

The Universe in a Nutshell
May 20, 2018
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Three ordinary seeming people are standing in New York city, at the corner of 11th Avenue and 46th street. They walk into a building and get into an elevator and push the button for the floor, the 16th floor to be exact. When they walk out of the elevator, they are expecting to find themselves at a rocking party. And they do - all the balloons are there, there are streamers, and drinks and food plates. But it's all strewn out across the room - and there's nobody there. The drinks are all gone and the food is only crumbs. It appears the party is over. They came too late.

"What did we do wrong?" These ordinary people say. "We followed the directions, the three coordinates, 46th street, 11th avenue, 16th floor... How come we missed the party?"

They find a notecard at the end of the bar. It says "How many coordinates do you need to get to a party?"

They think for a little bit. "Time!" one of them says. "We needed, in addition to the three coordinates, we needed to know what time the party started."

"Ah ha, so time is just another dimension" says another one of them.

I'm sitting on my couch watching this all unfold on my television when Stephen Hawking's familiar computerized voice comes over the narration.

"We all have questions. Big questions. It's part of what it means to be human. My name is Stephen Hawking, and I believe that anyone can answer big questions for themselves. So with the help of some ordinary people, and a team of experts, we are going on the ultimate voyage: A quest to answer the greatest mysteries of the universe using the power of the human mind. Because anyone can think like a genius."

And thus begins what I think must be the most nerdy reality TV show ever. A show called "Genius by Stephen Hawking" that brings so-called "ordinary people" through puzzles and challenges that help them to figure out such questions as "can we time travel" and "what happened at the beginning of the universe." A reality show that watches people grapple with ultimate questions. So-called ordinary people, like you and me.

Because, like Stephen Hawking said, we all have questions. Even us ordinary people, us non-theoretical physicists.

For as long as humans have existed, we've looked up at the sky. We've seen the daylight rise and fall in this ball of light illuminating our existence for a length of time we call the

day, to fall over the horizon leaving a sky that's a first blue, then black, with lights piercing through like puncture holes in a sheet. We've looked across the land and seen it flat. We've looked to the sky and seen a dome.

Humans evolved a brain that could look at these things and wonder. At first, we wondered what was above the dome. What was below the ground. What was over where the sun set. We created myths, stories to explain our existence. We created religions to explain, in part, how it could be that we exist at all.

Throughout time all these questions, the "whats" and the "whys" of our existence have been bound up with the question of "why"? As if there must be a purpose. As if our placement here. On this land, with these bodies must be for some other reason. It's baffling to not have a reason for something, isn't it?

As we slowly learned more about our world, our environment, we learned of realities that were hard to accept, because the myths we had told ourselves had become so commonplace, so accepted that to challenge them pulled whole systems of belief down. Beliefs that had caused comfort.

One of the most observable things about our world is that it is flat. I mean, look around. If you knew nothing of science and I asked you what shape the world was, you would answer flat. To say something else is ridiculous. It goes against what our five senses tell us.

Yet, standing here in 2018, I'd be shocked if a single person in this room believed, I mean truly believed, the Earth was flat.

Many other things we have observed to be true about the universe have been challenged as well. The Sun moves through our sky, yet it is us who is moving, not it. Yet, we observe the sky moving.

But really, the Sun *is* moving, it's just moving on a cosmically large scale beyond what we can see.

Yet with each of these discoveries, these discoveries of science, we've had another question of why. *Why* are we here, on this planet? This round ball hurtling through space, orbiting this star, on a planet giving life to millions of species, including homo sapiens, the only species, that we know of, with the ability to look at all of these markers of our reality and *question* it, and *wonder* about it, and ultimately, to *study* it. Because we all have big questions.

Stephen Hawking, writes in his book *The Universe in a Nutshell*, about something called the Anthropomorphic Principle, which, as far as I can tell, that of all the possible universes, our is the particular one that it is, *because* we are able to observe it. He says "the reason why the big bang occurred about ten thousand million years ago, is so that the universe must be old enough so that some stars will have completed their evolution to produce elements like oxygen and carbon, out of which we are made, and young

enough so that some stars would still be providing energy to sustain life.” As far as I can tell this means that our mere ability to observe the universe and understand, and to observe and understand those particular states and forces, is because it had to evolve to allow for a carbon based life form like ourselves to have the brain capacity to ask these questions.

But to be fair, Hawking also said about his books “People all over the world tell me how much they enjoyed my book. They may not have understood it all. If they did, they’d be ready to start a PhD in theoretical physics.” So I’m not going to feel so bad that I think exactly what he’s getting to is beyond my grasp, though maybe not yours, I know we have some science types in the room.

But the point I’m trying to make here, is that Stephen Hawking is one of us. One of our species that has evolved beyond simply making guesses about the nature of reality, but who is actually about to put that envelope of what is knowable, further, beyond our galaxy, beyond quantum physics, beyond what we thought we could observe about time.

You see, like the early humans, we observe so many things we think are objectively true. Time moves forward at the same speed. But Hawking, and Einstein before him, showed us that that’s not actually so clear. Time changes when we reach the speed of light. Time changes as we enter a black hole. Time’s not so constant as we think it is.

