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We Are Stardust

The Epic of Evolution in Children's Religious Education

by Connie Barlow

"The universe is a single reality—one long, sweeping spectacular process of interconnected events. The universe is not a place where evolution happens; it is evolution happening. It is not a stage on which dramas unfold; it is the unfolding drama itself. If ever there were a candidate for a universal story, it must be this story of cosmic evolution.... This story shows us in the deepest possible sense that we are all sisters and brothers—fashioned from the same stellar dust, energized by the same star, nourished by the same planet, endowed with the same genetic code, and threatened by the same evils. This story, more than any other, humbles us before the magnitude and complexity of creation. Like no other story it bewilders us with the improbability of our existence, astonishes us with the interdependence of all things, and makes us feel grateful for the lives we have. And not the least of all, it inspires us to express our gratitude to the past by accepting a solemn and collective responsibility for the future."—Loyal Rue, *Everybody's Story*, 1999

This epigraph by Loyal Rue, philosopher of religion, is a manifesto for liberal religious leaders and teachers to step fully into the evolutionary worldview. Indeed, it invites any religious person unbound to scriptural literalism to explore a sacred understanding of our shared evolutionary journey and to make that understanding central to one's spiritual life and legacy. Rue is one of the leaders of a movement variously called "The Epic of Evolution," "The Universe Story," "The Great Story," or "evolution theology." Now that the miracles of precision data gathering, scientific interpretation and testing, and global communications have revealed the scope of global challenges, Rue urges his readers to regard an evolutionary understanding of our heritage as not just one option among many, but as "everybody's story"—indeed, as everybody's responsibility.

Advancing the Liberal Perspective

A grand narrative that pertains to everyone—and that we would therefore teach our children wholeheartedly in religious education/exploration settings—seems antithetical to the postmodern ethos of identity politics and religious tolerance championed by religious liberals. Nonetheless, to remain on the vanguard of progressive perspectives and values, it is time for religious liberals to place our celebration of diversity within a wider arc that offers the promise of universal relevance and a sense of global community. Thomas Berry calls this sacred evolutionary worldview a *metareligious* perspective. As Michael Dowd explains in his 2008 book, *Thank God for Evolution*,

The Great Story is not a new religion in competition with existing religions; rather, it offers a metareligious perspective that can deepen the profound insights of every one of Earth's spiritual traditions. The Great Story will fulfill its potential for humanity only when it is taken into and absorbed independently by each faith and worldview. Necessarily, its gifts will manifest in distinct ways in different contexts.

To be sure, humanists, freethinkers, and atheists (like myself) are among the Epic of Evolution's greatest proponents. Some of us, as well, applaud the New Atheists for pointing out the shadow side of religious tolerance: its failure to counter the rise of religious fundamentalisms that threaten liberal values. Even so, proponents of the universal relevance of an evolutionary understanding of natural and cultural history generally do not see our work as nullifying religious stories and practices that have stood the test of time.

"Without a Big Picture . . ."

My own faith tradition is Unitarian Universalism. During seven years of living entirely on the road with my husband and mission partner, Michael Dowd, I have presented guest sermons grounded in the evolutionary worldview at more than a hundred UU churches and fellowships. I have served as guest teacher for children's religious education in fifty more. I have also spread the good news of our evolutionary heritage by teaching richly illustrated and highly interactive programs in Catholic grades schools, Montessori classrooms, homeschool gatherings, and Unitarian Universalist summer camps. As well, my husband and I, as theme speakers, have celebrated a sacred understanding of the evolutionary sciences at a dozen regional or national meetings of Unitarian Universalist and Unity/New Thought ministers and lay leaders. The response, uniformly, has been enthusiastic.

I am evangelistic about evolution not only because of its intrinsic gifts. In my view, that the evolutionary perspective is largely missing in church settings (even liberal church settings) is a very big missing indeed—not only for spirituality but also for the wellbeing of the world. The absence of evolution-based curricula, stories, music, and drama means that liberal churches (and synagogues and mosques) are failing children in a fundamental way: they are failing to provide children and youth with religion. By religion I do not mean supernatural beliefs. Rather, the root *religio* means to yoke together—to yoke all of one's learnings and experiences into a coherent, life-giving worldview.

Astrophysicist Joel Primack and cultural historian Nancy Ellen Abrams issued a powerful warning in this regard in their 2006 book, *The View from the Center of the Universe*. They wrote, "Without a meaningful, *believable* story that explains the world we actually live in, people have no idea how to think about the big picture. And **without a big picture, we are very small people.**" Primack and Abrams explain, "A human without a cosmology is like a pebble lying near the top of a great mountain, in contact with its little indentation in the dirt and pebbles immediately surrounding it, but oblivious

to its stupendous view." In 1948, the educational innovator Maria Montessori wrote in her book *To Educate the Human Potential*:

Educationalists in general agree that imagination is important, but they would have it cultivated as separate from intelligence, just as they would separate the latter from the activity of the hand. . . . In the school they want children to learn dry facts of reality, while their imagination is cultivated by fairy tales, concerned with a world that is certainly full of marvels, but not the world around them in which they live. On the other hand, by offering the child the story of the universe, we give him something a thousand times more infinite and mysterious to reconstruct with his imagination, a drama no fable can reveal.

