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LIVING

Start of a never-ending story

Newest scientific discovery reconfirms our need for different outlook on existence

"Everything is the sum of the past... There is nothing, not even the human soul, the highest spiritual manifestation we know of, that does not come within this universal law."

French philosopher
Teilhard de Chardin



Drew Monkman
OUR
CHANGING
SEASONS

Earlier this month, the existence of an entirely new fundamental particle, the Higgs boson, was confirmed by science. This particle is the reason why matter has form and mass and why a refrigerator is so hard to push. The Higgs boson also explains why we have galaxies, stars, planets and life itself. It takes us back to the moment of creation 13.7 billion years ago and may even have been the "spark" that set off the Big Bang. This discovery even allows us to think of the time before the Big Bang and may lead science in a very real quest for things as strange as parallel universes that co-exist with ours.

The discovery of the Higgs boson is yet another example to how far human consciousness and intelligence have evolved through the ages. But yet, many disturbing questions remain. Why aren't we more amazed by discoveries such as these? Do we, as humans, really appreciate how far our understanding of the universe – and of life itself – has come? Have we really embraced this "new story" of reality and all that it implies? Some would argue that being able to do so will be necessary if we are ever to stem the tide of environmental destruction.

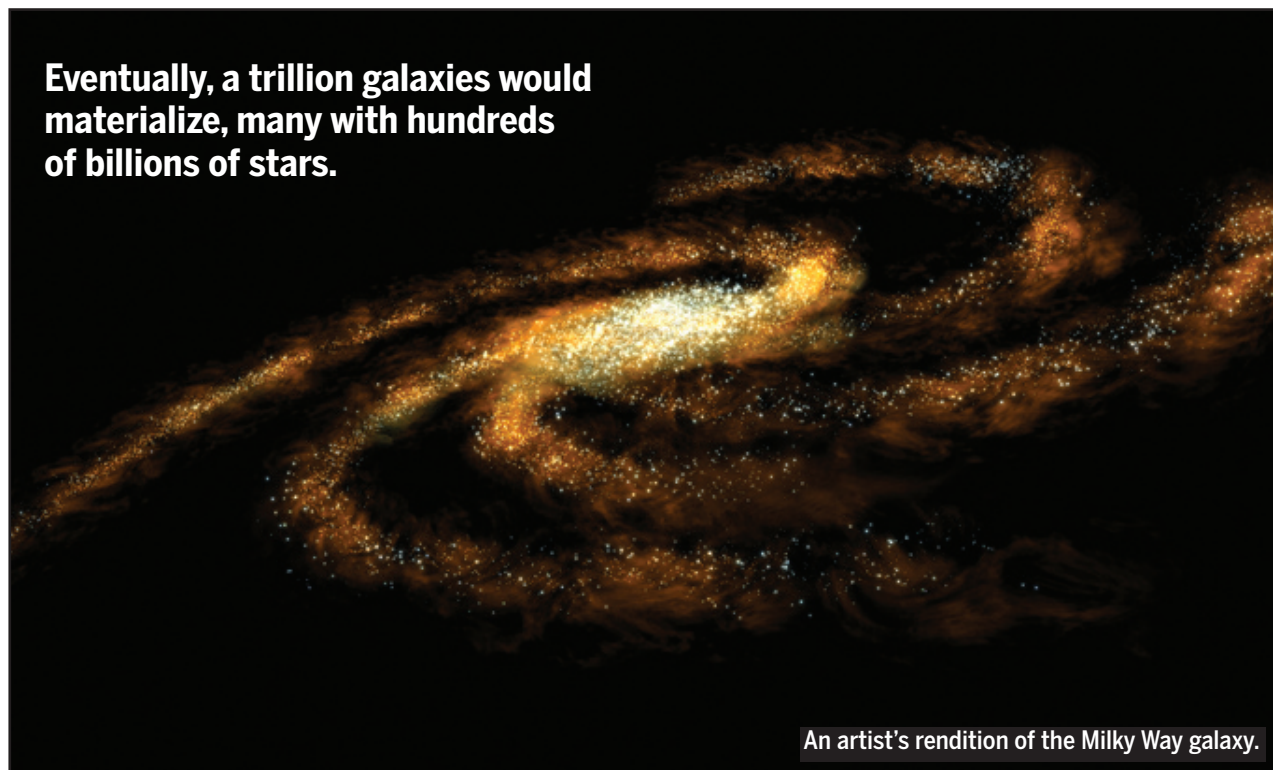
WHAT IS A STORY?

A story is the way in which we orient ourselves in the world. It tells us who we are and where we are. We require stories to allow us to find our way forward and to provide fundamental meaning to our lives. A story tells us what is important to do and what is important to avoid doing. A story applies as much to individuals and families as it does to corporations, entire economies and nations.

Many influential thinkers such as American cosmologists Brian Swimme and the late Thomas Berry believe it is time to embrace a new, science-based story of what it means to be human. This story tells us just how amazing every aspect of the universe – including life – actually is. According to Swimme and Berry, not knowing this new, science-revealed story is what allows human society to have so little regard for the health of the planet and for the flourishing of other life forms.

The old story of what it is to be human – some might call it the redemption story – was informed mostly by traditional religion in a time pre-dating modern science. It came well before the countless discoveries about the true nature of the universe and how modern species came to be. Granted, the old story helped us immensely in the past and still deserves respect. However, we now know that the old story does not

Eventually, a trillion galaxies would materialize, many with hundreds of billions of stars.



