektrum Mitarbeiter Michael Springer“, Spektrum der Wissenschaft (March 2008)
- 9) Pascal, B.

[Pascal's wager | philosophy and religion | Britannica](https://www.britannica.com)
<https://www.britannica.com>

(2021-
09)