Echoing Montessori, I often conclude my sermons with a paragraph drawn from my 1997 book, *Green Space Green Time: The Way of Science* (extracts of which constituted the cover story of the Nov/Dec 1998 issue of *UU World*). I say,

Tell me a creation story more wondrous than that of a living cell forged from the residue of exploded stars. Tell me a story of transformation more magical than that of a fish hauling out onto land and becoming amphibian, or that of a reptile taking to the air and become bird, or that of a mammal slipping back into the sea and becoming whale. Surely, this science-based culture of all cultures can find meaning and cause for celebration in its very own cosmic creation story.

"What's Your Creation Story?"

Several years ago, while guest teaching a religious education class for young teens at a Unitarian Universalist church in Florida, I decided to test a hunch. "Tell me some creation stories from around the world," I challenged. Hands shot up and I heard about the Garden of Eden and about the classical Greek myths and one Native American story.

"Good," I congratulated them. "Now, tell me: What's *your* creation story?" Silence. No hands went up. So I walked over to one side of the room and began to walk out a timeline across the floor. I said, "In the beginning, what scientists call the Big Bang, what we like to call the Great Radiance, all that came out of the fireball were the simplest atoms: gases of hydrogen and helium."

"Oh," one of the boys spoke up, "that's what we're learning in science class!" Yes, that's what they are learning in science class—if they are lucky. As we liberals know all too well, the teaching of cosmic evolution, chemical evolution, geological evolution, human evolution, as well as biological evolution is not offered in many public schools in America. That deficiency will surely continue. I often challenge my adult audiences with this prediction: "Until the majority of churches in America preach evolution enthusiastically at the pulpit and teach evolution in inspiring ways in religious education classes, we will never see an end to the science and religion war in America."

I continue, "If we Unitarian Universalists don't have the courage to teach the grand evolutionary story in our own religious exploration classes—and not just as one among many options but as humanity's best collective understanding of the way Reality really is and how history really happened—then what religious group will?"

Back to my story: the children I was teaching that day in Florida were surprised to hear from me that what they were learning in science class—and on the Discovery Channel and Animal Planet—might have anything to do with religion. They were surprised to learn that they, too, could have a creation story and that it needn't include any beliefs contrary to the discoveries of science. Until that moment, their world had been fragmented: there was religion and there was science. There was fact and there was belief. The two realms had not been yoked together. Joseph Campbell, in his *Power of Myth* television series with Bill Moyers, defined religion in this simple and practical way: Religion is "that which puts one in accord with the universe." Thus, if religious liberals do not make a priority of guiding our children and youth into an intimate, empowering relationship with the Universe, we are, in truth, failing to provide them with religion.

As a corollary, we should do our best to provision the next generations with a healthy sense of what being religious or spiritual actually means—and does not mean. Unless we do so, religious questions and challenges from friends and peers who attend conservative churches will lead our young people to conclude that the substance of one's *beliefs* are what qualifies (or disqualifies) them as "religious." Similarly, I advocate my husband's definition of *spirituality*: "right relationship with Reality at all levels"—from the inner to the outer, from the social to the ecological, honoring the past while doing our part to benefit the future. Right relationship means not just how we act but how we feel in each of those relationships. Do we feel gratitude, trust? Do we feel at ease, authentic? Will our ways of relating to Reality carry us through times of sorrow and suffering? Do they inspire us to be all we can be?

Only through right relationship at all levels of Reality will we have a chance of achieving what Loyal Rue considers to be the practical outcomes of effective religious orientations: (1) personal wholeness, (2) social coherence, and (3) ecological integrity.

Yes, we religious liberals *can* teach our children that evolution is their and our creation story. However much adults may personally gain from reflecting on the Greek myths, or Native American creation tales, or the Genesis accounts read as poetry, our children do not live in a world of metaphor and abstraction. Elementary age children are at a developmental stage when nuances about reality are difficult to understand. If we don't give them solid answers to their big questions, you can bet that the children they meet on the playground who go to other churches certainly will.

When our children enter middle school and in the years beyond, *those* are the times for us to encourage them to question—to question everything we have taught them, everything they have heard from their peers and culture, and to come up with their own personal responses to the magnitude and mysteries of life and the cosmos.

Recently, I was talking with a religious educator at a Unitarian Universalist congregation. The previous summer she had used a curriculum in which each week a different creation story from around the world was presented. She said she had a difficult time because several children would invariably break into the storytelling saying, "That's not the way it happened!" or "That's not true!" Only during the final session did the protests end. The reason? The final story presented was the origin story drawn from modern science.

