

The Epic of Evolution

*Sermon delivered by Rev. Tracy Springberry
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In the beginning, there was absolutely nothing.
To say it was dark would be wrong because dark is something.
To say it was formless would be wrong because formless indicates something that could be formed.
No, instead, there was nothing.
Then one day, a something, a singularity, not a particular romantic name but, yes, its real name, popped into being.

Well, we think it popped into being. It might have always been there.
We don't know exactly, and this was before time actually began, so it's kind of irrelevant.

But "popped into being" sounds nice. It sounds mysterious and mysterious and is good in a story.

This story has lots of mystery.

This singularity that popped into being was small – smaller than an atom, or an electron inside an atom, smaller than anyone can imagine, actually, and inside it, this thing, this singularity, was Everything.

I mean **everything** there is, now, anywhere – everything in the universe and on the earth. Every single bit of energy and matter was in this singularity, this queer, odd, very small thing.

Then this singularity, for reasons no one knows, just flung itself wide and started to grow and grow and grow, cascading itself out, out, out, until the singularity was the Universe.

Our very own Universe.

At that time, the Universe really was dark and formless. There was no light, so it was dark. And there was lots of unformed stuff, particles, billions and trillions of them. And there were forces too – all the forces that govern our Universe, like gravity.

It was also hotter than hot, ten billion degrees. The particles were moving fast -- at a billion, million miles per minute.

But after a while, those particles began to cool and slow down. They were going slow enough they began to bump into each other, and when they did they really connected at a very deep level, and they made first atoms: hydrogen and helium.

Because of gravity, hydrogen and helium had this pull toward each other. They got closer and closer, forming big clouds, and after a courtship of centuries, their relationships got so hot that they collapsed together, and burst into flame. The first stars lit up the universe.

Some of the stars were big – 8 to 10 times bigger than our own sun – and they burned furiously, until the temperature had the power to fuse protons and neutrons

together in new and different forms. All this creating released immense energy, so immense, that eventually the star could not hold it all and blew, spewing new forms of matter across the universe.

Somewhere within a 15 billion mile radius of here, a cloud of all this star stuff settled for while. This star stuff got closer and closer together until it fell into a ball and made a new star, our very own sun. The leftover stuff joined together and made the planets of our solar system and our own planet Earth.

That early Earth was a hard place, a rock sphere, whirling around the sun, pounded by other rocks. Some of those relatively new gaseous atoms hung around the sphere making a toxic atmosphere.

And then, not terribly long after, absolutely improbably, Life started.

Why?

How?

There were chemicals, water, and heat... Somehow they combined.

No one knows. It is a mystery.

All we know is it happened. Life happened. One day there was a cell. It split. There were two cells. They split and there were four cells. And it kept happening over and over.

Sometimes though, the cells split and there was just something a bit different about one. Mostly this didn't matter much, but sometimes, it did and the new cells acted differently and could do different things, survive different challenges, and that was really good and the new cells could live longer and in new places. So life went on making made all these different ways of being life.

And over billions of years, life transformed dramatically. It grew bigger. It competed. It cooperated. It became more complex and more diverse. It grew eyes and ears and brains. It climbed out of the sea. It got large. It got furry. It stood. It talked. It created communities and cultures.

Life became human beings. Life became us.

I love creation stories.

Every culture has a creation story. Creation stories are stories of power. They tell people the basic nature of the world and how it works. They tell people where they came from, who they are and their place in the world. They help people understand what is possible and what is not.

Some scoff at creation stories as being "just myths", made up by those primitive people who knew little of how the world actually worked and had to make up stories with supernatural actors to understand natural phenomena instead of using the observational power of science.

But in fact creation stories and other similar cultural myths are never "just myth." They are guiding stories. They describe the nature of a culture and its truth. A creation myth tells what culture believes is important, where they believe power is, and how people can use it or be used by it. A creation story is not science. A creation story is about how to be human in the world.

Most of us know at least the outline of the Judeo-Christian creation story. "In the beginning," it starts, "God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was

hovering over the waters. And God said, "Let there be light," and there was light. God saw that the light was good." The story goes on with God creating night and day, water and land, plants and animals, and finally people who God gave everything He had made to do with what they would. Except those first people, Adam and Eve, had problems following God's rules. He told them that could not eat from the tree of the knowledge of good and evil, and when they do, God goes into a wrath and punishes them with hard work and pain and death.

