



The Interdependent Web: Thoreau, Quantum Physics & the 7th Principle

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Good morning.

Almost two hundred years ago, on July 12, 1817 a bouncing baby boy was born to a Unitarian family in Concord, MA. **David Henry Thoreau** (he reversed his names later) was a curious child, preferring to spend time out of doors rather than in. This was a trait he would keep for the rest of his life. He preferred his own company above all others. It was in the forest and ponds and country lanes that Thoreau found his joy. It was nature that was his church; it was life itself that was his God.

Unitarians like to claim Thoreau for our own, but in truth, Henry David Thoreau would have none of us. He was born a Unitarian, but he didn't stay a Unitarian. The church of his day was very different from the one we attend today. Like most New England churches, they were big on Christian theology (Unitarians, no Trinity) and modest, circumspect behavior, not at all like the free-wheeling open & accepting church we know today. The question's been asked, with our Seven Principles – particularly the last one “respect for the interdependent web of all existence of which we are a part” – would Thoreau be a Unitarian today? Well, I'm sure he would be pleased with the direction the church has gone, but I wouldn't put any money on that bet. One of my favorite Thoreau quotes is “What demon possessed me that I should be so well-behaved?” Thoreau's spirituality would not be contained within four walls for love or money. He would not “behave.”

And for that, you gotta love him. He believed in *wildness*, in celebrating life's untamed nature. In the midst of a well-behaved Newtonian universe, Thoreau saw further than most.

Sad to say, Thoreau didn't live long enough to see just how *ill-behaved* the universe really is. It was in the early 20th century that the science of quantum physics emerged and the well behaved Newtonian universe turned out to be a **little freakier** than scientists had ever imagined. Here's a quote from a book by Tom Shadyac called “Life's Operating Manual”:

“Quantum physics is essentially the science of the small, the subatomic, the tiny stuff of which we are all made. What scientists found there in the infinitesimal has them rethinking not only hundreds of years of research, but also the basic nature of reality itself.

“The notion that first caught their attention is known as quantum entanglement. Entanglement is all about interconnectivity, about the unbreakable bond between particles at the subatomic level. The theory states that if two electrons **that are in relationship** with each other (entangled) are separated up to an infinite distance, when the rotation of one electron is manipulated or affected,

the rotation of the other electron is affected *simultaneously*. The key idea to note here is that the effect happens simultaneously; the instant the initial particle is affected, the distant particle is affected as well...

“This phenomenon was initially so strange & off-putting that Einstein called it ‘spooky action at a distance.’... But the more scientists looked into this phenomenon, the more it held up to their scrutiny. In fact, entanglement theory is no longer considered a theory; what started out as ‘spooky action at a distance’ is now accepted science. The implications are staggering. If you recall, Newtonian science posits that objects are separate, and to affect one, you have to poke it, prod it, or push it. But with quantum entanglement, nothing, no thing, is apparently pushing or prodding the distant electron, and yet, the distant electron is affected all the same. This has been called the most profound discovery in all of physics because it proves that our accepted understanding of the fundamental nature of reality has been wrong; that all of life is not separate, but connected.”

Do me a favor. Hold your hand up in front of your face. You see a hand, right? Fingers, nails, blood vessels, skin?

Do you see the edge of your hand? It has a defined border between you and the air, right? Between you and the chair you’re sitting on, between you and the person next to you? You’re separate, right? Individual entities. You’d think so, because that’s what it looks like. But, at the quantum level, there is no border there.

Here’s another quote from the Shadyac book:

“The deeper scientists probe into the world of the small, they observe that no object has any end or edge to it – that nothing is really solid. And so, if you were to look at my hand at the subatomic level, you would only see subatomic particles floating in space. In other words there would be no end to me and no beginning of you. “My” subatomic particles are constantly mixing with the subatomic particles of “the air” which further mix with the subatomic particles of “you.” All matter, in fact, is *intermingling all the time*. Moreover, the space between things, which was once assumed to be empty, is not empty at all. Scientists have discovered a connective web of energy that inhabits all space. It is this web of energy that could explain why entangled particles remain connected across infinite distances – a web of energy, *or a field*, may be holding these particles together, in connection, regardless of the distance between them. In sum, recent findings in quantum physics point to one consistent conclusion: The very basic nature of life is connection. Nothing is separate. In fact, everything may be connected everywhere at all times.”

I’ll give that a bit to sink in.

Could be that this “interdependent web of all existence” business means more than just making sure you put out the recycling, eh?

It is a fascinating universe we live in. And we don’t know even a tenth of it.

Thoreau was part of a group of spiritual seekers called Transcendentalists. Transcendentalists felt that each person had their own individual (and original as Emerson said) relationship with the

Universe. Thoreau found his relationship through nature, study and writing. He insisted that we take responsibility for our own spirituality and not leave it to the churches to tell us what to believe. He constantly strove to be one with the Universe, to know its secrets, to feel the vastness of its creation in his own soul.

Throughout his life, Thoreau had experiences which he called “ecstasies,” like the one I read about in our chalice lighting this morning. Thoreau, in the midst of meditation, would lose himself and find something far greater than anything he believed possible. He would lose his individual consciousness into the greater whole of the Universe.

And that sounds like crazy new age stuff, doesn't it? What could Thoreau have been connecting with? There's no evidence to suggest that a “greater whole” exists.... Is there?

