



UNITARIAN UNIVERSALIST

CONGREGATION OF FREDERICK
Spirituality · Community · Justice

Modern Uncertainty: “Meeting the Universe Halfway”

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Part of our Unitarian Universalist heritage is the tradition of a “**free pulpit**” and a “**free pew**.” The *freedom of the pulpit* means that I am encouraged to preach whatever I think will be significant and meaningful for us to consider. The *freedom of the pew* means that you are not expected to believe something simply because it is spoken from the pulpit — not that that is a particular worry at most UU congregations.

That being said, once a year members and friends of this congregation contribute all sorts of items to our annual auction such as special opportunities, dinners, and trips. Be on the look out for our next annual Congregational Auction in early November — an evening that includes dinner, special music, and many other festivities for all ages that you won’t want to miss. I bring up the auction now because each year, I offer to preach a **sermon on the topic of the highest bidder’s choice: “whatever topic you are passionate about, or think would be particularly challenging, meaningful, or provocative”** — a chance for the freedom of the pew to directly impact the freedom of the pulpit. So if there is a sermon you’ve been hoping to hear, our upcoming auction can be your chance.

Last year, Bob Ladner was the highest bidder on the auction sermon, and he chose “**Modern Uncertainty**” as the topic. More specifically, he emailed that:

In the nineteenth century, Robert Browning could write, “God 's in His heaven — All's right with the world!” There was a high level of certainty that we were on

the path to an earthly paradise. **At the dawn of the twentieth century, quantum effects disrupted the view of science that nature was predictable at the most basic level.** Wittgenstein questioned whether there indeed were any philosophical questions or only misunderstandings from the ambiguity of language. Goedel, then Turing and von Neumann shook the foundations of mathematics. Rorty points out that all is contingent, and the ascendancy of Europe and America was only an accident of timing.”

Now, you all know that I like to get a little nerdy sometimes. But Bob isn't just taunting me to get my nerd on. I understand his topic as a challenge to take seriously our UU Fifth Source: “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.”

Almost 2,500 years ago Socrates loved to expose the ways that many people are deluded about how much they think they know. In contrast, **Socrates used to brag that he was the wisest person in Athens *not* because he knew a lot, but because he was aware of how much he did *not* know.** His advantage was in not fooling himself about his level of certain knowledge about the world. Twenty-five hundred years later, here in the early twenty-first century, we know that Socrates didn't know the half of it! There's so much more that we “know we *don't* know” than Socrates could've ever dreamed of not knowing!

To quote one of the few lines from Donald Rumsfeld that is worth remembering: “There are known knowns.... There are known unknowns... But there are also unknown unknowns.” In the early twenty-first century, despite all we know, we are also increasingly aware of all the known unknowns — much of which is related to our finite human capacities of perception. As the scientist J.S. Haldane said about the implications of quantum mechanics: **“The universe is not only queerer than we suppose, but queerer than we can suppose.”**

Now, since this is our annual Auction sermon, allow me to spend some time unpacking Bob's email about modern uncertainty as a way of moving forward. Bob's opening lines were that, “In the nineteenth century, Robert Browning (1812–1889) could write, ‘God 's in His heaven — All's right with the world!’ There was a high level of certainty among many that we were on the path to an earthly paradise.” And it is indeed true that when Browning published that

poem in 1841, in the wake of the Industrial Revolution, it was much easier to make the argument that we were on our way, as a species, toward building a utopia on this planet.

To consider our nineteenth-century UU forebears (many of whom held utopian ideals): in 1886, the Unitarian minister James Freeman Clarke published his famous “**Five Points of the New Theology**” that were meant as touchstones for religion in a modern age. (Keep in mind that he was writing almost a century before Second-Wave Feminism):

1. the fatherhood of God,
2. the brotherhood of man,
3. the leadership of Jesus,
4. salvation by character, and...
5. the progress of mankind onward and upward forever.