Those of us who agree that it is vital to give our children a profound, trustworthy, and scientifically accurate creation story have a long way to go in providing congregations with inspiring, dramatic, and fun materials that volunteer teachers can easily use. But we are well on our way. A number of religious education directors and committees of parents at UU churches have already tried their hand at it, and we are all continuing to learn from one another's efforts. (See Resources list at end.)

As to my own contributions, I struggle to find ways to package for teachers the programs that I, as a science writer, can so easily bring to children when I serve as guest teacher. I have had many, many opportunities to test and hone new topics and teaching methods in the religious education classroom. I know that they work. But it is an art to find ways to instruct other adults to be able to do the same—and with confidence and enthusiasm.

"I Learned that My Grandmother Will Die"

Several years ago one of our church hosts showed me the speech that her son had read at the podium the previous week during the Coming of Age celebration. For Unitarian Universalists, the Coming of Age celebration marks a rite of passage for adolescents who have been encouraged to learn about a wide range of faith perspectives and to personally reflect on fundamental questions of existence. In so doing, the youth begin to construct their own theology/philosophy—and to articulate for themselves how they think and feel about matters of life, death, and spirit. Our host's son had written that he really didn't have a belief one way or the other about what, if anything, happens to spirit or soul after death. Indeed, his entire speech centered on what he *didn't* know and what he *didn't* believe. For a 16-year-old with precious little life experience, such a stance not only makes sense; it is commendable. What troubled me was that the boy concluded his recitation by characterizing himself as "not really spiritual." And that was that.

In my view, religious advisors and mentors had failed this boy. *Beliefs*, particularly about supernatural claims, are not, after all, the core of what religion means in liberal religious circles. Rather, what counts are religio-spiritual states of mind and action—notably, gratitude, forgiveness, compassion, communion with something greater than oneself, commitment to a cause, service, and trust in the larger realms of existence. Had the boy experienced any of these aspects of spirituality? Did he know that a deliberate refusal to adopt a creedal statement of faith was something that

not only applied to his religious heritage but could also apply to himself? We Unitarian Universalists as a group, after all, insist that our tradition be counted as a bona fide religion. UU individuals who likewise shirk a creedal statement may be no less religious than those who claim allegiance to a creed of their own making.

At the home of a UU religious education director, I leafed through a new curriculum developed for teens that included a session on a topic that has long been one of my religious interests. That topic is death. The curriculum encouraged teens to reflect on death and what it means to them. For background, however, they were to watch the movie *Ghost* and then discuss it. In *Ghost* (1990) the male lead (Patrick Swayze) is murdered but remains a voyeur in this world until he can ensure that justice is done and his wife (Demi Moore) is safe. The teens are thus led into discussing the ineffable—do ghosts really exist, and does one's spirit live on in some way after death? The emphasis, thus, is on belief or disbelief—not in cultivating right relationship with the inevitability of death, of one's own death and the deaths of loved ones.

In contrast, the evolutionary sciences offer religious liberals substantial tools for helping our children and youth develop healthy and life-giving perspectives on death. Understanding our evolutionary origins and the vital, creative role that death plays in cosmic chemistry, in the creation of continents, in the complexification of life, and in ecological sustainability provides a comforting and crucial perspective that we can offer the younger generations—and ourselves. Indeed, for the first four years of our itinerant evolutionary ministry, the program I usually presented as guest educator in UU classrooms and as the theme for intergenerational services was "We Are Made of Stardust!" Teaching kids in fun and memorable ways that the very atoms of their bodies were fashioned inside ancestor stars who lived and died before our own star, the sun, was born is unquestionably the most satisfying work I have done. Why? Because it gives me a chance to help children develop life-giving attitudes about death. Consider:

Religious conservatives who base their theology on a literal reading of the Bible have a ready explanation for why pets and people, including loved ones, have to die. Conservative Christians look to several passages from the writings of Paul as the definitive interpretation of "The Fall," as presented in the Book of Genesis. Romans 5:12 reads, "Whereas by one man sin entered this world, and by sin death, so death passed upon all men." Thus, because Adam disobeyed God (eating fruit from the forbidden tree), God punished not only the first humans but all the generations to come, as well as all the other species on Earth. God did this by bringing death into the world. Paul understood the mythic story to mean that there was no death in the Garden initially—no death by old age, nor even in the course of ecological interactions. There were no carnivores or scavengers in those days; no diseases, no unfortunate accidents. Even *T. rex* was a vegetarian—until the Fall.

But we liberals freeze when our four-year-old one day calmly asks us the Big Question. How do we respond? Sadly, for many of us the inauthenticity or discomfort we convey in our response overrides whatever

the actual content may be. Our kids sense that this is a taboo subject, something really scary. It need not be at all! And that is what my "stardust" program is aimed to achieve.

