

## Mystery: Koans of Science

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I have a friend whose family is disintegrating. Her cousin's cherished belief is that God created the earth about six thousand years ago, creating humans separately and specially from all else, and that the only true source of wisdom is the bible. Another cousin's cherished belief is that the material world is the only reality, and science and reason are the only path to understanding anything. Here's the part that kicks my gut: The science-oriented cousin is the one who starts the flame wars, with sarcastic, demeaning put-downs. Each side rallies its factions, and the family suffers.

I learned of my friend's anguish when, in the hope of offering a middle ground, she shared one of my videos with her family on Facebook, a video in which early on I use the word Creation to describe the universe. Her science-minded cousin stopped the video right there, commenting "Well, it's not hard to see where THIS guy's coming from." His dogma prevented him from recognizing a colleague and potential friend. He already knows the **answer** to the Zen Koan of this existence, so the contemplative practice of open-hearted listening is a waste of his time. Zen koans... you know, like "What is the sound of one hand clapping?" Science has koans, too, as we'll see.

But my friend's family experience echoes all over our cultural landscape. You've seen the awful comments, on YouTube and Twitter, **anywhere** anonymous comments are allowed. It's like watching a fight; I am disappointed and disgusted by both sides but I seem unable to look away. Neither extreme is tolerant of attempts at offering common ground. I've tried.

That culture war pushes us to view spirituality and science as opposite ends of a spectrum. Both extremes of this spectrum come from a place of presumed certainty; they are so certain they are correct that they cannot even hear the other side. So certain they are right and their opponents wrong that they can't see how their very certainty makes them conjoined twins. And, that self-righteous certainty is all about the nature of a reality that is filled almost completely with mystery.

Physicist Marcelo Gleiser uses the analogy of an island of knowledge surrounded by a sea of mystery. Each time we discover something new, or explain something unexplained, the shoreline increases, meaning that we are exposed to more mystery before! Each generation can ask more, deeper, better questions than their predecessors. Scientific advances *increase* our exposure to the mysterious!

The history of science suggests that that sea of mystery is infinite. An infinite sea of Mystery means that there will never be an end to the scientific endeavor, never be a

“theory of everything.” It means there are levels to reality that we may never access. And out here, beyond the beyond of what we can imagine imagining, is what Rev. Michael Dowd calls Ultimate Reality. Or for those who prefer traditional language, God.

The cultural conversation about science and spirituality happens here, on the beach. **If your faith is that God is in the shallows just off-shore**, then when our knowledge of reality grows to include those shallows, your faith will be in direct conflict with plain evidence.

Among others, I’m talking to the intelligent design folks, here. Not far from here in Dover was the landmark Dover vs. Kitzmiller case, in which Intelligent Design proponents got humiliated, because their argument rested on proving that some biological systems are irreducibly complex. They tried to show that systems like the human eyeball are useless if only partly formed, and that you can’t build an eyeball by slow evolutionary improvements.

They got humiliated because for every so-called missing link that they said God had to have supplied, the biologists offered detailed findings showing either well-documented partial eyeballs from the fossil record, or biochemical pathways that could easily have done exactly what the ID proponents said was impossible.

It wasn’t just eyeballs, it was system after system from every branch of biology. Again, if your faith is that God is needed to explain mysteries that we know about, that lie close offshore, a God of the Gaps in other words, your God will consistently shrink as the island of knowledge expands.

On the other hand, if your faith is that there IS no deep water, and that we’re one theory, one Einstein away from understanding everything, then you may well be similarly humiliated, as were the scientists of the late 19th century.

Lord Kelvin, who formulated the first two laws of thermodynamics, who found the value of absolute zero and whom the Kelvin temperature scale is named after, and Chair of the Royal Society, famously said in 1900, quote: *"There is nothing new to be discovered in physics now. All that remains is more and more precise measurement"* endquote.

Roentgen had discovered X-rays five years earlier, but Lord Kelvin, the pre-eminent figure in physics, had dismissed them as a hoax!

Scientists should be **welcoming** anomalous data because it represents new frontiers, and theologians should be embracing scientific consensus, because it represents the expanding glory of creation. This is challenging for both, because it

means saying “I don’t know” about a lot of stuff; it means not jumping to conclusions. It means embracing mystery.

More on that in a minute. First, I want to say a few things about this island of knowledge we’ve constructed. I do this partly to give a hint of my Seven Candles project, but also so you can see what **I** mean by mystery, and how even the things we are fairly certain about, can also be profoundly mysterious.

