

Why Does the World Exist? A Journey Through the Philosophy of Science and Metaphysics. | Jim Holt

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I really don't like to formulate what I believe because, like a quantum phenomenon, it varies from day to day, and anyway there's a sort of bad luck attached to expressing yourself too clearly. – Jim Holt

INTRODUCTION

What's up everybody? Welcome to this week's episode of Hidden Forces with me, Demetri Kofinas. Today, I speak with philosopher, author, and essayist Jim Holt. Jim Holt is a longtime contributor to the New Yorker, where he has written on string theory, time, infinity, numbers, jokes, logic, and truth. He also writes regularly for the New York Times, the New York Review of Books, and the London Review of Books, and he is a former book-columnist for the Wall Street Journal. He hosted a weekly radio spot on BBC Wales called "Living in America, with Jim Holt" for ten years, appeared on William F. Buckley's Firing Line, and NBC News with Tom Brokaw. His book "Why Does the World Exist?" was a New York Times bestseller for 2013, and his latest book, "When Einstein Walked with Gödel: Excursions to the Edge of Thought," will be released on May 15th and is available for pre-order today. Jim Holt, welcome to Hidden Forces.

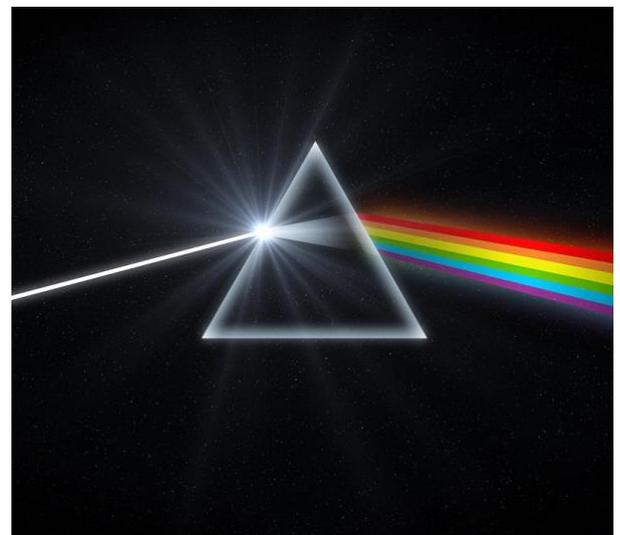
BACKGROUND

1. How would you describe yourself?
2. How did your intellectual love-affair with philosophy begin? What was your gateway into becoming existential essayist of sorts?
3. You have a unique style of writing. In the preface to your latest book, you say that your goal is "to enlighten the newcomer while providing a novel twist that will please the expert." I think that's right. You also outline three main criterion for choosing the essays that form the book (all written over the last two decades). The first is the "depth, power, and sheer beauty of the ideas they convey," the second is the "human factor," and the third is that the essays "bear crucially on our most general conception of the world (metaphysics), on how we come to attain and justify our knowledge (epistemology), and on how we conduct our lives (ethics)." I will admit that it is the metaphysical and epistemological domains of philosophy that I find most compelling at this stage in my life. I was always interested in metaphysics (specifically, ontological questions), but my interest in epistemology has overtaken my earlier interest in ethics. Can you tell me more about these three considerations? What does philosophy mean for you? How has your relationship to these questions – questions about the nature of existence, of the world, etc. – changed over a lifetime of engaging with them? What have you found most fulfilling and rewarding about a life spent engaging in philosophical pursuits?
4. You seem to fall on the side of Dionysus in your approach to the most fundamental questions of being (what is the meaning of life, who am I, where did I come from, etc.). Where does this comedic relationship to such questions come from? Have you had any tragic encounters with existentialist philosophy that you care to share? (depression, angst, etc.)
5. Is there one philosopher, physicist, or mathematician who you have found most interesting? Is he or she also the one you found most brilliant?
6. Who is the most brilliant person you have ever had the good fortune to spend time with? Can you tell us what that is like for you? How do you experience brilliance in others?



PHILOSOPHY OF SCIENCE

7. **Splinter in your Mind** — What single question has concerned you most in your life, and is this the same question that most concerns you today?
8. **Most Consequential Theories** — There are theories or functions like quantum mechanics and power laws that predict or describe phenomena in the world that contradict our most basic notions of reality. What do you think are some of the most consequential of these theories? If you could choose one for humanity to be able to understand intuitively, which would it be? Which would most benefit our species? (e.g. having the intuitive ability to think non-linearly)
9. **Theory of Everything** — Early, scientific theories about the world seemed to make “more sense,” if not intuitively then certainly more sense than Einstein’s theory of relativity, string theory, or quantum theory. Do you think that our minds will ever be able to adapt (either on their own or by human intervention through genetic engineering and/or through something like BCI) to these advanced theories of reality or are we hopelessly limited in our ability to comprehend the type of universe that our models describe? Do you think that mathematics and tools of empirical science, together, provide a loophole through which we can overcome any mental limitations born of our biology? Will we ever arrive at the “Theory of Everything?”
10. **Disagreements Among Physicists** — What is the most contested theory or question for which there exists the most disagreement among physicists today? What do you think accounts for that disagreement? When do you think we might arrive at some consensus similar to what currently exists for Einstein’s theory of relativity?
11. **Why, Oh Why?** — “Why does the world exist?” is the title of one of your books. Can you translate this question for us? What does this mean? Give us a philosophical translation for the “why,” as well as a scientific or empirical one. Do you mean “what is the scientific rationale for how the universe came into being?” or “is there a reason why the world, and by consequence I, exist?” It would seem to me that the more interesting, though perhaps futile translation is one focused on the “human why.” (i.e. why am I here?)
12. **Let there be Light?** — How do you think the universe came into being? How do you grapple with the difficulty of trying to comprehend the question of “what came before the big bang?” when the big bang is the beginning of time? How are we supposed to understand anything that does not operate within at least four dimensions?
13. **Time** — What is time? How have our notions and understandings of time evolved? How do you feel our cultural notion of time has changed in the years since Einstein’s theory?
14. **Why not Nothingness?** — The question of “why is there something rather than nothing,” is another way of asking the question “why does the world exist?” However, in the first version of that question, the term “nothing,” is put forward. How do we comprehend nothingness? What is nothing or nothingness? What is the difference between these two, and what is the relationship between nothing and zero?