. In addition to guiding children toward a felt relationship with the heavens and an embodied communion with the stars (including pride in their stellar ancestry), my intent is to offer a "cosmic container" for understanding death in natural, yet comforting, ways. This container must be robust enough to safely carry them through their own times of sorrow and thus encourage them to fully feel and express grief. I want children to know in their bones that death plays a creative role in the cosmos. Without the death of stars and the explosive recycling of complex atoms that stars squeeze into existence during their bright lives, there would be no planets or life today. The primordial clouds of gas that continue to birth new stars must contain something more than simple hydrogen and helium in order for planets to form. Those clouds must also harbor atoms of carbon and calcium, nitrogen and potassium, and many more. In essence, star-birthing regions of the galaxy must be seeded with stardust, the gift of previous generations of stars, in order for rocky planets to form. Similarly, without the death of pets and people, there would soon be no room for any more puppies and babies to be born. As the Lion King taught, the "circle of life" depends on death. It is natural, it is necessary. Death will come to all of us.

This naturalized, sacralized understanding of death should be introduced to our children at a very early age, with continuing opportunities for deepening and personalizing the understanding and for learning more of the wondrous, reassuring science that supports such a view. Questions about what happens to the "spirit" of the pet or the person or the squashed possum along the road may be answered in a variety of ways, tempered to the family's inclinations or, as Sophia Fahs advocated, inviting the child to imagine for herself. But this basic appreciation of the fact of death, and that it comes to all of us (though in some cases too early and in ways that may make us very sad) is absolutely vital for religious education in liberal settings.

Following are two examples of positive ways of relating to death, drawn from my list of "Stories of Awakening" that I keep current on my website, TheGreatStory.org:

- In the autumn of 2004 I spent an evening with elementary-age children at a large Unitarian Universalist church in New Jersey, teaching the science and meaning of stardust. After talking about the gifts created by our ancestor stars, I asked the children, "Do any of you have a grandparent who has already become an ancestor?" Instead of hesitancy, the children proudly raised their hands. One boy said, "My grandma became an ancestor on January 26, 2004."

- The following year I took my stardust program to a small group of **Unitarian Universalist children** in Mississippi. I concluded that session by having all of us sit in a circle on the floor, singing a chant-song about stardust and glittering one another to symbolize that we truly are made of stardust. While still sitting in circle I asked, "Did any of you learn something here that you didn't know before and that you think you will remember for

the rest of your life?" An 8-year-old girl who had come to church with her grandmother, and thus was visiting, responded, "I learned that my grandmother will die."

What an honor—and a responsibility—to bring this science-based understanding of death to even our youngest children in sacred ways and in sacred contexts. No longer need religious liberals flinch uncomfortable or disingenuous in answering children's question about death. Our very own cosmic creation story—*their* cosmic creation story—has strong and comforting answers about *why* death is in the world and how everything we love in this universe in some way depends on death. Again, questions about what happens to soul, spirit, and consciousness after death will still call forth a variety of responses from parents and the children themselves. But as religious educators, we can step into nurturing healthy understandings of death that provide a universal, science-based foundation that transcends the supernatural/natural divide.

One of my favorite anecdotes gathered during my travels comes from an email sent to me by a young mother, after a five-minute children's story on stardust that I had presented Sunday morning at her Unitarian Universalist church in Maine. She wrote:

My children are 6 and 8 and I have been floundering with how to raise them spiritually. I liked the idea of exposing them to all the stories, to teaching them that different people and different cultures have different pathways to the same thing: that great mystery. The Unitarian Universalist church is a good fit for that, but something was missing: a story of their own. And now they have one and they both really get it!

She continued,

My daughter said to me as I was tucking her into bed the other night, "Mom, did you know our sun will die in about 5 billion years? That's kind of sad." Just as I was searching for something to say, she continued in a very hopeful tone, "Maybe I'll see it! Maybe I'll be an animal like a deer by then, because it probably takes a really long time to become an animal."

The woman concluded, "Thank you for teaching my children that they are stardust, for giving them a story, and for being there at just the right time for me."

"I'm Related to a Duck-Billed Platypus!"

At an ecospirituality conference in Lexington, Kentucky, I ended my plenary talk on stardust by quoting Carl Sagan. Sagan had concluded his 1980 *Cosmos* television series with these words: "We are the local embodiment of a cosmos grown to self-awareness. We have begun to contemplate our origins: starstuff pondering the stars!" Immediately after the talk, a young woman approached me, tears in her eyes. She said, "I was seven years old when *Cosmos* aired, and it changed my life." "How?" I asked with amazement. "I learned I was related to everything!"

Relationship, a sense of belonging, feeling at home in the Universe: The Epic of Evolution is ideal for fulfilling these basic human needs. Here is a clip from an email my husband received from a young woman after a talk he gave at a Unitarian Universalist church: "Whenever I read about us being stardust, I feel, even if only for a fleeting moment, limitless. **I may only be 19, but no other religion, philosophy, or theory I have encountered has ever been able to do that.**"

At the scale of our home planet, relationship can be nurtured with the entire family of life. Grades K–6 comprise the ideal ages for tapping children's innate interest ("biophilia") in the full range of animals—from the big and ferocious and the warm and cuddly to the creepy crawly and the outright bizarre. Since 2006, the main program I have offered for kids in hour-long R.E. time slots and longer church camps has tapped into this animal fascination. I call it "The River of Life."