There’s a lot we don’t know, but what we **do** know now is so astonishing, so spiritually fulfilling, that’s it’s easy to miss, especially if you have a Newtonian view of the universe as a machine.

I come from a New Age family. One of the givens in my family is a belief in reincarnation, disembodied souls, karma, all that stuff. My brother’s partner, who I had just met, asked me if I believed in reincarnation because it was a new idea to her and she knew that she and I share a love of science. I said: “It depends on what you mean by reincarnation.” That really got my brother’s attention! He said Whaddya mean whaddya mean?! When you die your soul leaves your body and then takes on a new body! What else could she mean?” I said,

“Well, I don’t know about souls, but what I **DO** know is that when we die, even before we die, the atoms that make up our bodies came from being other bodies, even things like thunderstorms and comets, and now they flow through me, live as me for a day or a decade, then move on to become other things, including other people, flowers, and seashells.

Similarly, I know that the cultural memes that make up my thoughts and actions flow through me, animate me for a while, and move on to become the cultural memes of others, influencing entire societies and sooner or later all of humanity. I know that every particle in my body is gravitationally connected to every other particle in the universe, so every movement, even every breath, changes the shape of all space-time, and those ripples reverberate forever.

I said: “I don’t know about reincarnation, but I **know** that I have a permanent substantial impact on the entire universe, and permanent perfect unity with this amazing, fully-connected unified reality both before and after my death. Some of the matter that is me today was once part of every creature and person who ever lived, and those atoms will go on to find new life in every living thing that ever lives in the future.

Some of these atoms will someday travel to other stars, will eventually BE other stars. You see? A droplet of ocean spray IS the ocean and vice versa. Given all that, a ghostly soul that moves from body to body? seems kinda second-rate. Do I have a

soul? Maybe, but my spirituality doesn't depend on it. I'm already part of a universe-sized cosmic unfolding so grand as to make the question of separate souls seem irrelevant."

Actually, I wish I'd said that. What I actually said at the time was a lot more meandering and may not have made much sense. Sometimes second chances are a great blessing!

There are two things science does NOT do: Eliminate Mystery, and Ruin Spirituality. Where IS spirituality in this island analogy?

You know, we talk about spirituality as though it's synonymous with the supernatural, but if you Google "spiritual principles" you get [this](#) list. The underlying theme here? is NOT "supernatural." It's Transformation. Spirituality is about *becoming*. So is evolution.

My point is that the island of knowledge is deeply spiritual, if you look at it through deep-time eyes, from a perspective that embraces nearly 14 billion years of becoming. We **know**, through reason and experiment, that there is only one family on this planet, and that we are cousins with every living thing; We **know** that our bodies aren't separate living things but entire ecosystems of living things; We **know** that these bodies of ours are made from dust that was created in ancient dying stars; We **know** that when we look closely enough, even those atoms dissolve into a dance of pure energy, energy that was present at the dawn of time; We **know** that fundamental forces unite the entire universe into one interconnected whole, one single thing.

These are spiritual ideas as powerful as any other holy scripture, because they transform us profoundly. They invoke in us spiritual responses like Awe, Humility, Contemplation, Connection, Tolerance, and Unity, and they embed us deeply into this real-life story of a universe that unfolds, that becomes.

As we celebrate that, some of you may perceive a divine intelligence behind all that power and glory, while others might see no purpose or intelligence behind it whatsoever. Fine. But if the two of you start to argue about that, you'll ruin the awe and the wonder, the spirituality of the moment for all three of us. Science doesn't ruin spirituality, it enhances it, providing vast new fields for inspiration. What ruins spirituality is arguing from **false** certainty about things that are inherently mysterious.

In the last century, the island of knowledge has expanded so fast that we haven't been able to integrate the new knowledge into our world-views. We still perceive a duality, as though science and spirituality are mutually hostile, or at best separate

realms. Same with reason and faith, certainty and mystery, nature and God. Though I struggle to live in it myself, the emerging world-view is that these seemingly conflicting things are all faces of a unified, mysterious Reality. Capital R Reality. For a growing number of people, a Reality synonymous with God, and vice-versa; God synonymous with reality.

If humanity is to survive its adolescence, we're gonna have to learn to be OK with **not** knowing some important things. We're gonna have to learn to accept ambiguity as an essential ingredient. I'm learning to enjoy saying "I don't know," especially about some of the biggest questions like "What is the nature of consciousness?" I don't know. "Does the universe have a purpose?" I don't know. "What came before the Big Bang?" I don't know. "Are there other realms or dimensions or universes that can intervene in this one?" I don't know.