15. **Unreasonable Effectiveness** — The physicist Eugene Wigner published a paper in 1960, titled "The Unreasonable Effectiveness of Mathematics in the Natural Sciences," wherein he observed that the mathematical structure of a physical theory often points the way not only towards further advances in that theory but, paradoxically, to empirical predictions. In other words, the same system that proves its own incompleteness (according to Gödel), can nonetheless tell us things about the world, a priori, that we later find to be true, empirically. Are you similarly befuddled by Wigner's observation, or do you think that there isn't anything mysterious? If so, how do you explain the effectiveness of mathematics? Do you think mathematics is something that human beings created or is it something that we discovered?

"The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift which we neither understand nor deserve. We should be grateful for it and hope that it will remain valid in future research and that it will extend, for better or for worse, to our pleasure, even though perhaps also to our bafflement, to wide branches of learning." - Eugene Wigner

METAPHYSICS & ONTOLOGY

16. **Base Reality** — What is the nature of reality? Is base reality even knowable, or is such a notion of "base reality" itself a reflection of the limitations of the human mind and the misleading qualifiers of our language?
17. **Descartes' Demon** — There are potentially infinite numbers of universes, and within each of those universes could exist infinite more simulated universes. What do you think of the question "are we living in a simulation?" More fundamentally, are you troubled by the implications that arise from entertaining the existence of a Cartesian demon? How can you know that you are not living in the Matrix?
18. **It from Bit** — John Archibald Wheeler famously proposed this idea of information sitting at the core of physics. What does an informational universe look like? How do we understand a universe whose core, base reality is informational? How does this relate to notions of a computable universe? (information as entropy, algorithm as compression, etc.)
19. **Mathematical Universe Hypothesis** — Max Tegmark's has put forward the MUH, which asserts that our external, physical reality is a mathematical structure. That the physical universe is mathematics in a well-defined sense, and "in those [worlds] complex enough to contain self-aware substructures [they] will subjectively perceive themselves as existing in a physically 'real' world." Is this like an argument for idealism or Platonism? Do you have a critique of this theory?
20. **Quantum Reality** — Let's spend some time exploring the implications of quantum physics. What do you think are some of the biggest misconceptions people have about quantum theory and the principles of quantum mechanics? A popular interpretation among some people is some variation of John von Neuman's "consciousness creates reality," idea. How credible is this, and how does it relate to some of the other interpretations, like the Copenhagen interpretation?
21. **Quantum Computation** — How is quantum theory being applied in the fields of information theory and computer science? When we hear about "quantum computers," what does this mean in practice? How does a quantum computer work relative to a classical computer?



LIGHTNING ROUND

I did a google search before this interview for “the biggest questions of philosophy,” and put together a list of complementary questions to ask you in this closing round.

22. **Who am I?** — This question could easily have come up implicitly in the earlier part of the interview, but I want to ask it explicitly now. **Do you believe that the ego is a totally arbitrary construction, and that one could imagine a society of human beings growing up without any sense of ego, self, or autonomy? Is this where we might be headed with our networked technologies?**
23. **What makes me, me?** — Is the concept of me continuous or does my past self continually fade into my present and future self? In other words, **what part of me remains over time considering that the atoms that make up my body are constantly being replaced and my memories are always changing? If every neuron in my brain was accurately simulated in a computer, would that result in the transfer of my consciousness into the cloud?**
24. **What happens when I die?** — **Do any of your theories about the world make room for some sort of eternity of consciousness?** Have you ever done psychedelics, or have you spoken with people who have (or people who have had mystical experiences). **What do you think is happening when someone has an authoritative experience like this?**
25. **What is a good life?** — How important is this question to you? How do you try and live your life in order that it be a good one?
26. **Right vs. Wrong** — Is there such thing as right and wrong? Is there such thing as good and evil? **Are morals subjective? Is there a morality for which we have evolved, and share across our species, and perhaps even across the animal kingdom? Is there a higher morality than even this?**
27. **Future of Religion** — Will religion ever become obsolete? **Can humanity, in its current, biological form exist without some type of religion or mythology?** Can reason provide adequate foundations for a meaningful existence?
28. **Does Free Will Exist?** — This has become an increasingly popular question to ask, and it’s answer has far-reaching implications. **What is your view on free will? What is free will? Does free will exist? If free will does not exist, how does this affect our social welfare systems and our notions and systems of justice?**
29. **Limits of Creativity** — **Are there limits to human creativity?** Is it be possible for humans to create something completely novel and new that is based on nothing that previously existed? **Or is human creativity just rearranging and building on previous ideas?**
30. **Suffering** — Is suffering a necessary part of the human condition? **Does suffering make you a better person? Is there anything you can tell about a person from how he or she has encountered, dealt with, and changed through suffering?**
31. **Aliens** — **What do you think would be humanity’s reaction to the discovery of extraterrestrial life?**