Based on Richard Dawkins 2004 book, *Ancestor's Tale*, this program consists of a richly illustrated **powerpoint** presentation that sequentially unfolds the several dozen major transitions in our shared ancestry with all creatures, back to the origin of life. It is a **highly participatory program**, in that I use a guessing game format for much of it, offering pictorial and verbal clues. Additionally, student volunteers one by one take on the persona of various animals and read scripts to their classmates. The scripts contain two or three questions, too, so that even when I am not presenting, the guessing game continues. Finally, a simple song punctuates the journey. After every few slides, another verse appears for students to join me in singing (and dancing). No matter how hesitant the children may be when the song is introduced, soon they are belting out each verse. Here is one of my favorite verses (sung to a 3-count beat):

LAY eggs in PONDS and streams
ALL frogs and TOADS it seems
SAL-a-man-DERS and newts
WEAR a wet BIRTH-day suit
THESE • • ARE • am-PHIB-i-an REL-a-tives
THESE • • ARE • am-PHIB-i-an REL-a-tives

Overall, this is a fun and high-energy way to learn and celebrate the major groups of living organisms, from chimpanzees to bacteria—all of whom are our family. This is, without a doubt, my most successful program. It works amazingly well with ADHD and mildly autistic kids, too. Additive math skills are reinforced, and reading gets a big boost. Because it is so much fun to become a creature and read its dramatic script, by the end of the program even nonreaders are volunteering. In such cases, I (or an older sister or friend) will whisper the words phrase by phrase to the young actor, who is ever so serious in precisely repeating those phrases aloud. One mother of a four-year-old boy told me in amazement afterwards, "My son has never shown any interest in reading, and yet he volunteered to read that script. I was so proud of him!"

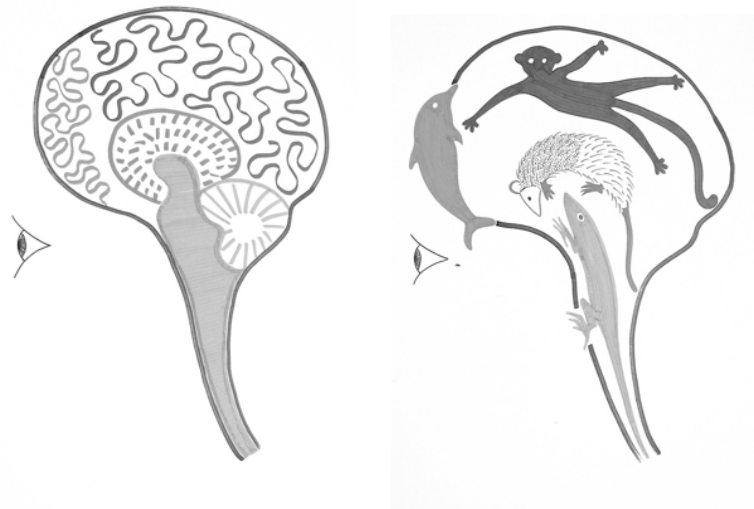
Mixed age groups are, in fact, ideal for this program; the younger children are fascinated (and inspired) to watch the older kids answer the

questions, volunteer extraneous facts, and come forward to read a script. Much of the content is beyond the ability of the very young to comprehend, but the visuals are so compelling and the action so lively that they stay engaged (even some 4 year olds). More, I hope the 5 and 6 year olds are freshly inspired to look forward to the day when they, too, will be popping up with answers—just like the big kids.

Finally, I can't conceive of a more meaningful and memorable way to introduce young children to the fact of deep ancestry. One R.E. teacher told me that, after the program, she watched a girl run to her mother, exclaiming, "Mommy, Mommy! I'm related to a duck-billed platypus!" The journey we take in this hour-long program is also a superb way to guide children toward an ecologically wholesome perspective. Unitarian Universalism, as a movement, espouses seven key principles that we covenant to nurture in ourselves and our children. The seventh reads, "Respect for the interdependent web of all existence of which we are a part." I would add, "Love for the interrelated family of life with whom we evolved."

Your Brain's Creation Story

My newest program is aimed at teens and adults, although I have also led age-appropriate versions for early elementary groups. I call it "Your Brain's Creation Story." My goal is to offer science-based perspectives and practical tools for helping children of all ages (as well as adults) grow into more joyous, forgiving, and on-purpose lives. I plan to produce a DVD and guidebook on this topic for use in middle and high school settings, but when I present the program myself, the only materials I use are the pair of charts pictured here:



The chart at right I have also printed onto two-inch-wide buttons that can be pinned onto coats and backpacks. These I pass around the class for interested teens to take home. One boy told me, "Other kids have lots of

labels and stuff on their packs. I have chosen to put nothing on mine. But I will make an exception for this button!"