The story is clear about where the power is. God has it. The human role is to be subservient to God, and to fix themselves to repent for their disobedience, to be Lords over the plants and animals and rest of the earth.

Not all creation stories are like this one. There is a whole group of creation stories called Earth Diver stories told in some Native American and Asian cultures. In one such story a pregnant young woman falls from the sky from another world to the earth, our Earth, which at that time was covered completely by water. As she falls, the animals who live here see her and instantly understand that she can't live in the water. They catch her and after holding her for a while and getting tired, set her on turtle's back where it is flat, but this isn't enough room for her and a baby they realize. At the woman's urging they take turns diving to the bottom of the water for mud, something they never even heard of before. Many fail and only muskrat, after disappearing for days, succeeds. The mud magically grows making thick muddy plains over parts of the plant that really are not very livable. The woman's twins are born and take on shaping the earth. When it is done the animals ask, don't we need human beings? Sure, the twins say, and quickly make human beings.

"They don't look too bright," say the animals. "I hope this works out."

"Don't worry," say the twins, "you'll get along fine."

Then the animals, woman, twins and humans all stand around and admire the world.

This story is really different than the Judeo-Christian story. There is no big powerful in charge God. Instead there is a down and out woman and twins from some other world and a group of animals, and they work together to make a world. Where is the power? It is shared. Everyone has a gift and ability that they use to make the world. The human role seems to be to get along with the animals and enjoy the creation.

Which gets us to our creation story with a less than artistic name of the Big Bang and Evolution. We didn't create our story over time through telling and retelling as a way to explain the values and roles in our society. Our story came to us not through tradition, but through a particular way of understanding the world, the scientific method, which means understanding through close observation and experiments to discern facts and then creating theories (or stories) that explain those observations and experiments.

Our creation story comes to us through science the way so much of what we treasure at this time in history has: medical advances, easy access to food, transportation and communication systems, and technology. We hold science in the place of esteem once held for elders and tradition. Once elders and traditions really had the best information and knowledge, but now the world has shifted and it is science we trust.

But people need guiding myths and stories. We are cultural beings who make our

way based on the stories of our culture, religious traditions and families. Fortunately, the story of creation given to us by scientists is a magnificent story about what the world is and who we are and where the power is and how we can use it. It is a story of hope.

First, the story tells us the universe and our earth are creative and dynamic. Forces of attraction and reaction keep everything moving and influx. Stuff happens. Things change. Configurations of and energy matter form and destruct. Species come into being and die. Everything though seems to become more complex and diverse.

Second, the story tells us human beings are miracles. We are directly descended from two unpredictable, incomprehensible, one-time events. A singularity that popped into existence and grew into a universe, and the beginning of life, which started here on Earth just one time, demonstrating just how unlikely that particular transformation of energy and matter was.

Furthermore, we are children of stars. Every atom in our body was forged in a star and has flown through the universe.

We are the creation of a nearly 5 billion year process of life changing and growing and transforming itself. Life cooperating in unexpected ways, trying new things, finding new niches, responding to destruction and death creatively with new ways of expressing itself. Life that is undaunted by disaster, willing to take changes, and be different.

Consider the first fish pulling itself out of the pond, onto land. Every time life tried something new, some creature, some individual different than the rest of species, did it for the first time. Some fish-like creature actually had to stick its head out into that air, the first time. That's initiative. Change of that kind is radical.

Our own kind of life, human beingness, was a leap for Life, us with our big brains and ability to communicate and create culture that can change and transform so we can live in new ways and new places not because our genes and bodies changed but because we could imagine it, communicate it, and carry out a plan. In story of human becoming, there are hundreds of moments of courage when someone did something for the first time. Imagine the first human who stood upright or later ran. Or the one who tried to use his or her voice to name something and get everyone else to join in. Or first person who told a story or drew a picture that was imagined, not something happened before, so that other people could begin to think beyond the present moment with new ideas. The Universe experiment in a conscious and learning life form has been a great success at least in terms of how many of us there are, and how much we've learned, created, and changed.