To elaborate briefly on what he meant:

1. the fatherhood of God, *[we share a common source]*
2. the brotherhood of man, *[we are all part of the same family]*
3. the leadership of Jesus, *[through emulating his ethics]*
4. salvation by character, *[human freedom and responsibility]*
5. the progress of mankind onward and upward forever.

You can particularly see nineteenth-century optimism in that final point.

But during World War I in the early twentieth century, we saw that the **technology of the Industrial Revolution not only had great promise for increasing our quality of life, but also had potential to cause carnage on a previously unimagined scale.** Compared to Clarke’s optimism about the inevitable “progress of mankind onward and upward forever,” consider the first stanza of William Butler Yeats’ poem “The Second Coming,” written in 1919 in the immediate aftermath of World War I:

Turning and turning in the widening gyre
The falcon cannot hear the falconer;
Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere

The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.

One common way of tracing the history of ideas is that the **turn from Modernism to Postmodernism** began with the global trauma of the First World War — the move *from a trust in One Grand, Overarching Narrative of Progress to many competing (and often contradictory) narratives about how the world is or should be.*

Many of you have heard me trace a simplified history of major “decenterings” through representative figures like Copernicus and Darwin. It used to be more reasonable to understand our species and our planet as at the center of “life, the universe, and everything.” But in the sixteenth-century, **Copernicus *decentered* our planet**, showing through careful observations that Earth is *not* the center of the universe, but instead merely the third rock from the sun. In the nineteenth century, **Darwin *decentered* our species**, showing through careful observations that we are not special creations “a little lower than the angels,” but merely a species “a little higher than the apes” and deeply interconnected to the ecosystems of this planet.

In the early twentieth century, our place in the universe got even wilder, when **Einstein *decentered* space and time**, showing the relativity of space and time, written now as one hyphenated word: space-time. As the particle physicist Karen Barad explores in her excellent — but challenging — book titled Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning, it turns out that, “Time is not a succession of evenly spaced individual moments.... Similarly, space is not a collection of preexisting points set out in a...container, as it were, for matter to inhabit.” Rather, in the words of one physicist, **“Spaciality is intra-activity produced”** (180-181). Not *interactively* — as if space and time were two separate things that come together. Rather, they are always already *intra-active*. Think about the difference between *inter-murals* (“*between*” two rival schools) and *intra-murals* (competition from “*within*” a school). I’ll come back to this point soon.

For now, returning to Bob’s email, he wrote, “At the dawn of the twentieth century, quantum effects disrupted the view of science that nature was predictable at the most basic level. Wittgenstein questioned whether there indeed were any philosophical questions or only

misunderstandings from the ambiguity of language. Goedel, then Turing and von Neumann shook the foundations of mathematics.” I have a forthcoming sermon in a future year on Wittgenstein, so I won’t go in depth on these figures for now. But I will talk some about this shift toward uncertainty that came with Quantum Physics.

In the seventeenth century, Isaac Newton (1642 - 1727) was a giant figure in the Scientific Revolution. He helped solidify the field of classical mechanics, hugely advancing our understanding of the laws of motion and of gravitation. **Within the Newtonian paradigm, science in many ways seemed clear-cut and objective** (107). Everything seemed to sort naturally into one category or another. A phenomena being observed might be, for example, either a particle or a wave (100).

But as scientists looked closer and closer, it turns out the universe is a lot messier and more complex than previously thought. We have well-documented, experimental results that “light manifests particle behavior under certain circumstances and wave behavior under other circumstances.” Similarly, “matter — not just light — manifests wave behavior under the right experimental circumstances.” This dynamic is called the “wave-particle duality paradox,” and is one among many examples of what is sometimes called “**quantum weirdness**” — which calls into question all those conveniently clear-cut categories of classical physics (83).

