

# Modern Physics and The Web of All Existence

August 16, 2009

It seems like a very, very long time since I've done a sermon. A lot has happened, which makes the time seem extended. In my work at the prison I often hear it said by inmates that time goes slowly for them. For me it seems to have rocketed by, and yet the recent couple of months, so filled with events, have expanded it for me in a way akin to the inmates. It seems the mind has an internal metric by which we measure the passage of time: Too much happening, or too little, cause our time lines to become deranged.

In these last 3 months Karen and I have been buffeted by a series of events, each of which was going to be the touchstone for its own sermon. First there was the death of our beloved little Hispaniolan parrot, Cuca, who I had the pleasure to know and love and be around, and have as a member of my family for over 25 years. Then there was the death of my step mother, with the resultant family issues and exhausting trips back and forth to my family's home. Then there was the difficult visit of my daughter, who desperately, I believe, wants her father to be somebody else, besides who he really is, and who no doubt wants him married to somebody else besides my wonderful wife Karen. And the week after that, whew, we had another visit, this one from my oldest son and daughter in law, who brought our granddaughter Eleanor. And along the way this last month I rescued a lovely little dog who I found wandering dehydrated and in shock, apparently abandoned out in the desert on my way home from work one day.

And now, it's my dad. As many of you know, he was PSWD Board president in the 1960s, and was on the Board when we UUs bought deBenneville Pines from the Boy Scouts. Anyway, after he and my mother messily divorced about 1970, he married my step mother Judy, who is of Catholic heritage, and dropped totally out of UU. But now, after her death, he seems to have a renewed interest in UU and guess what? Just a couple of nights ago he agreed to go to PSWIRL week up at deBenneville with me! I suddenly have a flood of memories from the last PSWIRL family camp I attended, at about the age of 10, some 50 years ago. And

it's easily been 35 years since my father was up at Camp, and I can't wait to see his face beam when we arrive. I know there's a hole deep in his heart, and I hope at age 88 we can fill it a bit!

So, Geez, there's been a lot that's touched me deeply, and I had really meant to focus in on each of these life events to write a whole sermon. I find I am drawn, spider-like, and stimulated to investigate and record these events, when my personal web is jiggled or disrupted. And I'm then driven, somehow, to find a deeper, spiritual aspect to these things, which usually lies there, buried and hidden, and which takes a good deal of effort and thought to bring out, up into full consciousness. But somehow, while I surely am not lacking on tugs to the strings of my web lately, that is not entirely where I'm going this morning. Mentioning all that is, really, more like the "prelude," as I call it, to our seven principles, which is printed in out in the hymnals. So I mention all this as a sort of a prelude, a background understanding to fully interpret the core that follows.

Today I have changed the service a bit, in adding the "worry beads" and the bowl of water in which they are dropped. This reminds me that the ancient Greeks considered fire and water to be opposites, and among the fundamental elements in the construction of the world. (Perhaps in our services we have been too focused on fire, and not enough on water!) There is a purpose to this, and I will get a bit deeper into the symbolism later, but for now I just want it to remind us of our collective unconsciousness, all the thoughts and feelings and prayers and hopes and fears that we all hold within the bowls of our lives. Again, that concept is like a prelude.

Oddly, what all this has led me to want to talk about this morning is, with apologies to Phillip, a couple of the quantum theories underlying modern physics. And photography again. And about enmeshing ourselves in the environment around ourselves, which is to say, in the web of all existence, of which we are a part.

I will be up at deBenneville next week with my father for a week at PSWIRL Camp, which stands for Pacific Southwest Institute of Religious Liberals, an organization that pre-dates the merger of the Unitarians with the Universalists into one denomination. I am

going primarily because of the outdoor photography camp, which will run concurrently with the PSWIRL activities. The professional photographer who is leading the camp recommended reading a couple of books prior to the camp, and Karen was kind enough to buy one for me, Creative Nature and Outdoor Photography, by Brenda Tharp.

