



## Committed to Certainty?

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Erwin Schrödinger, the famous quantum physicist hints at a common root between the urge to make both science and religion, which Dave Pruett, NASA computational scientist details further in his book entitled “Reason and Wonder”. We'll take a look at our 1th source, “direct experience of that transcending mystery and wonder, which moves us to a renewal of the spirit and openness to the forces which create and uphold life”.

I think I'll begin this morning by correcting a couple of things I got wrong in the Link blurb. It wasn't Niels Bohr who hinted that there was a common root between the urge to make science and the urge to make religion, it was Erwin Schrödinger, the author of "What Is Life?" Both were brilliant, very famous, Nobel prize-winning quantum physicists, I just got them mixed up. They were only a couple of years apart in age, but Bohr won his Nobel prize at 37 and Schrödinger had to wait until he was 57.

The other mistake I made is to title the blurb Committed to Certainty (without the?). Alan Watts, in his book, "The Wisdom of Insecurity" says that it is precisely our insistence on perfect security, or certainty of prediction that creates insecurity. He writes that an insistence on perfect security leaves us "as taut as drums and as purple as beets". By adding the question mark to the title, I intended to question the value of making the finding of certainty or perfect security into a quest for the holy grail.

Dave Pruett, the former NASA computational scientist and current math teacher at James Madison University, goes into considerable detail in his new book "Reason and Wonder". He describes what he calls Copernican revolutions, the first of which was actually started by Copernicus's revelation that the earth is NOT the center of the universe, but in fact, only one of the planets that revolve around the sun. Copernicus died shortly after publishing the book that jolted humankind out of the center, so he escaped the consequences of his actions. It fell to Galileo and Kepler to grapple with the outraged cries of "heresy". The larger effect of this revolution was to force humanity to begin a complete shift in worldview, a shift that took several centuries to complete. Even today, 1 in 4 Americans is unaware that the earth orbits the sun.

The second "Copernican" revolution, or shift in worldview, was brought about by Charles Darwin's book "Origin of Species". Before that book, it was assumed that humankind was the crown of creation, the goal, the end, the purpose of God's labors. Darwin's work

introduced the idea of evolution and with that idea came the astounding insight that humans are only a stepping stone in a long process of evolving and are not the goal, the end, the purpose to any natural process. Darwin was a shy man, but a meticulous and particularly observant one. He hated the notoriety and controversy that followed publication of “Origin of Species”, but he could not escape the conclusions that followed his direct observation and he could not reconcile those conclusions with the religious dogma of his day.

Well, history has been written and the role of “bad guy” in both Copernican revolutions has been given to the church, in these cases, the Christian church. Religion, generally, has been painted as the adversary of scientific thinking. Pruett says that with Copernicus, science and religion quietly separated. Further, with Darwin, they finally divorced, and largely since that time, have been viewed as mutually exclusive.

There have been a few exceptions (*there are always a few exceptions*), but for the most part, it has been assumed that being “religious” means having a worldview formed without regard for scientific input and that being “scientific” has been assumed to mean having a desacralized worldview wherein only facts and empirical data matter. As Pruett puts it “the Western psyche faces a stark choice between competing mythologies, neither of which satisfies. The scientific story speaks to our rationalism but is devoid of meaning. The religious story speaks to our intuition but denies the facts.” Nobel laureate in chemistry and one of the signers of the 1933 Humanist Manifesto, Ilya Prigogine asks “do we really have to make this tragic choice?”<sup>1</sup> The great Einstein thought that science without religion was lame and that religion without science was blind. So the choice that Prigogine saw was between being lame or being blind. Again, Pruett puts it, “and therein lies the root of our global crises, economic, ecological and moral”. Ecologist and theologian Thomas Berry says that we are between stories.<sup>2</sup> We’ve lost the magic and awe of our first creation story

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<sup>1</sup> Pruett, Dave. (2012). “Reason and Wonder: A Copernican Revolution in Science and Spirit”. p. xvii

<sup>2</sup> Ibid

and while we've found much of the evidence for a new story, we haven't consistently found the magic and awe.

Part of the problem is the literalism of both sides of this argument. Michael Meade writes, "literalism has two factions that often oppose each other...one side champions positivism and a tyranny of scientism that obsesses over facts and figures and relies solely upon a statistical worldview...the opposite extreme insists upon fundamental religious beliefs that reject facts...each side gains some surety at the cost of a tragic loss of imagination and a dramatic reduction in the sense of wonder of the immediate world."<sup>3</sup> We think we have to choose.

