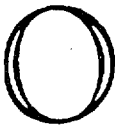


THE RESURGENCE OF COSMIC STORYTELLERS

By BRIAN SWIMME

UR PLANETARY difficulties can be packed into three terrible phrases: our technologies have resulted in 50,000 nuclear warheads; our industrial economies have given us ecocide on every continent; our social distribution of goods and services has given us a billion underdeveloped and starving humans. Is there anyone unaware that as a species and as a planet we are in terrible shape? As we consider proposals for leading us out of this dying world, we need to bear in mind that only those promising an immense efficacy need be considered. Anything less than a fundamental transformation of our situation is hardly worth talking about.

And yet, given this demand, my own suggestion is that we tell stories. In particular, that we tell the many stories that make up the great cosmic story. I am suggesting that this activity of cosmic storytelling is the central political and economic act of our time. My basic claim is that by telling our cosmic creation story, we inaugurate a new era of human and planetary health, for we initiate a transformation out of a world that is mechanistic, scientific, dualistic, patriarchal, anthropocentric and militaristic.

A 'cosmic creation story' is that which satisfies the questions asked by humans fresh out of the womb. As soon as they get here and learn the language, children ask the cosmic questions. Where did everything come from? What is going on? Why are you doing such and such anyway? The young of our species desire to learn where they are and what they are about in this life. That is, they express an inherent desire to hear their cosmic story.

By cosmic creation story I also mean to indicate those accounts of the universe we told each other around the evening fires for most of the last fifty thousand years. These cosmic stories were the way the first humans chose to initiate and install their young into the universe. The rituals, the traditions, the taboos, the ethics, the techniques, the customs and the values all had as their core a cosmic story. The story provided the central cohesion for each

society. 'Story' in this sense is 'world-interpretation'—a likely account of the development and nature and value of things in this world.

Why story? Why should 'story' be fundamental? Because without storytelling, we lose contact with our basic realities in this world. We lose contact because *only* through story can we fully recognize our existence in time.¹ To be human is to be in a story. To forget one's story is to go insane. All the tribal peoples show an awareness of the connection between health and storytelling. The original humans will have their cosmic stories just as surely as they will have their food and drink. These ancestors of ours recognized that the universe, at its most basic level, is story. And each creature is story. And humans enter this world and awaken to a simple truth: 'We must find our story within this great epic of being'.

What about our situation today? Do we tell stories? We in America most certainly do, even if we do not call them stories. In our century's textbooks—for use in grade schools and high schools—we learn that it all began with impoverished primitives, marched through the technical inventions of the scientific period, and culminated—this is usually only implied, but there is never much doubt—in the United States of America, in its political freedom, and most of all its superior modes of production. For proof there are the graphs of industrial output comparing the USA with other countries. Throughout such educational experiences, we were drawn into an emotional bonding with our society, so that it was only natural we would want to support, defend and extend our society's values and accomplishments. Of course this was not considered story; we were learning the facts of the matter.

Obviously, Soviets reflecting on their educational process would recall a different story, one that began with the same denigration of the primal peoples, continued through a critique of bourgeois societies, and culminated in the USSR. And the French or English, reflecting on *their* education, would remember learning that in fact *they* were the important societies, for they were extending the European cultural tradition, while avoiding both the superficiality of the North Americans and the lugubriousness of the Soviets.

Though we told ourselves such human stories, none of us in the industrial countries taught our children cosmic stories. We focussed entirely on the human world when telling our stories of value and meaning. The universe and earth taken together were merely backdrop. The oceans were large, the species many, yes—but these

immensities were just the stage for the humans. This mistake is the fundamental mistake of our era. In a sentence, I would summarize my position this way: all our disasters today are directly related to our having been raised in cultures that ignored the cosmos for an exclusive focus on the human. Our uses of land, our uses of technology, our uses of each other are flawed in many ways but due fundamentally to the same folly. We fail in so grotesque a manner because we were never initiated into the realities and values of the universe. Without the benefit of a cosmic story that provided meaning to our existence as Earthlings, we were stranded in an abstract world and left to invent nuclear weapons and chemical biocides and ruinous exploitations and waste.

