

The Faith of a Physicist

by John Polkinghorne, Princeton, Princeton University Press.
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Someone once asked Ernst Mach why his student, Robert Musil, left physics to become an author. Musil could never be a physicist, replied Mach, because he didn't have enough imagination. Musil, of course, after writing a dissertation on Mach, abandoned science to devote himself to writing novels, such as his masterpiece The Man Without Qualities. If physics requires even greater imaginative powers than those of a major 20th century novelist, one may wonder who could have sufficient creative imagination to contemplate the intersection of science and theology. But it is no accident that the Jewish scientists who write about "Torah and Science" are almost always physicists. Two notable examples are Natan Aviezer and Gerald Schroeder, who have each written "modern Medrashim" explaining how current scientific theories may be reconciled with the first chapter of Genesis.

John Polkinghorne is an elementary particle physicist and President of Queen's College, Cambridge. He is also an Anglican priest. His book, *The Faith of a Physicist*, contains the rigorous reflections of an academic scientist, trained to observe and theorize about the empirical universe, who, at the same time, believes in God, Revelation, and Religion. Unlike Aviezer and Schroeder, who concentrate on explaining the first chapter of the Bible, Polkinghorne discusses the roots and foundations of belief. "The question of the existence of God is the single most important question we face about the nature of reality." Polkinghorne quotes Anthony Kenn:

After all, if there is no God, then God is incalculably the greatest single creation of the human imagination. No other creation of the imagination has been so fertile of ideas, so great an inspiration to philosophy, to literature, to painting, sculpture, architecture, and drama; no other creation of the imagination has done so much to stir human beings to deeds of horror and nobility, or set them to lives of austerity or endeavour.

"Faith seeking understanding" is Polkinghorne's quest, and he sets about developing a theology according to the rules and principles of scientific inquiry. "Sometimes understanding will come about by the convergence of many lines of argument upon a common conclusion - the process which William Whewell [a British philosopher of science] called 'consilience'." This is especially true of scientific theories which try to explain past events like big-bang cosmology or evolutionary biology. "The cumulative case for belief in God would be a theological instance." Darwin built a compelling case for evolution by Natural Selection by considering a diverse set of data which could be explained by one unifying principle, even though no one instance conclusively "proved" his theory. In the same way, Polkinghorne gives credibility to his faith in God by considering various strands of evidence which add together to make such belief "plausible." He sees the design of Nature, universal morality, the everyday sense of hope, the perfection of mathematics, and the very notion of God, not as "proofs of God's existence" such as medieval scholastics attempted and which Kant already disposed of, but rather as "signals of transcendence."

A good example of the amalgam that is Polkinghorne is his discussion of Creation. First he gives a three page summary of the history of the Universe according to regnant scientific thought, from the fuzzy singularity of its origin in a big bang, through the formation of first and second generation stars and planets, to the evolution of life on Earth, over a period of billions of years. "Such, in outline, is the story that science tells us about the history of the world... Theological discourse on the doctrine of creation must be consonant with that account." Polkinghorne does not reject the scientific explanation, but argues that these theories do not tell the whole story. The relative strengths of the different atomic and sub-atomic forces were determined at a very early stage of the universe in a process called symmetry breaking. The possibility of carbon-based life depended on a very delicate balance among these forces. Though completely arbitrary and random, our universe chose just the right values so as to make life possible. (Scientists term this set of 'coincidences' the anthropic principle.) Polkinghorne suggests that "part of the divine Creatorly activity brought it about that the ratios fell within the anthropic limits." As the great scientist Freeman Dyson says, "The more I examine the universe and the details of its architecture, the more evidence I find that the universe in some sense must have known we were coming."

Polkinghorne organizes his discussion around the Nicene Creed (the first authoritative definition of Christian dogma, adopted by the Council of Nicaea in 325). His methodology for showing plausibility in topics such as the existence of God and divine creation is credible since the alternative to these proposals is a world which came about arbitrarily, yet falls within such narrow boundaries the random probability of which seems unlikely. However, in Polkinghorne's discussion of the events associated with early Christian history (e.g. the Resurrection and Divinity of Jesus), plausibility loses its validity, since one must take into consideration that the words and deeds of people may have been motivated according to their own agenda or by some other psychological catalyst.

Three types of people should read this book. The atheist will respect Polkinghorne's extensive and intellectually rigorous presentation of theological considerations, which should put an end to the trite dismissal of religion as superficial ruminations of the feeble-minded. Those with simple faith will be challenged by the depth and sophistication of Polkinghorne's arguments. To those who find themselves somewhere in between, this work will serve as a cogent presentation that counterbalances the cold scientism which pervades our modern world.