I know the material so well that I run the program with no notes—and wander wherever the teens want to go. The Socratic dialogue approach is a natural for me, so I use a question format to help the teens themselves interpret the charts. The chart on the left shows the ancestral history of the four evolutionary stages of development that went into making the human brain. I sometimes joke with adults, "I can think of no better evidence against 'intelligent design' than how our brains are put together."

The brain stem (solid) and cerebellum (alongside) constitute what neurobiologists call the Reptilian Brain, because it is comparable to the entire brains of reptiles. This is about as much brain power as our ancient ancestors possessed when they, too, were reptiles (about 350 million years ago). I like to call this part of our brain our "Lizard Legacy," or our "Inner Iguana." It is our basic life force, ensuring that the body breathes and the heart beats without our having to pay attention to such things. The basic drives that the Lizard Legacy installs in us are the Three S's: Safety, Sustenance (hunger, thirst), and (after puberty) Sex. Teens are fascinated to learn that the Reptilian Brain does not do love; it can only make us feel lust, urge us to copulate, and help us do the latter effectively without anyone having to teach us how.

Next to evolve is the stippled section: our Paleomammalian Brain, which I like to call our "Furry Li'l Mammal". Here is where love and other emotions originate, where we feel happiness, sadness, grief, joy, pride, humiliation, shame. These are the gifts and challenges of our early mammalian heritage. It is through this part of our brain (also known as the limbic system) that we acquire a powerful drive to enter into and maintain bonded relationships. Because we humans are intensely social mammals, bonded relationships for us extend well beyond children, mates, and kin. Indeed, the instinctual drive for friendly relations with nonkin is what makes civilization possible. As a corollary, we care intensely about our status within the group. Status is always relative, of course; there are no fixed thresholds. One cares about getting an I-Phone only if others in one's group have I-Phones. Status, as well, feeds back into how successful our Lizard Legacy will be in securing its own basic drives for safety, sustenance, and sex.

The next part of our brain to evolve was the neocortex, which is portrayed in the chart as the darker shade of squiggles. Scientists call this our Neomammalian Brain, and it ramped up considerably when our ancestors were still tree-dwelling primates. I like to call the neocortex our "Monkey Mind"—which is also the Buddhist term for the same part of our brain: the part that just can't stop thinking. Monkey Mind makes possible language, reasoning, and conscious thought. The new drive that originates here is the drive to comprehend, to figure things out. But for what purpose? Ah, there's the catch! Monkey Mind evolved in order to help the two older parts of the brain more effectively get what they want. In the past, an improved spear point or a better way to make fire would have been among the achievements of Monkey Mind. But Monkey Mind doesn't stop with figuring out the merely useful. This part of the brain is also responsible for our compulsion to find

answers to questions such as, "How did the world come to be? What makes tornados happen? Why must we die?"

Finally, the fourth and most recent part of our brain is absolutely crucial for humans living in societies—from tribal to global. The prefrontal cortex (just behind the forehead, pictured in light gray squiggles) is the seat of our higher purpose, which I like to call "Higher Porpoise." This is the executive part of the brain. It is the brain component that is (sometimes) able to say No when the Lizard Legacy would have us say Yes. Without the prefrontal cortex, we would have no impulse control whatsoever, and no ability to make commitments and stick to them. Unfortunately, at puberty the prefrontal cortex undergoes a massive rewiring that is not completed until somewhere between the ages of 22 and 25. Teens, therefore, cannot be expected to have the best judgment—especially when they are feeling the urges of powerful hormones or the force of peer pressure that greatly impinges on their perceived status. Add to that the "mismatch" between our brain's dictum to eat or drink or do whatever makes us feel good, and one can see why substance addictions in our profligate culture are so pervasive. Our Lizard Legacy and Furry Li'l Mammal have almost no ancestral experience in the downside of excess consumption. Consider: What was there to be addicted to ten thousand years ago? Our Higher Porpoise and Monkey Mind are sometimes no match against reward circuits that become entrenched in the deepest, automatic parts of our brain.

Notice how this evolutionary perspective gives us valuable insight into confusing and harmful aspects of our own behaviors and those of the cultures in which we are embedded. As with meditation, the evolutionary worldview can help us develop a "witness" capacity to reflect on our urges and insistent emotions, not just be driven by them. The witness emerges, of course, from the Higher Porpoise region of our brain.

Overall, I regard "Your Brain's Creation Story" as a crucial supplement to the *Our Whole Lives* curriculum of sexuality education now in use by Unitarian Universalist and UCC churches. With this new evolutionary perspective, we will provide our youth with not only a fascinating but also a necessary scientific grounding—a grounding that may help them avoid (or climb out of) the greatest dangers of navigating into young adulthood and beyond.