An artist's rendition of the Milky Way galaxy.



Inside the Large Hadron Collider on the Franco-Swiss border where the Higgs boson particle was discovered.

reflect the true nature of the universe, nor does it provide human society with the necessary knowledge and values to thrive deep into the future. The old story tells us that we are not part of nature but somehow outside and above it; that nature is there for our consumption; that materialism and consumerism make us happy; that perpetual growth is possible; and, in some forms of this story, that all that really matters is what awaits us after death. Clearly, this story is no longer sustaining us. One only has to look at how inept the old story has been at providing any kind of meaningful response to the environmental crisis – a crisis that probably explains the record heat and drought this summer. Swimme and Berry believe that humanity's only way forward is to begin to live in a way that is spiritually, emotionally and intellectually coherent with our actual knowledge of the universe.

THE NEW STORY

In its simplest terms, the New Story goes something like this: The process that would eventually lead to human beings – and to all other forms of life on Earth – began with the Big Bang, an amazing eruption of light that occurred

some 13.7 billion years ago. Flaring forth from a space infinitesimally smaller than a pebble, the universe expanded and cooled. As the elementary particles stabilized, hydrogen and helium atoms were formed. Two hundred million years later, these first atoms gathered together to make stars. Eventually, a trillion galaxies would materialize, many with hundreds of billions of stars. When these stars died in stellar explosions known as supernovae, the helium and hydrogen atoms were transformed into new atoms such as carbon, oxygen, phosphorous and iron. In other words, to make a single atom of carbon or oxygen – the very stuff of life – an entire star had to be destroyed.

A next level of creativity in the universe appeared when planets began to take shape. Ours is a rocky planet in a solar system that revolves around one of 200 billion stars in the Milky Way galaxy. Our galaxy is so big that light takes 100,000 years to travel from one end to the other. We live about two-thirds of the way out from its centre.

The stage was now set for yet another blossoming of creativity in the universe – the emergence of life about four billion years ago. Although science cannot

yet explain with full certainty how life began, scientists such as Swimme believe that the active patterning of matter makes life inevitable, given the right conditions. Over the eons, organisms became more complex and were soon able to capture the sun's energy through photosynthesis. Through the process of evolution, everything from eyesight to sexual reproduction emerged, often independently and in different ways in different organisms. And then something took place between six and seven million years ago in Africa to ignite a new line of apes that acquired massive brains and the ability to dream, ponder, show compassion, remember and anticipate. Whatever the exact mechanism, consciousness arose, thanks largely to our ability to externalize our thinking through oral and written language. Soon, we saw even greater manifestations of consciousness with everything from the pyramids and irrigation-based agriculture to literature, mathematics and all that modern science and technology has produced.

ENVIRONMENTAL CRISIS

Through science, we humans developed the ability to control nature and

use it for our own purposes. However, Western man in particular saw nature as an inferior, non-sentient resource to be exploited in any way we wished. Granted, we usually did so to provide for ourselves and our families but the level of exploitation went far beyond what was necessary for comfortable living – which brings us to the present. We are now living in the most destructive period in 65 million years (when the last massive extinction crisis took place) with thousands of species going extinct every year. Our impact has been so profound that we are actually changing the hitherto benign climate on which we depend. But, despite all of the warnings, it is as if we are still sleepwalking and largely unaware of the destruction around us. Through human-caused extinction, we are losing our fellow companions, namely species that have co-existed with humans for millions of years; species that have incredible stories themselves that could have intrigued and delighted future generations and shaped the careers of future scientists.

How do we stop the destruction? Swimme and Berry would say that as a starting point, we need to understand ourselves in terms of the New Story. We must first realize that our primary community is the earth community as a whole. Life doesn't exist on Earth as if it some kind of platform. Life emerged from Earth and the interplay of sunlight, soil, ocean and atmosphere. The fact that there is life-sustaining oxygen in the atmosphere at all is because it is provided by plant life. Nor is the universe some kind of dead, static background to the stage on which we live our lives. Rather, science has revealed that the universe is a source of creative intelligence. Human life on earth is the pinnacle of that creativity, at least as far as we know. In order for there to have been a single butterfly or scientists capable of detecting the Higgs boson

particle, we needed an entire galaxy full of exploding stars. Humankind is no less than the universe having become aware of itself.

For Swimme and Berry, mankind requires the wonder, the amazement and the deep spiritual significance of the New Story in order to have the psychic energy for the renewal of the Earth. At its most basic, this renewal would mean pursuing economic activities that do not destroy the other economies that run parallel to ours – those of the birds, the mammals, the plants and all other forms of life. Humans have become the most important agent of change on planet Earth. Humans are what the stars gave birth to. What kind of future can we give birth to? Does it have to be a future of destruction?

I highly recommend Swimme's 2011 film *Journey of the Universe*, which is available at www.journeyoftheuniverse.org. Transition Town Peterborough is hosting a public showing of the film tonight at 7 p.m. at the Jewish Community Centre at 775 Weller Street in Peterborough.

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Wikimedia photos

Human beings, just like monarch butterflies, are composed from atoms born in exploding stars – "stardust" if you prefer.