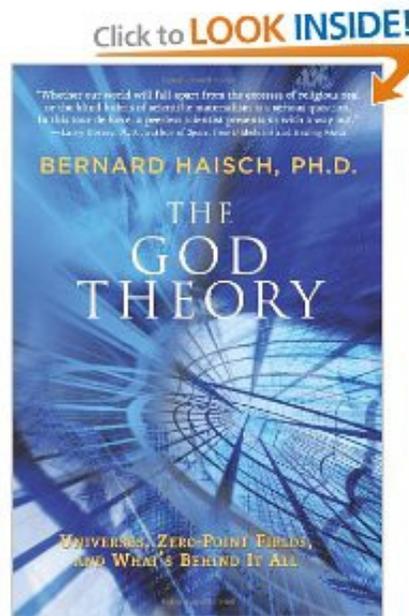


Questions and Answers



Is there a God?

There are good reasons to think so. It is now accepted in astrophysics that several key properties of the Universe and the laws of physics have "just right" values that enable life to arise and evolve. This is essentially undisputed. The explanation for this fine-tuning that appeals to most scientists is that this means there must be a huge number of other Universes, perhaps even an infinite number, in which the laws of physics are different. Life as we know it could never arise in such universes. Our universe is just one of these, and we find ourselves here because we could not have originated anywhere else. All universes arise at random, probably from quantum fluctuations.

This implicitly assumes that some kinds of laws or fields preexist to allow quantum fluctuations to arise. No laws, no action. And of course this also implies that these universes, ours included, have no purpose because they arise out of random processes. I am simply proposing that rather than purposeless laws or fields preexisting, it is a supreme intelligence that preexists, and that the ideas of this intelligence give rise to laws of physics that create universes, so call this underlying intelligence God. Both origin explanations are equally logical and equally beyond proof at this time, but there is a purpose behind the God interpretation.

What is *The God Theory*?

The idea goes back to one of the founders of modern astrophysics, Sir James Jeans, who wrote that the universe seemed to him to be more like a great thought than like a great machine. Well, whose great thought might that be? So I start with the concept of a supreme intelligence that has to be completely consistent with the Big Bang, evolution and other scientific knowledge. *The God Theory* then includes a very logical and compelling reason for why such a supreme intelligence would create universes in the first place: to transform infinite potential into experience. The experiences of the life forms (such as human beings) possible in the many different universes become the experience of the supreme intelligence. We are all sparks of God, experiencing his/her creativity. This has nothing to do with intelligent design: God does not need to microengineer or micromanage the evolution of life forms. The ideas of God are the basic laws of physics and the associated physical constants.

Is the God you are proposing at odds with science?

Not at all. Whether our universe originated by some random process or out of the ideas of a supreme intelligence cannot be determined by present day science. Since both lead to the same "Big Bang" origin of our universe, it does not affect science one way or the other. Science very accurately describes the Universe as it is. But science has no special claim on the ultimate origin of our universe and the myriad others that may exist in the current view of astrophysics and its multiverse inflation theories. Science has no way of knowing the ultimate origin of our universe and whatever others may exist. I suggest however that spiritual human experiences do open a door to knowing.

How can you have spirituality without religion?

I propose that spirituality should be viewed as a branch of knowledge alongside biology, astronomy, chemistry, etc. It is a branch of knowledge concerning an essence of our being and our consciousness that transcends physical matter. Many scientists would simply deny that there is such a thing, but that is opinion and dogma masquerading as fact. Since present day science does not study anything other than the physical, it has nothing

valid to say about whatever non-physical realities may exist which can be called spiritual.

One can study spirituality without religion, and indeed I propose that ultimately one will not need the "middleman" of religion to study the laws of spirituality (whatever they may be) any more than one needs a religion of physics to study physics. Both the historical legacy and the present day practice of religion have a mixed record. Religion has often been used to exploit, conquer and slaughter, which of course is grossly contradictory to genuine spirituality.

Why do most scientists reject the idea of a supreme intelligence?

Much of the hostility of science toward God is a reaction against religious dogmatism and outright persecution of rational thinkers in centuries past, such as Galileo and Giordano Bruno. But there is also a sense in science that understanding of the ways the world and the Universe work has been one of steady progress, systematically replacing mythology with genuine knowledge. It becomes tempting to extrapolate these successes to an ultimate understanding of everything using the tools and methods of science. Next time you read a science-oriented book for the general public, note how frequently "triumph" or "triumphantly" is used to describe a discovery. There is a degree of arrogance and hubris at work: we, the sophisticated scientists, are smarter than the less educated masses who cannot appreciate the complexity of science and we have no need for the superstitions of the hoi polloi. Indeed, a mind-set can arise in which it becomes virtually impossible to conceive of any reality other than the reductionist, materialist perspective. The community one is immersed in does determine and reinforce a consensus view, and that is true of the scientific community. One can easily find the view expressed that since science has found no evidence of God, there cannot be a God. This overlooks the fact that science has neither the tools nor even the concepts to actually search for evidence of a supreme intelligence. If you lose your keys in the dark, but look for them under the lamppost because that's where the light is, you won't find any evidence of your keys.