In the first chapter, Learning to See, she states the most important question about any scene to be photographed is “What do I find interesting about the scene or subject?” Precisely refining the answer naturally defines what you are going to photograph, and it is an outgrowth of what we have felt and experienced when we see. She then asks the question “Why do so many photographs fail to convey what the photographer really saw or experienced?” Her answer is that “They are side-of-the-road or edge-of-the-crowd snapshots, static records of what was seen. Those photographs don’t move us: They don’t invite us to explore the visual scene or experience the moment.” But why is this so?

The deeper answer is simply this: “Usually the photographer approached the scene as a removed observer. No matter what you are photographing, if you are not feeling connected with what you are seeing, viewers won’t connect with the final picture.” I find the depth and power of this insight almost disturbing: The act of caring, the connectedness with a subject, actually changes a photograph. This is startling, maybe even “mind blowing” when one considers the fact that photographs are just photon tracks frozen in a chemical emulsion or electronic device. Can our feelings, our connectedness actually change the nature of light? I’ve taken enough bad photographs to know that the answer, amazingly, is “yes.” How much more power do we and our minds actually have than we commonly give ourselves credit for? How intertwined with our environment are we? The answer is profoundly, deeply intertwined. And we can even, apparently, change the nature of light.

Here’s a related concept: One of the central tenants of modern quantum physics is Heisenberg’s famous uncertainty principle, which states (if I remember correctly!) states that one cannot precisely and simultaneously know a subatomic particle’s position, speed and angular momentum. The reason that this is so is

because the physical means available to measure those quantities interact with the particle itself, and change the quantities they seek to measure. One can simultaneously and precisely measure one or two, but not all three of these quantities. And because of this, the course of the history of the universe cannot be predicted rationally from first primordial conditions, when the whole universe was apparently one stupendously massive, but sub atomic sized particle. The fate of our universe and our world is not deterministic, or pre-determined: there is, rather, freedom in the nature and structure of the universe. Our own unpredictable interactions with each other, even, as we have seen, even with light and photons, can, and do, change everything.

And sorry about this, but I want to mention another seemingly obscure insight of modern physics: Empty space is not empty. Empty space is actually the framework of the universe, and although not palpable or directly measurable, modern physicists agree that seemingly empty space, even the vacuum of deep space, is not empty. It is, rather, a seething cauldron of tiny subatomic particles that are simultaneously and instantaneously being created and destroyed, because they are inherently unstable, and their life span of existence is immeasurably short. When they destroy themselves, their released energy seems to spontaneously and instantaneously re-condense into another particle, and not necessarily one identical to its predecessor, which then in turn flies apart again in a never ending cycle. The collective mass and energy of these particles maintain the structure of the universe, as I understand these concepts.

Well, what do these concepts have to do with us, and why do I feel the need to discuss such obscure stuff in my sermon today anyway, especially when there are really so many other, interpersonal issues going on with me now? First, even if there was nothing else, I consider these sorts of deep truths to be profoundly spiritual in nature: People have achieved them through their thirst and search for knowledge, and truth, which to me is the basis of any spiritual quest. But I think they do concern me, and the rest of us here in our little UUSD:

It is because we here, each of us, is enough. We all are good enough, and powerful enough and deserving enough to become

the best, each of us, and to change the universe, our web of all existence. And I believe these scientific insights reinforce our 7<sup>th</sup> principle, and inform us in a profound, scientific, and spiritual way of our deep interconnectedness with the web of all living things, of all existence, of which we are inextricably a part, and a deserving part.

The cares and concerns, joys and sorrows bowl of water illustrates this: Dropping the stone in the water sends out a wave of energy, and with that action, the ripple of our joys and concerns expands, and travels to the edge of that limited universe, the bowl, affecting every part of it. The wave then reflects back, off the bowl's edge, and returns to the place of its source, over and over, until the waves extinguish themselves. To me this is a metaphor for our lives: Our thoughts, and actions and feelings all travel out to the edges of our individual universes, affecting the entirety of our personal space, everyone and everything in it. We thereby change our universe with our own energy and power, and that wave of change ends up traveling out from us, and then reflecting back upon us, and through us, over and over again, until its energy, our energy, is dissipated. Often, for better or worse, if we react similarly, and in synch upon its return, we can end up reinforcing the wave. Or extinguish it, if we react out of synch, incongruently. I believe each of us have the power to change, or to maintain our world: It depends on the energy we radiate out into the world with our thoughts and actions, and what we do when it reflects off the others around us, and returns to us. We are all connected, in endless feedback loops, in ripples of actions and consciousness.