How could this have happened? How could modern western culture escape a fifty thousand year old tradition of telling cosmic stories? We discovered science. So impressed were we with this blinding light, we simply threw out the cosmic stories for the knowledge that the sciences provided. Why tell the story of the sun as a God when we knew the sun was a locus of thermonuclear reactions? We pursued 'scientific law', and relegated 'story' and 'myth' to the nurseries and tribes. Science gave us the real, and the best science was mathematical science. We traded myth for mathematics and, without realizing it, we entered upon an intellectual quest that had for its goal a complete escape from the shifting sands of the temporal world. As Ilya Prigogine summarizes: 'For most of the founders of classical science—even for Einstein—science was an attempt to go beyond the world of appearances, to reach a timeless world of supreme rationality—the world of Spinoza'.²

What a shock it has been to have *story reappear*, and this time right in the very centre of the mathematical sciences! Someday someone will tell the full story of how 'story' forced its way into the most anti-story domain of modern science—I mean mathematical physics. Here I would like to indicate in broad strokes what has happened.

For physicists during the modern period, 'reality' meant the fundamental interactions of the universe. In a sense, the world's physical essence was considered captured by the right group of mathematical equations. Gravity or the Strong Nuclear Interaction were the real actors in the universe. The actual course of events was seen as of secondary importance, as the 'details' that were

structured by the fundamental dynamics of physical reality. The Story of Time was regarded as secondary, even illusory—time was simply a parameter that appeared in the equations. That is, there was nothing special about the time today, as opposed to some time a billion years from now. Each time was the same, for the mathematical equations showed no difference between any two times.

The best story I know concerning this dismissal of time concerns Albert Einstein. Out of his own amazing genius, he arrived at his famous field equations, the mathematical laws governing the universe in its physical macrodimensions. What most alarmed Einstein—and what we must remember that here was a man who had the courage to stick to his mathematical insights no matter how shocking they might seem to the world—what most disturbed Einstein about his own equations was their implication that the universe was expanding. Such a notion made no sense in the Newtonian cosmology of a static universe, which held that the universe today is essentially the same as the universe at any other time. In Newton's universe there could be motion *in* the universe, but the idea that the universe as a whole was changing was hardly thinkable. For these reasons, Einstein's equations stunned him when they whispered their secret—that the universe is not static; that the universe is expanding each moment into a previously non-existent space; that the universe is a dynamic developing reality.

To avoid these alarming implications, Einstein altered his equations to eliminate their predictions. If only the truth of the universe could be so easily contained! Soon after Einstein published his equations, the Russian mathematician Alexander Friedmann found solutions to Einstein's equations—these solutions were theoretical universes some of which expanded, some of which contracted, and some of which oscillated in and out. Einstein's response to Friedmann's communication was a polite dismissal of what seemed to be an utterly preposterous mathematical fiction.

But when Edwin Hubble later showed the empirical evidence for an expanding universe, Einstein realized his failure of nerve. He later came to regard his doctoring of the field equations as the 'biggest blunder of my life'.³ My point is the complete surprise this discovery was for the scientists involved. If Einstein had left the equations as he had come to them, he would have made the greatest prediction in the entire history of science. But such a leap

out of a static universe into a cosmic story was simply beyond the pale for our century's greatest scientist.

Even so, we now realize—following on the work of Einstein and Hubble and others—that ours is a universe that had a beginning in time and has been developing over fifteen billion years. And every moment of this universe is new. That is, we now realize that we live not in a static Newtonian space; we live within an ongoing cosmic story.

Story forced its way still further into physics when in recent decades scientists discovered that even the fundamental interactions of the universe *evolved* into their present form. *The laws that govern the physical universe today and that were thought to be immutable are themselves the results of developments over time.* We had always assumed that the laws were fixed, absolute, eternal. Now we discover that even the laws tell their own story of the universe. That is, the Cosmic Story—rather than being simply governed by fixed underlying laws—draws these laws into its drama.

Story asserts itself still further into the consciousness of contemporary physicists when the very status of physical law is put into a new perspective. Where once we listed a set of laws we were certain held everywhere and at all times, we now ponder the violations of each of these laws. A pre-eminent physicist of our time, John Archibald Wheeler, concludes that in nature 'there is no law except the law that there is no law'. Wheeler's inclination is to question our fixation with law; he demands that the details of nature be given the same attention we give to the unifying ideas. As Wheeler sings, 'Individual events. Events beyond law. Events so numerous and so uncoordinated that, flaunting their freedom from formula, they yet fabricate firm form'.⁴

What happens when physicists begin to value not just the repeatable experiment but history's unrepeatable events? No longer regarding each event as simply another datum useful for arriving at mathematical law but as a revelation all by itself? A re-enchantment with the universe happens. A new love affair between humans and the universe happens.