The third Copernican revolution began with Freud and is still unfolding. This particular revolution is in our consciousness, our awareness of self. Humanity needs to understand humanity better than it does. We still tend to fall into either/or thinking and believe that only one point of view can be "right". We still demonize opponents. We still fall into being judgmental, not realizing the damage we do. And we still prefer "winning" to understanding.

When this revolution is complete, humanity will have found its new story. It will have been able to integrate the wisdom of both science and religion into a new story, a new mythology, a new worldview. There is evidence that we are living in an era when much of the population is more open and receptive to such reconciliation than ever before.

Among many religious people, there is a new openness to the wisdom gained from scientific research, as evidenced by the fact that in 2011, over 1000 Christian congregations celebrated Evolution Sunday in February.

I was a student at Moravian Seminary for 4 ½ years-during which time I think I met about 2 or 3 hundred people. Most of those people rejected a literal interpretation of either creation story in the Bible. Undoubtedly, there are very conservative religious

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<sup>3</sup> Pruett, D. (2012).

denominations who still believe the whole “God created the world in 7 days” or the “Eve was created from a rib from Adam’s side” myths, but most mainstream Christian denominations accept the Big Bang theory, the currently favored scientific explanation for the earth’s origin. Stories from the Bible are more often understood as metaphor than history in its literal sense. People read those stories and study them for the moral and emotional truths that they illustrate. There are still religious literalists out there, but frankly, religious people generally, and Christians in particular deserve more credit than they get for the progress they’ve made. Religious feeling, and even religious belief doesn’t equate to stupid or ignorant.

And the scientific world is still processing the earthquake-like tremors that quantum theory wrought upon physics, once considered the queen of sciences. Among the sacred cows of physics BEFORE quantum theory was <sup>1</sup>the existence of an objective reality, independent of an observer, <sup>2</sup>a strict chain of causality that make prediction and determinism possible, and <sup>3</sup>the principle of local causes, or the idea that events a great distance from each other cannot interact instantaneously.<sup>4</sup>

All three ideas, in effect a holy trinity among physicists **before** Niels Bohr, Erwin Schrödinger, Werner Heisenberg--people like that has slowly been rippling outward, challenging the scientific establishment, and toppling previously held great truths like so many Berlin walls. Einstein, Time magazine’s person of the 20<sup>th</sup> century for his stupendous scientific contributions, never accepted quantum theory. His famous quote about God not playing dice with the universe gives us some insight into the difficulties of accepting the quantum view of the universe with its unpredictability, its mathematically verified assertion that there are multiple equally valid perspectives, rather than one great truth, and it’s flat out weirdness.

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<sup>4</sup> Pruett, p 95.

Toward the end of his life, Einstein was regarded as an old-fashioned fossil, not quite “with it”. He saw the irony of his position. Once he had been the challenger of authority, and towards the end of his life, HE came to be regarded as the authority. He became the one to topple.

The openness that I mentioned among many religious communities and the new window into the nature of reality wrought by quantum theory created a learning climate not seen before the mid-twentieth century. Pruett mentions several signs of a reconciliation between science and religion.

Large parts of the environmental movement have a strong spiritual cast. Rachel Carson's book *Silent Spring*, is emblematic of this phenomenon. The book challenged the overzealous use of science in its promotion of the chemical DDT. It brought a spiritual and moral awareness of the interconnectedness of all life forms and the influence of those life forms on each other. It called attention to the negative potential of unreflective and unregulated growth to human welfare. Indeed, Carson died of cancer in 1964, her death now linked to exposure to DDT.

There have absolutely been horrifying and repressive manifestations of religion. But, there have also been numerous examples of science gone horribly wrong. The unregulated promotion of DDT that I spoke of, much of the use of technology in the development of nuclear science, yes, a source of energy, but also yes, a source of great destruction are two examples of the misuse of scientific advances.

The common element in the misuse of religion and the misuse of science is the users—people-us. I know I've said it from this pulpit before, but we often mess things up. We aren't perfect, we get it wrong, we hurt other people. I don't know about you, but I'm ready for this third Copernican revolution. I'm ready for a greater self-awareness from more

people; I think the whole world would benefit from an understanding of our own minds. We understand so much about the physical world, but not so much about ourselves.