At a Unitarian Universalist church in Kentucky, I used these two charts in leading a group of teens in dialogue on matters of sex, love, and addiction. The session culminated with five student volunteers reading dramatic scripts and acting out a mini-drama I had written: *Menagerie of the Mind*. The next evening, a woman who had come to my husband's program at church thanked me profusely. "My son was in your class, and afterwards he told me about it excitedly—he couldn't stop talking about it. He must have kept talking for a half hour straight. He never talks that much!" The religious education director later told me that several of the teens wanted to have tee-shirts made of the animal brain chart.

Evolutionary Parables and Other Dramatic Scripts

A year before my husband and I took our “evolutionary evangelism” on the road to liberal churches, I began writing (and enrolling others to write) evolutionary parables. The *Menagerie of the Mind* script mentioned in the previous section is one such example. A half dozen more scripts are also available for free download from my website, plus many others in narrative form. The mini-dramas, in particular, are playful and memorable ways to teach events and themes within the Great Story of evolution. Parables are also terrific ways to teach core values, as Jesus modeled. In the Navajo tradition, an elder will lead a wayward youth to one or another rock formation and there tell a story. The story, of course, contains a message, so the reprimand and encouragement are thus delivered indirectly and through a mode of communication that our evolved minds find irresistible: story.

The parable I am most pleased to have written is *Startull: The Story of an Average Yellow Star*. On the parables page of my website I describe its educational attributes:

Science Lesson: ancestral red giant and big blue stars created all the atoms crucial for life

Values: patience; being average is okay; accepting self and others; balancing humility and pride; appreciating diversity; trusting the ways of the universe; giving back to the universe from one's personal talents; mentoring; the naturalness of growing up; stages in life; death as natural and important even among stars; embracing the circle of life

Ideally, a pre-school child would first experience this parable when adults or older kids performed it as the central component of an intergenerational service at their church. In early grade school the child would watch it performed again, this time by middle school youth bringing it into the classroom. Watching that performance would be the culmination of a multi-session curriculum that the younger kids had just completed. (The curriculum I offer is *We Are Made of Stardust*, and it is freely downloadable from my website.) The third experience with this evolutionary parable would, of course, be in middle school: this time the youth would work together in rehearsing, costuming, and presenting the drama for the younger kids. In a way, the performers themselves are now elders, stepping into their roles as teachers and mentors. Thus a child would encounter the story at least three times, fulfilling an inborn need for repetition of tales that touch the heart, enrich one's perspective, and provide a coherent picture of the universe and our place in it.

The *Startull* parable is well suited for repetition. It offers simple and straightforward learnings that delight the very young. It also offers many more features and subtleties that older children will progressively notice, as their minds develop and as vocabulary and experience accumulate. As well, I know of no gentler and more effective way for a youngster to learn that death is natural and that it plays a vital and creative role in the Universe. I know of no more playful approach for reminding adults of the importance of mentoring and finding ways to serve, and for all of us to reflect on the poignancy and necessity of death.

Great Story Beads

Of all the curricula and activities posted on www.TheGreatStory.org, the one with the broadest appeal—and for all age groups—is Great Story Beads. In this educational and craft activity, children have an opportunity to learn age-appropriate components of the 14 billion year story of the universe, while stringing beads into a loop or necklace. For each new episode of the story—creation of the elements inside ancestor stars, birth of our sun, catastrophic creation of the moon, first life, death of the dinosaurs, and so on, the children make (e.g., sculpey clay) or select ready-made beads whose colors and shapes in some way remind them of that event. (I did not invent this craft activity; progressive Catholics began a spiritual practice of stringing beads to represent our evolutionary story, and “Cosmic Rosary” was sometimes the name of choice.)

It is astonishing how quickly children learn the story elements when beads are used to signify the key events. In 2003 I spent a day guest teaching the Great Story in a Montessori school in Colorado. Eighteen months later I returned to teach a new program. At this second appearance, a fifth grader came up to me, and asked to see my beads. I pulled the double-loop necklace off over my head and handed it to her. She singled out one particular bead and asked, **“Is this purple bead Charles Darwin?”** “How did you know that?” I said. The girl replied, “I asked you about that bead last time you were here.”

Far more important than the details of the story is the opportunity for children to learn that the stories of their own lives are no less a part of the grand story of the universe than is the origin of life or the creation of atoms. Thus, the children complete their Great Story Beads by adding beads to represent their own birth and important life events—learning to ride a bike, beginning school, perhaps when a new sister or a puppy joined the family.

What About God?

This brief introduction to evolution-based religious curricula would be glaringly incomplete were I to ignore one more spiritual matter: What about God?

Religion Is Not About God is the title of Loyal Rue’s newest book, published in 2006. As I mentioned at the outset, Loyal Rue (a philosopher of religion) points to three core functions that any culturally successful religion must fulfill: personal wholeness, social coherence, and ecological integrity. Edward O. Wilson, the world’s most respected living evolutionist and the 1999 “Humanist of the Year,” endorses Rue’s perspective because it “harmonizes contemporary scientific understanding of the origin of human nature with a positive view of the centrality of religion in culture.”