Only when we are surprised in the presence of a person or a thing are we truly in love. And no matter how intimate we become our surprise continues. Without question we come to know the beloved better, and are able to speak central truths about her or him or it; but never do we arrive at a statement that is the final word. There are always further surprises, for to be in love is to

be in awe of the infinite depths of things.⁵ What I am suggesting by remembering Einstein's astonishment at the time-developmental nature of the universe, and by underlining Wheeler's fascination with the individual event, is that scientists have entered a new enchantment. Having been raised and trained in the disenchanted world of classical Newtonian physics, they are suddenly astonished and fascinated in an altogether new way by the infinite elegance that gathers us into its life and existence.

A central desire of scientists in the future will be to explore and celebrate the enveloping Great Mystery—the story of the universe, the journey of the galaxies, adventure of the planet earth and all its life forms. Scientific theories will no longer be seen simply as objective laws. Scientific understanding will be valued as that power capable of evoking in humans a deep intimacy with reality. That is, the value of the electromagnetic interaction as objectively true will be deepened by our awareness that study and contemplation of the electromagnetic interaction allows humans to enter a rich communion experience with the contours of reality in the stellar cores, as well as in the unfolding dynamics of our sun and forests.

I am convinced, finally, that the story of the universe that has come out of three centuries of modern scientific work will be recognized as a supreme human achievement, the scientific enterprise's central gift to humanity, a revelation having a status equal to that of the great religious revelations of the past.

Of course, these are my speculations. I may be wrong. Instead of scientists devoting themselves to a further exploration and celebration of the cosmic story, they may be entirely captured by the militaries of the planet. But I do not think so, and for a number of reasons. The one reason I would like to mention here has to do with the planetary implications of the cosmic creation story.

I discussed Einstein's resistance to highlight an obvious and significant fact of the cosmic creation story—*its power to draw humans into itself*. Einstein did not want to discover an expanding, time-developmental universe. Another famous physicist, Arthur Eddington, found the whole notion 'abhorrent'. But the story convinces regardless. Its appeal to humans is virtually irresistible. The cosmic creation story has the potency to offset and even to displace entirely every previous world-view. Often this displacing of traditional stories has resulted in cultural tragedy, and this

reality needs to be discussed. What I want to bring to our attention here is that the human being as constituted today finds the cosmic story undeniably tied to the truth, and this is great news indeed.

For suddenly, the human species as a whole has a common cosmic story. Islamic people, Dineh people, Christian people, Marxist people, Hindu people can all agree in a basic sense on the birth of the sun, on the development of the earth and of the species of life and of human cultures. For the first time in human existence, we have a cosmic story that is not tied to one cultural tradition, or to a political ideology, but instead gathers every human group into its meanings. Certainly we must not be naive about this claim of universality. Every statement of the cosmic story will be placed in its own cultural context, and these are to varying degrees expressive of political and religious and cultural perspectives. But given that fact, we have, even so, broken through to a story that is pan-human; a story that is already taught and developed on every continent and within every major cultural setting.⁶

What does this mean? Every tribal person knows the central value of its cosmic story in uniting the people. The same will be true of us. We are now creating the common story that will enable *Homo sapiens* to become a cohesive community. Instead of structuring American society on its own human story, or Soviet society on its own human story, and so on, we have the opportunity to tell instead the cosmic story, and the mammalian story, and the ocean story, so that instead of building our lives and our society's meanings around the various human stories alone, we can build our lives and societies around the earth story.

This is a good place to make my final comment on the meaning 'cosmic creation story'. For though with this phrase I refer in general to the account of our emergence out of the fireball and into galaxies and stars and earth's life, I also think of the cosmic story as something that has not yet emerged. I think we will only have a common story for the human community when poets tell us the story. For until artists, poets, mystics, nature lovers tell the story—or until the poetic and mystical dimensions of humans are drawn forth in every person who sets out to tell us our story—we have only facts and theories.⁷

Most tribal communities understand the necessity of developing storytellers, people who spend their lives learning the cosmic story and celebrating this in poetry, chant, dance, painting and music.

The life of the tribe is woven around such celebrations. The telling of the story is understood both as that which installs the young, and that which regenerates creation. The ritual of telling the story is understood as a cosmic event. For unless the story is sung and danced the universe suffers from decay and fatigue. Everything depends on telling the story—the health of the people, the health of the soil, the health of the sun, the health of the soul, the health of the sky.