Related to uncertainty, one specific aspect of quantum weirdness that I should hasten to mention is “**Heisenberg's uncertainty principle,**” which shows (at the quantum level) that **the very act of observation changes the phenomenon being observed.** So there is no possibility of being a neutral, objective observer — a notion, it turns out, that was always an unrealistic dream. We can only estimate probabilities and possibilities from our various intra-active, subjective points of view.

In the early twenty-first century, we’ve come a long way from the idea that we humans are a uniquely special creation at the center of life, the universe, and everything. There are so many more “known unknowns” than ever before. And we are right to have a certain level of humility in the face of so much modern uncertainty.

That being said, I would be remiss if I didn’t celebrate how much we *do* know here in the early twenty-first century. After all, we live in the age of smart phones, space travel, and

the burgeoning promise of nanotechnology. It sometimes feels like our technology is getting closer and closer to *Star Trek*. (I'm preaching from an iPad, after all!) We live in an age in which we have moved from *Visual-light* microscopes (which many of us grew up with in science labs) through *electron* microscopes (which can examine the structure of molecules) to *Scanning Tunneling* Microscopes, which can "see" atoms (40). That's incredible!

Moving to the final sentence of Bob email, he wrote, the American Pragmatist philosopher, Richard Rorty "points out that all is contingent, the ascendancy of Europe and America was only an accident of timing." Rorty is relatedly a famous social constructivist, who takes postmodern uncertainty to its extremes. While I am generally a big fan of Rorty, my favorite retort to his more extreme position that "everything is a social construction" is from novelist Philip K. Dick who liked to say that, "**Reality is what doesn't go away when you stop believing in it.**"

Now, as I begin to turn toward my conclusion, allow me to try to "stick the landing" by relating back to our UU Principles. There is a sense in which the Enlightenment hope that we humans might eventually know everything and be able to build a utopian society is represented by our UU First Principle: "The inherent worth and dignity of every person." That is beautiful and noble ideal. But it is **very human-centric, and it is grounded in a worldview of separate individuals with inherent worth irrespective of anyone else.**

But Quantum Physics challenges this notion of original separateness. We are not separate beings who sometimes *inter*-relate with one another or with the world. Instead **we are always already *intra*-related** (139). This worldview is represented by our seventh — and most recent — UU Principle, "respect for the interdependent web of all existence of which we are a part." Indeed, when the late sociologist of religion Robert Bellah spoke at the UU General Assembly in 1998, he challenged us to *reverse* the order of our first and seventh principles. In his words: "**give up ontological individualism and affirm that human nature is fundamentally social.**"

This pulpit seems separate and solid, but if we were to examine it more closely with the right tools, we would see that at the atomic level, it is a buzzing sea of particles. As for the "void" between us or at the sub-atomic level:

it isn't all that was supposed to be (or not be), either. According to quantum field

theory, **the vacuum is far from empty; indeed, it's teeming with the full set of possibility of what may come to be.** Matter is regularly created and destroyed. And the zoo of subatomic particles — including electrons, quarks, positrons, antiquarks, neutrinos, pions, pluons, and photons — isn't comprised of simple individual objects occupying specific positions in the vacuum we call space and time: not only is that very idea...not to be taken for granted, but part of their very nature seems to be wrapped up in the bubbling sea of possibilities.... (354)

We are *not*, nor have we ever been, merely separate beings. We are *intra*-related becomings. We are deeply entangled, down to the quantum level (ix). We are not separate observers of our world; **we are, instead, inextricably “part of that nature that we seek to understand”** (26).

So, in light of all that we know about modern uncertainty and as we seek to live out of our Seventh Principle commitment to the “interdependent web of all existence,” I'll leave you for now with this quote from the conclusion of Karen Barad's book Meeting the Universe

Halfway:

Meeting each moment, being alive to the possibilities of becoming, is an ethical call, an invitation that is written into the very matter of all being and becoming. We need to meet the universe halfway, to take responsibility for the role that we play in the world's...becoming. (396)