

## Children's Lesson and Sermon

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### Story: Learning to Eat

Did anyone eat breakfast this morning? [pause for response]

How did you learn to do that? [pause for response]

Have you ever seen a baby learning how to eat solid food?

Someone would offer maybe a finger or a spoon dipped in baby food, and you can see the look on the baby's face- like WOW- WHAT IS THAT!

Then usually they spit it back out, until through a process of trial and error, they learn to swallow it.

It is a messy process. That is why babies wear bibs, because sometimes as much food ends up on the floor as gets into the baby's mouth.

They learn how to get the applesauce off that rubber baby spoon, and eventually to hold the spoon or crust of bread in their own hand,

and eventually by watching other people,

with practice

and the helpful advice of parents and caregivers

they get to the point where they can eat their own breakfast and most of it gets into their mouths instead of their hair and table and clothing. It takes a long time.

Now, here's a hard one- how did you learn how to turn breakfast into tissue- like eyes and skin and heart?

Everyone knows it, right? You don't have to study that in school. You just... know

Not all living things eat what we eat for breakfast, but every living thing eats.

For billions of years animals and plants and bacteria have been eating,

that is to say, turning the proteins of their food into the proteins they need in their own bodies

When the first cells learned to do this, they couldn't write it down, they didn't have religious education classes to teach it to the young folks

instead the special new thing one bacteria can do, is passed on to its children and to its children's children through its DNA,

(that's the code written in the cells of our bodies that makes us- us)

We are used to thinking of ancestors as our grandparents and our great great grandparents. We don't often think about single celled organisms billions of years ago as our ancestors.

And these ancestors, they left us a gift, us and all their children. They left us the pattern for how to turn breakfast into, well... us.

They left it to us in our DNA, along with all the other patterns we need

to make lungs and to breathe into them,

to make blood and circulate it through our bodies,

to make brains that think and learn.

Our DNA is like the most amazing encyclopedia ever.

Everyone here in this room knows how to eat breakfast because

not only did our parents spend all those meals showing us

not only did we try and try again with applesauce on our face and spaghetti  
on the floor

But over millions of generations Life itself learns.

Sermon “Life Learns, Life remembers”

Why do we celebrate Evolution Weekend? Why do we get so fired up about this particular scientific theory that Court Trials and senate hearings and school board meetings are filled with passionate discourse about it? I propose that it is because the patterns held in that story have the power to change our cultural DNA. I propose that this story, our story, is so powerful that it calls us to re-imagine our role in the universe, or should I say, calls us to remember who we really are.

In our children’s lesson this morning, we talked about how we inherited the capacity to disassemble grains and transform them into the building blocks of our own lives. One of the tools we inherited that allows us to do this is Cytochrome-c--an enzyme<sup>1</sup> in our cells that is important in the breakdown of food molecules. It is found in large complicated organisms like trees, alligators, and us, and also found in little one celled bacteria. It has existed for a very long time, but not always. The primal single-cell organisms first put together this very useful enzyme billions of years ago. And it was so useful that it has been handed down ever since.

But life can’t hand down a molecule the way my grandmother handed down her tea cups; molecules don’t last forever. Instead the same pattern of nucleotides used by the first organisms to make Cytochrome-c was passed on to us and our bodies use that pattern today to make brand new Cytochrome-c proteins which help turn grains and bread into flesh and blood. For as long as there have been cells, even

those very first primal Prokaryote cells, they have had this capacity to reproduce patterns. These patterns are tucked into our DNA<sup>ii</sup>, and the very first pattern they had to learn was how to re-create life. Without those patterns life on earth would have been a momentary anomaly.

But how did our ancestors back over 2 billion years ago “learn” how to turn food into useful stuff? The way scientists believe this works is that as DNA is passed on mother to child, sometimes by chance little changes happen (and what we are learning now is that not all of those changes happen by chance- some changes are sort of lying dormant in the DNA and are triggered by the environment). These slight differences in the patterns of the nucleotides lead to differences in the proteins within the cell. Huge numbers, possibly millions of such “slightly different” proteins are made this way before one of these slightly-changed patterns holds within it a unique gift that helps that cell to survive, and this genetic pattern for –say - cytochrome c, is passed on to its children and following generations until, if it is a very useful gene, it is spread throughout the population.

Much as one baby learns to eat food through trial and error, thousands of generations of living beings “learn” through living out different patterns, some successful, some unsuccessful, which patterns allow life to flourish and thrive. But unlike the baby learning to eat solid food, it is not any one individual who learns, instead it is life’s long process of adapting through trial and error, and then remembering through these patterns and so passing on what is learned to future generations. As Swimme and Tucker say in their new book *The Journey of the Universe* “It is life as a whole that learned to digest its various foods.” In this way, Swimme and Tucker write:

“When we today remember . . . that the atoms of our bodies come from the explosion of ancient stars, and that the patterns of our lives come from many ancestors over billions of years, we begin to appreciate the intricate manner in which life remembers the past and brings it into fresh form today. Life adapts. Life remembers. Life Learns.”<sup>iii</sup>

Now not every being gets a copy of every pattern. Flying, for example, is a piece of the pattern you and I did not get. Breathing air and photosynthesizing are both amazing skills critical to our balanced biosphere, but we got one and plants got the other. No one set of DNA has the learning of all our ancestors, so in a way life’s learning is a community activity. We need all this great diversity of genetic patterns present in all the living things to preserve the tremendous knowledge needed to sustain life on earth.