We need to keep the tribal perspective in mind when we examine our situation in the modern period. Instead of poets, we had one-eyed scientists and theologians. Neither of these high priests nor any of the rest of us was capable of celebrating the cosmic story. It is no wonder then that so many of us are sick and disabled, that the soils have gone bad, that the sky is covered with soot and the waters filled with evils. Because we had no celebrations inaugurating us into the universe, the whole world has become diseased.

But what will happen when the storytellers emerge? What will happen when 'the primal mind', to use Jamake Highwater's phrase, sings of our common origin, our stupendous journey, our immense good fortune?⁸ We will become Earthlings. We will have evoked out of the depths of the human psyche those qualities enabling our transformation from disease to health. They will sing our epic of being, and stirring up from our roots will be a vast awe, an enduring gratitude, the astonishment of communion experiences and the realization of cosmic adventure.

We must encourage cosmic storytellers because our dominant culture is blind to their value. Is it not remarkable that we can obtain several hundred books on how to get a divorce, how to invest money, how to lose fat, and yet there is nothing available to assist those destined to sing to us the great epic of reality?

I would suggest that when the artists of the cosmic story arrive, our mono-industrial assault and suicide will end and the new beginnings of the earth will be at hand. Our situation is similar to that of the early Christians. They had nothing—nothing but a profound revelatory experience. They did nothing—nothing but wander about telling a new story. And yet the western world entered a transformation from which it has never recovered.

So too with our moment. We have nothing compared to the massive accumulation of hate and fear and arrogance that the

ICBMs and the Third World debt and the chemical toxins represent. But we are in the midst of a revelatory experience of the universe that must be compared in its magnitude with those of the great religious revelations. And we need only wander about telling this new story to ignite a transformation of humanity. For this story has the power to undo the mighty and the arrogant and to ignite the creativity of the oppressed and forgotten. As the great journey of the universe breaks into human self-awareness nothing can dam up our desire to shake off the suffocation of nationalism and anthropocentrism and exploitation and to plunge instead into the adventure of the cosmos.

Let me end with an imaginary event—a moment in the future when children are taught by a cosmic storyteller. We can imagine a small group gathered around a fire in a hillside meadow. The woman in the middle is the oldest, a grandmother to some of the children present. If we can today already imagine such an event, we can be assured that tomorrow someone will begin the journey of bringing such dreams into practice.

The old woman might begin by picking up a chunk of granite. 'At one time, at the beginning of the Earth, the whole planet was a boiling sea of molten rock. We revere rocks because everything has come from them—not just the continents and the mountains, but the trees, and the oceans and your bodies. The rocks are your grandmother and your grandfather. When you remember all those who have helped you in this life, you begin with the rocks for if not for them you would not be.'

She holds the rock before them in silence, showing each person in turn. 'Do you hear the rock singing? In the last era, people thought there was no music in rocks. But we know that is not true. After all, some rocks became Mozart and showed their music as Mozart. Or did you think that the Earth had to go to Mars to learn how to play its music? No, Mozart emerged from the rocks of our planet. Mozart is Earth, Mozart is rocks, Mozart is the music of the Earth's rocks.'

Now she slowly sinks her hands into the ground and holds the rich loamy soil before her. 'Every rock is a symphony, but the music of soil soars beyond capture in human language. We had to go into outer space to realize how rare and unique soil is. Only the Earth created soil. There is no soil on the moon. There are minerals on the moon, but no soil. There is no soil on Mars. There is no soil on Venus, or on Sun, or on Jupiter, or anywhere

else in the surrounding trillion miles. Even the Earth, the most extraordinarily creative being of the solar system, required four billion years to create topsoil. We worship and nurture and protect the soils of the Earth because all music and all life and all happiness come from the soil. The soils are the matrix of human joy.'

She points now to a low hanging star in the great bowl of the night sky. 'Right now that star is at work creating the elements that will one day live as sentient beings. All the matter of the Earth was created by the Grandmother Star that preceded our Sun. She fashioned the carbon and nitrogen and all the elements that would later become all the bodies and things of Earth. And when she was done with her immense creativity, she exploded in celebration of her achievement, sharing her riches with the universe and enabling our birth.'