Religion, Wilson asserts, is central to culture. *But God is not central to religion.* The God question—marginal as it is to evolutionists seeking natural explanations for the power and persistence of religion—is, however, no marginal issue for religious educators. This is so even in humanist-leaning

congregations because children pick up on popular culture, and popular culture equates religion with beliefs in and about God. Then, too, children naturally pass through a “magical-mythic” phase. They will create their own enchanting explanations, whether or not we provide them with heirloom fables and miracle stories—or with enchantingly told renditions of the science story.

As well, parents sense that grown-up perspectives may be beyond the reach of children. So even when a child pointedly demands, “But what do *you* believe about God, Daddy?” we are careful to convey our own truths in ways that will not cause unnecessary trouble for our offspring out on the playground. Thus, despite my humanism, I very much approve of how religious educators at First Unitarian Church of Dallas equip their youngest children to keep peace with friends whose families are conservatively Christian. Recall the “heresy” that launched the Universalist movement: there is no fiery hell. A loving God would not be so cruel, even to the worst offenders. Thus everyone, universally, is “saved.” So when a child is asked by her friend, “Are you saved?” she is instructed to answer simply (and truthfully) “Yes.”

Along these lines, I suggest that religious educators reflect on a crucial distinction proposed by my husband. Michael Dowd (see Chapter ___) advocates that before assessing the truth value of any claim we should notice whether its spoken or written expression puts it in the realm of “day language” or “night language.” Day language pertains to objective, measurable truth: the facts as they really are, and as best we understand them. Crucially, day language is supplemented with a genuine “We just don’t know” for any glaring gaps in our grasp of objective reality.

In contrast, night language is dreamlike, inspired metaphor that gives voice and meaning to real human experiences that lack (or once lacked) objective causal explanations. Thus, without having to present one’s child with a dissertation on the day v. night language distinction, a religiously liberal parent might draw from both categories when answering any of these questions: “Is there a God?” • “Who is God?” • “Will God take care of me?” • “Where does God live?” • “Do you ever talk to God?” • “Can God see me?” Notice the possibilities I offer in this sample explanation:

The word “God” means a lot of different things to different people. If what *you* mean by “God” is kind of like a father or a mother somewhere up in the sky or out in space—someone who cares about you in the way that I care about you, then, no, there is no God. But if what you mean by “God” is more about awesome things—like the fact that it took the entire Universe almost 14 billion years to make this moment in your life possible, or that there is a bright warm Sun up in the sky that we can absolutely depend on, or that you are surrounded by people who love you very much and will do everything to keep you safe and help you discover your own talents and gifts, then yes: you bet there is a God!

Allurement

Answers to Big Questions that do not fragment a child’s picture of the world,

a “cosmic container” for dealing with death, a sense of belonging and of kinship with all creatures, transmittal of core values, a practical understanding of our problematic inner nature, nonmagical ways to think about and relate to “God”: all these and more can be brought to the younger generations by our welcoming the Epic of Evolution into liberal religious education. There are two reasons why churches must take the lead in this effort. First, extensions of science into realms of meaning and value are so novel and require so much preparatory learning that we cannot expect parents to handle this task on their own. Second, public (and even private) schools will continue to offer few, if any, opportunities for children to learn of their 14 billion year heritage—and surely no opportunity to explore the personal and practical implications of such knowledge.

I hope that through this brief introduction to the day language underpinnings of the Epic of Evolution and its meaningful and poetic extensions into night language (e.g., “stardust,” “Lizard Legacy,” “God”) readers will sense not only exciting possibilities for religious education but also realistic ways to move these possibilities into practice. Michael Dowd and I both go about our work of evolutionary evangelism in religious and secular settings guided by this conviction: *May the best story win*. That is, we don’t preach or teach the Epic of Evolution and its religious implications from the standpoint of, “This is the truth, so thou shalt accept it.” Rather, we aim to awaken individuals to this perspective primarily because it truly is a great story. The story of our immense collective journey can help us make sense of the world—from our own small dramas outward to the scale of the planet, the galaxy, and beyond. Awakening to this story can inspire and guide each and every one of us toward joyous, on-purpose lives. I have been privileged to hear of and sometimes personally witness such awakenings these past seven years on the road. I shall close with my favorite example.

Michael and I had just arrived for our second turn as theme speakers for a Unitarian Universalist summer camp near Durango, Colorado. A young woman seemed so happy to see me. She said, “I brought my two boys to your stardust program last time you were here. My youngest son was only three and a half years old then, so I didn’t expect him to understand, much less remember, anything from that experience. But let me tell you what he said just a few weeks ago. I was telling him about something that had happened to our family in the past. He asked, ‘Mom, was I born yet?’ No, I said. ‘Was I in your belly yet.’ No. ‘Oh,’ he said, ‘I must still have been stardust!’”

CURRICULUM NOTES: All of the curricula, scripts, and stories can easily be accessed through the home page of www.TheGreatStory.org. The link to “Children’s Curricula” also lists some of the best resources available on other websites.