Well.....just wait. It gets better. Here's the last Shadyac quote:

“When scientists examine the smallest known particles in the Universe, they find that these particles are often not particles at all but vary between two states: the state of being a set something (a particle), and a vibrating packet of energy (a wave). Thus, at the very base of life, there is a constant pulsating dance – the particles are always shifting into waves, and waves sifting back into particles. And... what makes a wave lock into its particle form is when you *look at it*. That's right, observation or consciousness appears to be what transforms energy/waves into the stuff we call matter and life.”

Looking at it. Paying attention is all you need to effect a huge change.

To reiterate, in order for a particle to settle into a wave, or a wave to settle into a particle, it needs to be observed. It is the consciousness of the observer that solidifies its state. This fact is proved by a pretty famous experiment called the double-slit experiment. But the results of that experiment are even weirder than just solidifying a wave into a particle or a particle into a wave. The state of the wave/particle can be changed *in its past* by observation. What was identified as a wave at the beginning of its pass through the double slit set up in the experiment can, **after the experiment is over**, change into a particle **before the experiment even takes place**. This whole idea kind of freaks and/or fascinates scientists.

It only goes to prove that the universe is more thrilling, wild & ill-behaved than we think it is and consciousness – Thoreau's “unknown and infinite sea” upon which he says “I am a restful kernel in the magazine of the universe. . .” plays a much larger part than we can imagine.

Consciousness – our collective consciousness – is a powerful thing. Thoreau sought all of his life to connect to the collective consciousness of the universe. Could be he was on to something. Let me give you an example of why.

Over the last few decades, scientists have positioned “random number generators” in various cities across the world. These are machines that constantly spit out – well – random numbers. They're used for a bunch of things, but something very odd happened on September 11, 2001. During the time that the Twin Towers fell – when news reports were flashing across the globe – the random

numbers stopped being random. Just for a few hours. All of them. They weren't connected. There was no reason for them to do this, but they did. And it's happened again during traumatic world events – the tsunami in SE Asia for example. Scientists can only figure that something in the consciousness of the population of the world changes at those moments. That somehow our combined emotion changes things.

What we do on an individual level *can* change the world. Our consciousness proves that. Thoreau, in meditation, strove to “return again to my shoreless, islandless ocean, and (to) fathom unceasingly for a bottom that will hold an anchor, that it may not drag.” He is almost wistful there, as if to say, please let me stay....and with good reason. Consciousness may be the most powerful creative force in the universe.

When I first started studying the Transcendentalists, I felt like I'd found my own weird little theological tribe, where I could meld science and spirituality, critical thought & wonder, poetry & peer review. But the Transcendentalists were not just about experiencing their faith. They were about living it as well.

Thoreau was known for his poetry & prose, his cabin at Walden Pond, his insistence on living a simple life. But, Thoreau was also one of the first environmental scientists, cataloging and commenting on the flora & fauna in and about his home in Concord. He wasn't just an earthy-crunchy 19th Century hippie building a shack on the banks of a pond and writing about plants & animals. He sought to bring the wonder of *creation* to those who claimed to worship *the Creator*. His belief in the interconnectedness of life runs through all of his writings. That belief drove him to seek justice, not just discovery. He sheltered runaway slaves as part of the Underground Railroad. He refused to pay his taxes because the government was using the money to fight an unjust and unnecessary war in Mexico. He went to jail for that (which inspired his famous essay “Civil Disobedience” that would later inspire Gandhi & Martin Luther King, Jr.) He eulogized John Brown. He never stopped railing against the injustice he saw around him.

For Henry David Thoreau, the interconnectedness of life was a basic tenet of his belief.

As it is of ours.

As Unitarian Universalists, we believe in “respect for the interdependent web of all existence of which we are a part.” It's that principle which we celebrate with Thoreau today. *We are* interconnected, down to the subatomic level, through the consciousness that we share. And one more thing....

Take a deep breath. Breathe in, breath out.

There is an element that makes up about 1% of all the air in the world. It's a noble gas called Argon. Argon doesn't react with other elements, so it remains unchanged throughout the centuries. So think of it. The argon that you just took into your lungs and breathed out could have been in the lungs of Julius Caesar, William Shakespeare, Martin Luther King or even Henry David Thoreau.

We are connected throughout the centuries, one to each other: through our subatomic particles, through our consciousness, through even the air in our lungs. We can't escape our connection.

All of life is our biological kin. Ninety-nine percent of our genes are identical to that of the great apes. Sixty percent of our DNA matches the banana plant. We – animals, plants & humans – are all interconnected and that makes us interdependent.

When we think we're separate from each other, we behave one way. When we realize that we are so connected that everything we do affects everyone else and what everyone else does affects us, well, we're going to behave differently. We'll try to be kinder & more generous because we know – this is family. This is us. This is me.

Thoreau said:

“We must learn to reawaken and keep ourselves awake, not by mechanical aids, but by an infinite expectation of the dawn, which does not forsake us even in our soundest sleep. I know of no more encouraging fact than the unquestionable ability of man to elevate his life by a conscious endeavour. It is something to be able to paint a particular picture, or to carve a statue, and so to make a few objects beautiful; but it is far more glorious to carve and paint the very atmosphere and medium through which we look, which morally we can do. To affect the quality of the day, that is the highest of arts.”

We have the ability to affect our days and the days of everyone else around us – from the small effect of a smile to moving a nation. Changing our minds, staying awake, raising our consciousness, seeking a connection with that “unknown & infinite sea,” all of these can change the world. Thoreau said “Live your beliefs and you can turn the world around.”

May it be so.