'Her destiny is your destiny. In the centre of your being you too will create, and you too will shower the world with your creativity. Your lives will be filled with both suffering and joy; you will often be faced with death and hardship. But all of this finds its meaning in your participation in the great life of Earth. It is because of your creativity that the cosmic journey deepens.'

She stares into the distance. In the long silence, she hears the thundering breakers on the ocean shore, just visible in the evening's light. They listen as the vast tonnage of saltwater is lifted up in silence, then again pounds up the sand.

'Think of how tired we were when we arrived here, and all we had to do was carry our little bodies up the hills! Now think of the work that is being done ceaselessly as all the oceans of the world curl into breakers against the shores. And think of all the work that is done ceaselessly as the Earth is pulled around the Sun. Think of all the work that is done ceaselessly as all one hundred billion stars of the Milky Way are pulled around the centre of the galaxy.'

'And yet the stars don't think of this as work. Nor do the oceans think of their ceaseless tides as work. They are drawn irresistibly into their activities, moment after moment. The Earth finds itself drawn irresistibly to the Sun, and would find any other path in life utterly intolerable. What amazing work the stars and the planets accomplish, and never do we hear them complain!'

'We humans and we animals are no different at all. For we find ourselves just as irresistibly drawn to follow certain paths in life.'

And if we pursue these paths, our lives—even should they become filled with suffering and hardship—are filled as well with the quality of effortlessness. Once we respond to our deepest allurements in the universe, we find ourselves carried away, we find ourselves on the edge of a wave passing through the cosmos that had its beginning twenty billion years ago in the fiery explosion of the beginning of time. The great joy of human being is to enter this allurements that pervades everything, and to empower others—including the soil and the grasses and all the forgotten—so that they might enter their own path into their deepest allurements.'

The light of dusk has gone. She sits with them in the deepening silence of the dark. The fire has died down to become a series of glowing points, mirroring the ocean of starlight all above them. 'You will be tempted at times to abandon your dreams, to settle for cynicism or greed, so great will your anxieties and fears appear to you. But no matter what, remember that our universe is a universe of surprise. We put our confidence not in our human egos but in that power that gathered the stars and knit the first living cells together. Remember that you are here through the creativity of others. You have awakened in a great epic of being, a drama that is twenty billion years in the making. The intelligence that ignited the first minds, the care that spaced the notes of the nightingale, the power that heaved all hundred billion galaxies across the sky now awakens as you too and permeates your life no less thoroughly.'

'We do not know what mystery awaits us in the very next moment. But we can be sure we will be astonished and enchanted. This entire universe sprang into existence from a single numinous speck. Our origin is mystery, our destiny is intimate communion with all that is, and our common species' aim is to celebrate the Great Joy that has drawn us into itself.'

Rocks, soils, waves, stars—as they tell their story in 10,000 languages throughout the planet, they bind us to them in our emotions and our spirits and our minds and our bodies. It is the earth and universe who speak in all of this. The cosmic creation story is the way in which the universe is inaugurating the next era of its ongoing journey.

NOTES

¹ Ricoeur, Paul: 'On interpretation' in *After philosophy*, ed Kenneth Baynes, James Bohman and Thomas McCarthy (MIT, 1987), p 358.

² Prigogine, Ilya: *From being to becoming* (Freeman, San Francisco, 1980), p 215. See also Griffin, David: *Physics and the ultimate significance of time* (SUNY, New York).

³ Misner, Charles W., Thorne, Kip S. and Wheeler, John Archibald: *Gravitation* (Freeman, San Francisco), pp 410-411.

⁴ Quoted by Freeman Dyson in Curran, Dean W. ed: *The aesthetic dimension of science* (Philosophical Library, New York), p 54.

⁵ See for example Jantsch, Erich: *The self-organizing universe* (Pergamon, New York, 1980), p 176.

⁶ The first to celebrate the emergence of a new creation story were Loren Eiseley, in *The immense journey*, and Teilhard de Chardin, in *The phenomenon of man*. The person who first realized the cultural and planetary significance of a common creation story was Thomas Berry. See his *The new story*, (Anima Books, Chambersburg, PA, 1978). For a superb contemporary telling of the entire cosmic story, see Calder, Nigel: *Timescale* (Viking, New York, 1983).

⁷ My version of the cosmic story is *The universe is a green dragon* (Bear and Co, Santa Fe, 1985).

⁸ Highwater, Jamake: *The primal mind* (New American Library, 1981).