Of course, we all know that what we observe with our senses isn’t always true. Take this week’s Yanni/Laurel debate. If you don’t know what I’m talking about, let me play a recording for you. This has been all over the internet since Tuesday night.

Ok, so how many people heard Yanni? How many Laurel?

It turns out that what you can hear depends on what frequencies you are more likely to be able to hear. I found myself in a heated argument with my slightly younger partner Amy who hear Yanni, while Laurel was obvious for me. Higher frequencies are easier to hear when you are younger, you know.

Ok, I really wanted to see if I could pull off this connection for you this week, because I think this shows us something really important about *perception*, and how our senses tell us things we don’t know are true.

We like to make meaning out of all of this, right? The things we think are true and the things we know are true. Or the things we think we know are true. My partner and I were shocked at our differing perceptions. Yet both were true. And neither were true. Neither were the whole story. And scientists like Stephen Hawking show us that what we are observing is likely not the whole story.

Something that Stephen Hawking says in this reading that I love is “*We must try to understand the beginning of the universe on the basis of science. It may be a task beyond our powers, but we should at least make the attempt.*”

I would say that this quest for knowledge is a central part of our faith, as Unitarian Universalist. We believe in the search for truth and meaning. The fourth principles states “The responsible search for truth and meaning.” The six source of our faith is: “Humanist teachings which counsel us to heed the guidance of reason and the results of science, and warn us against idolatries of the mind and spirit.” We are a religion that has science as a part of it. Science as a search for meaning. Results of sciences as our laws and our truth.

But is science is the search for truth, I have to ask, what is the search for meaning?

In my first year of seminary, the school I went to get my Masters of Divinity, so that I could one day become an ordained minister and be lucky enough to be here with all of you, in my first year, I took a class on preaching. My professor gave us an assignment. He told us each to find something in the natural world and bring it back to class, a picture or something.

That same week, we discovered the furthest away star we had ever seen. It was visible only by the Hubble Telescope, 5 billion light years from earth. Which means that light left that star 5 billion years ago, and is just now reaching our planet, so, in essence, we are looking 5 billion years into the past, close to the birth of our universe.

And so, being the Smart Aleck UU minority student at my decidedly Christian Seminary, I brought in this picture. The universe counted as part of the world, surely.

So I put this up and I talked about how the image filled me with awe and wonder at the realities of our universe. Our world. How cool it was to be looking back in time towards the end of our universe.

And after I had just flailed about like the real nerd everyone knew me to be, my professor just looked at me and said “ok. But why does this matter?”

So, my friends, as I go on and on about the truths that we can glean from science, the ones that are clearly important to our religious faith, I ask you: Why does this matter?

We come to church for a lot of reasons right. And by now you're probably wondering why you came this week. This week that, once again saw teenagers getting shot in their schools, and terror that that puts in many of us, especially the parents among us, about what that might mean if our children were next.

A week that saw the President of this country referring to people, to immigrants, perhaps, as “animals,” words that are used to harm and dehumanize people in our world.

When we think of all these things, these problems we have in our own world, these things that instill fear in us and make us cry out about the pain of the world, our own and the pain of those around us, what does it matter to study these questions about the edge of the universe? What does it matter to figure out where we came from? What does it change about our existence?

I believe that meaning making is a huge part of our lives. It is how we cope with the realities of the world, the good and bad realities of our world. And one of the ways we can make meaning is to try to understand our world, our universe better.

One of the gifts we’ve been given, from the beginning of our existence, is the fact that we can contemplate these questions at all. Stephen Hawking was a great mind who was able to contemplate and study some of the realities of our universe, time, and our existence. But that wasn’t the only gift he left us. From those three ordinary people in that reality show about understanding the answers to big questions, to all those who have read his books, Stephen Hawking was also good at *communicating* the discoveries of science, and encouraging us to look up at the stars ourselves, to make meaning through the search for truth itself.

So perhaps the greatest lesson we can learn from Stephen Hawking is to stay curious about the Universe, be that in the science of microbiology, the answers to the questions of the cosmos, or in learning about animals or psychology. The gift of learning about ourselves, of observing and realizing that things aren’t always how they appear, is part of how we make meaning and we make sense of the world around us. It’s vital to experiencing the fullness of humanity. Because we all have big questions.

Because what if to learn about the universe is a form of prayer? What if glorifying God’s creation, if God is the name we’ve chosen for the mystery, is achieved through learning and studying it? Is there any way we can show more appreciation for our world than to learn everything we can about it? To stand on the edge of what is knowable about it and understand our place in the universe?

I believe - and Stephen Hawking and I might disagree on this point - but I believe that there will always be another mystery that science cannot answer. The more we discover about the universe, the more there will be to study. And that more, that extra piece, that area beyond our understanding, that is where God is for me. An imperfect word to describe that which is unknowable, at least to us now.

So let us allow ourselves the wonder and awe of the mystery of creation of the universe, and let us never quell our own curious spirits, for the mysteries on this, our home the earth, and out there in the stars are too vast and too great to not search out meaning and

truth for its own sake. Let us be like those ordinary people, allowing ourselves to see things from different perspectives and realities.

May it be so and let us say together amen. Amen.