It’s really quite amazing – the stunning intelligence of the forms life takes, from the nuclei of a single cell, to the amazing complexity of a leopard or a human body. For a long time creationists took the point of view that this beauty and complexity **proved** a divine entity was at work. Science took the mechanistic view that life was more like a machine, randomly creating mutations until we hit the lottery and through endless combination came up with something amazing, like photosynthesis. Today some scientists are starting to wonder- is it possible that life’s yearning, life’s striving, life’s urgent need could in some way guide our evolution? In the same way that I know I am existentially different from a toaster, could life itself have in its growing and learning and evolving something beyond the nihilism of meaningless chance?

But I digress. For things like breaking down grains into the more useful proteins that are the building blocks of our bodies, we rely on a legacy going back billions of years in our DNA. This happens entirely outside our consciousness. But we have other ways of passing on the survival skills of living in this world, of passing on adaptations that have been useful to us over generations. Any parent who sticks around to oversee the survival of their children passes on such skills. Gorillas, dogs, rabbits pass on skills like what to eat and what to avoid eating, like how to live in a family group or larger community. They do this by example, or if you have ever hung out with dogs or cats who are parenting, you see them teach with a nudge or a nip. We know that information can be passed on in such way for generations with surprising staying power --things that can't or aren't passed on through DNA.

We humans add another tool to expand our memory – symbols, whether cave paintings of the hunt, or religious scripture, or Facebook posts. We know from Egyptian hieroglyphics over 5000 years old that the people of Egypt had learned how to make bread. Maybe it was a happy accident of dough left sitting out too long so that the natural yeast in the environment began to ferment<sup>iv</sup>. Maybe some inquisitive mind was fiddling around looking for a better dough, but someone thought that first loaf of bread was worth repeating. A bit of that dough could have been saved from one day to the next, preserving the yeast culture. We do this today- there is a bakery in Juneau Alaska that prides itself on using the same sourdough starter for over a hundred years. Recipes we also pass down, parent to child, master to student some learned by heart, others printed in books copied by the thousands. My mother specializes in pies so I learned to make bread from Julia

Child's "The way to cook." I learned this skill that is thousands of years old from someone I will never even meet.

We here, this very community, have things we teach about bread. If this Sunday is like most, after the service we will slowly trickle into the social hall, where there will be a hot pot of coffee and water for tea, and if we are lucky on the table will be this week's unique assortment of fruit and grain and other tasty things. What do you suppose we are teaching with that? *[pause]*

That table is loaded with culture and learning, about how to prepare nourishing and delicious food, what else? *[pause for the congregation to respond]*

With this small pattern made... Does anyone know how long ago? Anyone remember a time when we didn't do this? *[pause for the congregation to respond]*

Okay so through this pattern we pass on things about hospitality...

We teach something about fairness and ethics, (we know that if we take all the banana bread no one else will get any.)

I bet at some level the table is spread whenever we gather just in case someone is among us who has no food at home right now.

When Jewish families gather for the Passover meal they want to remind one another what it is like to be oppressed, and when they break the matzo, the unleavened bread, they remind one another about the price of liberation. Our common meal after the service has many possible meanings, but how about- "when we gather together we bring many diverse gifts, and we share the things that sustain us." All these things are good things, important things to remember.

In the same way that our DNA coils all those patterns in a tiny place, our cultural patterns coil learning into customs as simple as our social hour. Cultural patterns help us remember and pass on learning. Culture, our culture, is a whole new way of passing on our memories beyond our own life. We hold those memories not simply as individuals, because they are shared among all those who are able to read the signs. We share ideas, and feelings, and skills that help us survive. Our evolution is not only the story of how the patterns in our DNA were shaped, but also of how animals like us evolved the processes of teaching and living in community. It is also the story of how we humans have evolved into a species that communicates and remembers with symbols. Not just for ourselves, but for all of life. Just as plants adapted and now remember how to photosynthesize, we adapted and learned and remember how to store up great troves of knowledge. What if this mutation, this adaptation is one that benefits not only our species, but all of life on earth? Without this skill we never would have been able to tell the story of DNA which we built bit by bit out of millions of pieces of data collected over hundreds and thousands of years. We would not know what a massive epic our story really is, and we might not understand the tremendous capacity we have to adapt, learn and remember through our culture, and in our very bodies.

We have not reached the end of our evolution as a planet, nor have we reached the end of our evolution as a species. We humans have some part to play in the collective learning of life on this planet. And we, this very beloved community, has a role to play as well. When we tell our stories. When we break bread together. The patterns of our time together from the lighting of the chalice, the hymns in the grey hymnal, some of them hundreds of years old, the compassion we practice during



Joys and Concerns, the wisdom and meaning we search for together during our readings and sermons, and of course the coffee hour after the service. Through our patterns we adapt, we learn, we remember.

Why do people feel so passionate about the story of our evolution? Are they worried that it will lead to a meaningless nihilism? This story doesn't shake my faith but fills me up with gratitude and wonder for the legacy we carry in our very cells filled with the wisdom of 4 billion years of life on this earth. Our human lives are only a small chapter in this epic story, but life is evolving through us. Through us life remembers with symbol and culture. Life calls us to act as guardians of all this wisdom, whether a pattern in nucleotides, written in times new roman in the book on my nightstand, or lived out in the cycle of Sunday mornings through the years as a religious community.

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<sup>i</sup> An enzyme is a large protein molecule

<sup>ii</sup> which is a molecule found in the nuclei of cells.

<sup>iii</sup> (p. 61)

<sup>iv</sup> “The History of Bread Yeast” [http://h2g2.com/approved\\_entry/A2791820](http://h2g2.com/approved_entry/A2791820)