How does consciousness arise out of matter?

Well, actually, I don't believe it does. I think that ultimately it is the other way around: that the origin of this universe and all others that may exist lies in the will of a supreme consciousness, a consciousness that we all possess, in varying degrees. Somehow that consciousness created a physical universe. I think we will discover in this century that we shape our reality via consciousness to a much greater degree than is presently acknowledged. The study of consciousness will, I believe, take center stage in science in the decades ahead, and I do not mean simply neurobiology explaining, and thereby in effect explaining away, consciousness.

What are the biggest problems with organized religion?

There are several major problems that affect, or have affected, most religions to some degree or other. The worst is intolerance, denying the legitimacy of beliefs not in accord with a given religion, claiming sole authority and in the worst cases outright persecution and suppression of dissent. Just consider the Inquisition. Intolerance is unfortunately still a major problem in some branches of religion. The fairy tale nature of some of the beliefs is also a problem, teaching notions of heaven and hell that rational people cannot accept. If you actually try to imagine a never ending state of anything, that can become pretty horrifying. Something that truly never, ever ends, no matter how good it looks at the outset, would become a nightmare eventually. Remember, Woody Allen said "Eternity is very long, especially toward the end." Heaven cannot be what most religions teach. Then there is the depiction of a God who is capable of hate and anger, as if he were a petty tyrant out to judge and punish. This is a dreadfully limiting view of a benevolent supreme consciousness. Lastly there is the frequent misuse of religion for political and economic ends.

None of these things make any sense, and that is why many intelligent people have turned away from religion.

Is there a purpose for my life?

Definitely. Our purpose in life is to create God's experience of his own infinite potential. We are, each one of us, tiny mortal flames of an infinite benevolent immortal consciousness seeking experience. God comes into this world through each of us. Some people do bad things. How can they still be manifestations of God? The answer is that unlike some infinite

perfect realm of bliss, a real world comprised of matter and living beings capable of novel experience requires polarity. You can't experience light without the contrast of darkness. Heat is only hot in comparison to cold. So there has to be the possibility of "not good" to allow good to exist in the created universe. Factor in that the key to having a genuinely novel experience is free will. Free will plus the necessity of having some "not good" alongside the good can lead to some individuals creating great evil. To reconcile that with justice takes us into the concept of karma. But all in all, life is quite an adventure and that is the purpose of it. God participates in our life adventure because we really are him made manifest. We just had to forget that to make a novel, free-will based life experience possible.

How can you be so sure of *The God Theory*?

I cannot be certain of it, but it is a sophisticated, rational and, perhaps, elegant explanation of otherwise intractable paradoxes and dilemmas. It does not in any way contradict science. It takes seriously the mystical and prayerful and sometimes just extraordinary spontaneous experiences that people have reported throughout the ages. Physicist Werner Heisenberg wrote:

"It is probably true quite generally that in the history of human thinking the most fruitful developments frequently take place at those points where two different lines of thought meet. These lines may have their roots in quite different parts of human culture, in different times or different cultural environments or different religious traditions: hence if they actually meet, that is, if they are at least so much related to each other that a real interaction can take place, then one may hope that new and interesting developments may follow."

In *The God Theory* I am trying to bring about a convergence of the spiritual and the scientific perspectives.

Can science and spirituality be bridged?

Not only can they, they must if science is to evolve. I think that the major discovery of this century will be the recognition that consciousness is endowed with unknown (at least to reductionist, materialist science) creative potential. Our consciousness is tightly leashed when it comes to literally creative abilities, and by and large for good reason. If we could easily

manipulate reality with pure conscious intent, the world would be in utter chaos. But ultimately I suspect that consciousness does have that capability and that the rigorous study of that will become a part of science and may in fact become the dominant concern of science. So I see science moving into the spiritual realm not to debunk it or explain it away, as tends to be the case today, but to open a new vista that extends much further into new territory than most scientists even imagine nowadays.

What is the zero-point field in physics?

The three fundamental forces other than gravity known to physics all possess minimum energy states according to quantum laws that are greater than zero. Specifically for the electromagnetic force, there is an electromagnetic zero-point field with zero-point energy even at a temperature of absolute zero. This zero-point energy is what keeps liquid helium from freezing to a solid even at zero temperature (at normal pressure). However there is major disagreement in physics on whether to interpret this field as real or virtual. There are major problems with having a real field, but it is logically difficult to argue away the reality of the field.

Metaphorically this field may be described as an invisible, uniform sea of light underlying the Universe. Unfortunately a great deal of not well-informed speculation has become associated with such a field. I have heard people proclaim "God is the zero-point field." It's not that simple. What is possible is that the zero-point field might be the mechanism whereby matter acquires its property of inertia, of mass. My colleagues and I have published numerous papers on this in mainstream physics journal and have been funded by NASA and by Lockheed Martin. It remains to be seen whether or not this interpretation of the zero-point field is correct, In *The God Theory* I speculate, and let me emphasize *speculate*, about the possibility that this electromagnetic zero-point field might in some sense be related to a "light of creation" of the physical world concept that you find in spiritual traditions.