These questions are like Zen koans. In Zen practice, koans are an invitation to contemplation, and a guide towards living comfortably inside mystery. Science offers koans too, and we can employ them just like their Zen cousins: Why are there no magnetic monopoles? What **is** division by zero, or the square root of negative one, and what are we to make of infinity? What lies inside a black hole? What came before the beginning? What is Time? What is the nature of conscious minds reasoning about the nature of consciousness?

Mystery can be frightening. The island analogy is apt because oceans are really scary! There's a reason sailors have always been regarded as courageous. You were literally heading off into the dangerous unknown.

Many years ago I went hiking with some friends, and our route took us past an old quarry filled with water. There it is! Thank you, Google! We knew that local people swam in that quarry, and we knew from them that the water was safe. But we had also heard that no one knew how deep it was, just that it was VERY deep, possibly bottomless due to deep caves.

We stood there in bright sunshine, on a hot summer day perfect for swimming, and we looked at that water... and we looked at that water... and I have to admit that after we finally peer-pressured each other to jump in, I was still terribly aware of that unknown depth below me. Something in me kept screaming "Get out! Get out!" Of course, we did get out after a while, and all was well. But if someone had come along and said "Oh that's just a local legend. The quarry is 20 feet deep" we might have stayed all afternoon. NOT knowing can be really uncomfortable.

Embracing Mystery means relaxing into some big unknowns, from reincarnation to dark matter, to God, without succumbing to our instinct to leap to conclusions. Embracing Mystery means remaining in astonishment that anything exists at all.

Nobel-winning physicist Richard Feynman said “I can live with doubt and uncertainty and not knowing. I think it’s much more interesting to live not knowing than to have answers which might be wrong... I don’t feel frightened not knowing things, by being lost in a mysterious universe... it doesn’t frighten me.”

It is not my intent to chastise theists or anti-theists here, except maybe for the tone some of them use. Most of their arguing revolves around the changing nature of God as a concept. But God changes with our world-view. So does our notion of the supernatural; 150 years ago, the idea of uranium losing mass and becoming lead would have been regarded as absurd pseudo-science, a violation of well-established physical laws like the conservation of mass. Scientists would have derided it as alchemy, or a hoax.

That was before Roentgen and the Curies opened up the entire field of nuclear physics, and what had been super-natural or impossible became natural, and Nature got a lot more interesting.

I’m not defending pseudo-science, although I think that label is often too-eagerly applied; I’m saying that the definitions of natural and supernatural have shifted throughout the history of science. Hard-and-fast physical laws like conservation of mass become less rigid and more inclusive as nature’s quirks and exceptions are revealed to us. For example, cosmologists today are quite open to the concept of multiple universes and extra dimensions, including universes that could be right here among us, but offset in a direction we can’t experience or access. Sounds a lot like the supernatural to me!

But because these realms are suggested by extension from current scientific knowledge, they are regarded as part of a larger natural reality. Perhaps the distinction between natural and supernatural is more semantic than helpful.

Unitarian Universalists are uniquely positioned to make a respectful case for science as both a source of revelation AND a common ground for spiritual celebration. There is no reason we can’t celebrate the amazingness of the island AND explore the deep mysteries of the ocean, hand in hand with believers and non-believers from every tradition, humble in our conjectures and accepting that mystery engenders many possibilities. Our false certainties and dogmas are just irrelevant from here or from here or from here.

If you are a religious believer, please don't let science-discoveries **here** (near-shore) interfere in your relationship with God (pointing to ultimate reality). I also humbly suggest that you consider saying “I don’t know” as often as you can honestly do so. And please, try to refrain from kicking sand here on the beach.

If you're an atheist or an anti-theist, please don't let our successes on the island of knowledge limit your world view to what's near the shore. I also humbly suggest that you consider saying "I don't know" as often as you honestly can. And please, try to refrain from kicking sand here on the beach.

If you are someone who wrestles earnestly with these questions, KEEP wrestling! They are Koans, and may lead you to spiritual depths you hadn't known. I encourage you to proclaim "I don't know" with a big smile. As Shakespeare reminds us: "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy." And as you enjoy this beach with others, remember that awe and wonder may be found in every direction.

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**Parting Words/Benediction:**

Albert Schweitzer said: "As soon as man does not take his existence for granted, but beholds it as something unfathomably mysterious, thought begins." Let us go and be thoughtful, embracing the mysterious even as we seek the furthest reaches of what can be known. Go in peace, return in love, and cherish the mysteries.