One of the gifts of psychology and many other sciences has been the knowledge that the presence of an observer directly influences the actual occurrence being studied. Not only does the mere fact of being observed change what happens, but WHO is observing makes a difference in the outcome. When the subject of study is one's self, it gets real complicated real fast.

It would take a whole series of sermons to begin to address the complexities of our minds. I have a hard time restraining myself from undertaking larger bites of a topic than can be digested in a sermon's length, but even I know to back off from that one. I think I'll content myself with just one thought.

Earlier in this sermon, I questioned the value of striving for perfect security, of needing to know for sure before feeling okay. Alan Watts, the author I spoke of, writes “Most of us believe in order to feel secure, in order to make our individual lives seem valuable and meaningful. Belief has become an attempt to hang on to life, to grasp and keep it for one's own.”<sup>5</sup> He goes on to say that by grasping at life, we lose understanding. Just as an attempt to capture running water in a bucket will be fruitless, for as soon as you have it, it isn't running water anymore, any attempt to grasp life and keep it for one's own makes it not life, not what you were seeking. Watts calls “belief” the insistence that the truth fit our preconceived ideas and what he calls “faith” is an opening of the mind to truth, whatever it may turn out to be. Belief, then, is more akin to the search for perfect certainty, perfect security. Faith is an openness to the unfolding of understanding and perhaps, to the unknown. Belief is more related to literalism, both in religion and in science, the insistence

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<sup>5</sup> Watts, A. (1951). “The Wisdom of Insecurity”, p. 24.

that truth is what we have always believed is true. Faith is openness to change and is actually very consistent with the scientific method.

In the last chapter of “The Wisdom of Insecurity”, Watts notes that almost all religious traditions recognize that there is a stage of development when belief, with its insistence on certainty, is normal and to be expected. But just as surely, there comes a time to put belief aside and come to faith, the openness to greater understanding and the diminishment of the need for certainty. When we can accept that we don’t know, that we can’t control, that we can’t predict, that we aren’t sure, but that we are open to learning more, we have come to faith, rather than the rigidity of belief.

Schrödinger says that the common root between the urge to make science and the urge to make religion is our sense of wonder at this life. Being completely, perhaps even speechlessly or incoherently astonished and overwhelmed by the world around you is the starting point **both** for wondering how it could be and what it all means.

Remember the words I used to introduce our meditation time today?

*“In time of silver rain the earth puts forth new life again, green grasses grow, and flowers lift their heads, and over all the plain the wonder spreads of life.”*

We are living in a time of wonder. Every year the earth repeats this wonder. Our reading, by Mark Belletini, continued the litany of wonder, with his references to splendors of the spring world and peonies beguiling him. He goes on to wonder at the Sunday sky, the color of a newborn’s eyes, and a starry night, the color of opals strewn across rain-soaked earth, and fields of spring, sweetening the air, and the glory of iris astounding him. In addition to the realities of the spring world, Belletini goes on to note that human life is a source of wonder no less than the physical world. He talks about the man on the street corner, talking to himself, and the woman recovering slowly from deep hurt and the child

without either shoes or good guidance. All parts of nature, human and floral, elemental and mysterious, silence him.

Science's response to these natural things, human and floral, is to follow its characteristically strong curiosity try to understand what happens, to look at the past and make predictions about the future. If we understand what has worked, we are in a better position to create favorable conditions to create and recreate. When science gets it right, that understanding can change and evolve with new information.

Religion's response, when it gets it right, is to make the most of the present moment. And here's where the religious literalist gets it wrong. Prediction is not the province of religion, it is not its greatest contribution to our common life. With too great an emphasis on security and certainty, it is easy to see how religion becomes oppressive. We WANT the certainty of an unchanging, all-powerful force that will protect us from harm. We WANT to be assured that with just the right formula, we can be happy forever. We WANT the security of perfect prediction, accurate every time. But, in reality, life just doesn't offer that kind of security.

Both science and religion are responses to the wonder, affirmed in all cultures, which moves us to a renewal of the spirit and an openness to the forces which create and uphold life and if we're honest, we acknowledge the mystery as well, that there is and will probably always be, much that we don't know.

May we always remain open to that mystery and that wonder.