I think our minds also reflect that: Our minds at rest are like the vacuum: Our thoughts and perceptions seem to constantly and randomly pop up from nowhere, take on a structure briefly, and then disappear spontaneously, just like the subatomic particles in the vacuum of space. They disappear, that is, unless we make the effort to remember them, to hang on to that structure. Maintaining these structures is learning, which is another way we are empowered to change our universe. And when we learn from one another, when we thereby change the structure of our mental universe, we inevitably become enmeshed more fully, and tightly with each other, and into the web of all existence, our web. We

become more intertwined, more interdependent as we continue to interact and learn throughout our lives. And hopefully the end result of all this learning and interactions is a profound, and spiritual awareness, an enlightenment. As the book of Genesis says, "Let there be light." I would add, and reason, and learning. And as the 7<sup>th</sup> principle says, Let there be a spiritual "respect," not just for the physical web of existence, but let there also be respect for the great webs of compassion, and love and learning, that are the product of our universe-changing capacity to learn.

I want to finish by saying again that we are all empowered to change the universe, and that not only can we do so, but we inevitably must do so day by day by the fact we live our lives. The universe is different than it would otherwise be without us. We are powerful creatures, enmeshed deeply, and tightly into the web of all existence. Our energy ripples out from our places in the web, and returns to us in reflective ripples, whether we know it or not. I feel the great spiritual task in life is the seeking after this awareness, a deep, non-judgemental awareness about how things truly are, which seems to me the prerequisite to wisdom in our thoughts and actions in this world.

And lastly, I want to reassure you that yes, science agrees that the world cannot be deterministic: Heisenberg proved that in the 1920s. The beautiful result of this chaos is that we are imbued with freedom; that what we do in life really does matter, because we are empowered to change it. Life is NOT pre-determined, despite what the Calvinists say. And because we Unitarian-Universalists have the 7<sup>th</sup> principle, we acknowledge that there must be respect, or compassion for all the other things in existence, for we are a part of them, we are connected directly to them and we learn from them, and our fate is interdependent with them: that is, all that exists, and which at once supports and constitutes the great Web of All Existence. We know that respect requires awareness and learning.

So what does all this come down to in the real world? Hopefully it engenders patience, and hope, and some wisdom. By being who I am, which is different from the bad guy I was made out to be by her mother, I believe I can influence my daughter to be accepting of us. I hope that by acting differently when her anger and

frustration rise up I can help dissipate her bad energy waves, by behaving “out of phase,” as a physicist might say, with her, or by not reflecting back what she sends out, as a psychologist might say. It is the same thing.

I can come to better personal terms with the death of our beloved little parrot, and the no doubt relatively soon deaths of my parents by remembering that even the structure of the universe is maintained by a constant, endless death and regeneration of subatomic particles, and that when strands of my web are torn, and need to be remade, that it is no different. Our personal existences crowd into, and then inevitably rip out of the fabric of the Web of Life, be they plant or animal, pet, or parent.

And I remember that the universe has freedom, that we each personally are the repositories of that freedom, which empowers us to make and reshape our lives, and which reminds us that what we do truly makes a difference, because the universe is not deterministic. And I say we have the duty to reshape our part of the web of all existence in a positive way, out of a profound, spiritual respect we develop for its totality as we learn and grow in wisdom.

My friends, I want to close with another thought: This is why I come here, to our little UUSD as often as is possible in my life: I believe that being here with you in our community is one of the prime ways I can work in a positive way on our very frayed net here in the high desert. I know I need your collective strength and love to keep at the task. And I know that being together, we change our universe, truly for the better.

Blessed Be.