Third, our creation story tells us our relationship to other plants and animals. Every other form of life came into being as we did, slowly, finding niches in the ecosystem, learning to thrive, and through cooperation and competition making our lives possible. They are our brothers and sisters and cousins. We interconnect.

Fourth, and most importantly, our story tells us about power. Power is both inside us and outside us. Power is in the unexpected ways that elements of the universe combine to make completely new forms of energy and matter. Just 14 billion years ago random particles were spewing across the new universe and now there are people who can look at the universe, comment on it, talk about it, and admire it.

There is power in the way the universe takes destruction and uses it as opportunity to make new matter and new life.

Power is in those two moments of the greatest and deepest mystery when the universe began and when the life started.

Power is also in us. We are creatures with initiative and ability to create originality out of diverse, unlikely elements. Any of us may have differences inside us that can be used to make living better for us all. We have the possibility of finding opportunity in chaos and charting an original path.

We live in a challenging time in human history. We've been warned for years now about the effects of climate change and that people need to pull together and Do Something, before things start to seriously begin to hurt the lives of people and other species. Well, we didn't do anything particularly significant, and things have started to fall apart. It's happening now, not in the future, but now. Low lying islands around the world are being eaten away by the oceans. The climate is going berserk. In the US alone, just this year, we've suffered from unprecedented droughts, and now the worst hurricane the northern east coast has ever experienced, with the sea washing onto the island of Manhattan at higher levels than anyone ever predicted.

Meanwhile, in the US, our government has become paralyzed by groups who have become firmer in radical positions that they will not compromise on anything. Last year Congress passed this dreadful sequestration bill that would cut the US budget across the board, basically hurting everyone in this country and abroad a lot, because they decided that they would all hate sequestration so much that it would force them to compromise. This idea seems more likely hatched on the elementary school playground than in the halls of Congress, but there you are. And an indication that even with all the passion and money that is being poured into this election, the government is actually broken, regardless of the outcome.

All of this feels terrible, and as you know, those are just two of the many devastating problems facing people across our world.

I believe though that now is when our creation story shines most hopefully.

Our story reminds us that destruction, terrible destruction, is normal in the Universe and on our Earth and that from the chaos afterwards is the possibility for the most magnificent, unimaginable, creative futures. Those futures come from using opportunities made possible by the destruction.

A meteor crashed into earth and almost all the animals and plants died, so those small furry mammals who'd had a sideline role in the time of the dinosaurs, figured out how to live into the world after the meteor. It took a while, but they became a powerful species, and created us, the most imaginative, creative living creature Earth has had yet made.

Our story also reminds us that initiative and difference matter. Who knows why that first limbed fish climbed on to land, but it did, and it was just different enough from the others of its species that it survived and flourished. Other animals tried new foods, living in new places, running away or fighting. There was always the first. And think about our own species. Some early human picked up a sharp rock to cut something for the first time or raised her voice in song or tended a group of plants rather than just harvesting and moving on.

This story, our creation story, matters now. Our Earth is changing in ways that might make it very difficult for 7 billion people or any people to live here. Humans, at this point, don't have a mechanism to work together to fix it. This could be the largest disaster humankind has ever known.

However, we can trust, deeply trust, that as things deteriorate, the situation will create opportunities for originality and putting the old together in untried ways. We will be able to use our innate differences to discover novel solutions. We will have chances to cooperate creatively with unexpected allies. We know new, creative, unimaginable futures are possible.

We must be ready. Opportunities can slip by quickly. We must have the courage to take initiative at any moment. We must be willing to try what seems impossible. We must be willing to do the new, even when we don't know how it will turn out. This initiative has changed life over and over. It will again.

We must always remember the mystery as well. The most powerful moments in our creation story - the arrival of a singularity and the beginning of life -- are those we do not understand. Many think we never will. But we do know that powers exist so beyond us that we can't access them or call on them, but they made our lives possible. They exist. They are there. They may act again or they may be acting at this moment.

Remembering the deep mystery reminds us to be humble and grateful: humble because while we are the grandchildren of the stars, we are hardly what made stars possible. Grateful because we can enjoy the wonder of being alive on this earth, because, honestly, it was very unlikely.

Amen.