

## ***Evo-Consciousness***

Unitarian Universalist Church of Vancouver

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### ***Reflection on the Theme by John Hennessey***

Through the ages human beings have continued to evolve. We have evolved physically – we walk upright, we have gotten taller, stronger and smarter – We have developed bigger brains and adapted well to our environment wherever we have lived on the globe. But are we continuing to evolve? (When you listen to the current news, it makes you wonder.)

We have recently developed some amazing technology.

What effect does all this new technology have on our ability to evolve? [hold up cell phone] Or could it be that we are also maybe sort of... regressing?

My wife is a writer by habit and the other day she was trying to think of how to spell the word “exasperated”. She grabbed her phone to look it up. “Wait!” I said, “Use your brain. Sound it out.” My wife then gave me an ‘exasperated’ look. She was mad at me and I’m truly not sure why. Isn’t that my job, to remind her to use her brain?

But then, she is getting older, as we all are. And with age sometimes comes a modicum of forgetfulness and the fear that we may be losing our ability to remember. The effort to “use her brain” was just too frustrating when the answer was available in seconds on her cell phone.

Our technology in this way, may be causing us to actually regress. Just think of cell phone use. The advent of the SmartPhone has created a possible roadblock to our brain’s evolution. It does the thinking for us, and with AI it does the creating for us. These devices are slowly, imperceptibly, stalling our evolutionary process. This is made more dangerous with the explosion of the internet. These devices become addictive and may cause a dependence to build up. Social Media is creating a society of distracted people often glued to their screens to excess. Among the younger generations, this has created a host of social problems. Screens are ubiquitous with teens, who may be losing the ability to think critically, to carry on an intelligible conversation, to evolve mentally and emotionally. Technology has caused much isolation, depression... and even suicide. Is the “Smart” phone technology actually “dumbing” us down? And with the ever increasing acceleration of new technologies, can we assure that we will continue to grow and evolve in a positive manner? Will we continue getting stronger, smarter and better adapted to our environment?

I think UUCV is helping in this effort, albeit in a small way, to socially go in that direction. We tend to discourage the use of cell phones in the sanctuary.

Well, here we are, sitting in church. And there has been no cell phone use for all of 33 minutes already! And after church, there's social time in the RE building, where people will be actually talking, face to face, with each other, with rarely a cell phone emerging!

That is the etiquette of our church. So I say that at this moment, we are choosing to evolve.

### **Evo-Consciousness by Jacob Jacobson Tennesen**

*Science shows we live in an evolving world. What does this mean for our relationships with nature and with our fellow humans? A biologist ponders how to be kind and responsible members of our diverse, dynamic, and pliable web of life.*

I'm a biologist here to preach a sermon in praise of evolution. Science and religion, they go great together. Though some folks find them challenging to reconcile. At family gatherings, my own uncle often approaches me with questions. "Now I'm not saying it did happen this way, but am I right that it would be possible, from a single rib, to get the DNA needed to make a new person?" Yes, that would technically be possible, no I don't think it happened that way, but in fact a lot of the Adam and Eve story is surprisingly compatible with science. Not the seven-day creation or the talking snakes, but there really were human ancestors living in a parklike wonderland, who had to figure out what to name the animals and which fruits were safe to eat. The first humans lived in Africa and would have looked more or less like typical Africans today. Minus the clothes. There were never just two of them, but undoubtedly there were times when a couple isolated from their clan felt like the only people on Earth. So I'm not here to point out the factual errors in Bronze-Age stories, but instead, in parallel with my uncle, try to form a narrative that is both scientifically true and spiritually inspiring. It's not as hard as you might think. What exactly is evolution? Evolution is a magnificent natural phenomenon. It is something that life does. Just as I grew from a single cell into a scientist, life as a whole has grown from a single cell into a biosphere. We're one family. We're related to everything else alive, and we've all changed along the way. Evolution is the true sacred story of our origin and connectedness to the world, the explanation craved by all of humanity since we first learned to wonder, guessed at for millennia by mythmakers and poets armed with little but dreams and desires until science illuminated the spectacular truth. Evolution also produced literally everything funny in the universe. Like all of those wacky body parts and everything we animals do with them. That's our heritage.

There need not be a conflict between religion and science because all the virtues we get from traditional creation stories — awe, humility, compassion — can also be found in evolution. Evolution is the best creation story, not only because it happens to be true, but also because its epic scale outshines any paltry myth from mainstream religion: billions of years, heroic rises and falls of millions of unique species, our literal family kinship with whales and bees and redwoods. UUs mostly get that, and we tend to accept evolution as factual, but we also can be a little unsure of how evolution fits into our spiritual lives. Evolution can make us a little uncomfortable. Natural selection and the struggle for survival seem to imply a hostile world, nature red in tooth and claw, might makes right, no higher purpose than passing on your genes. It doesn't seem to have a lot to do with UU values of empathy and community. In

contrast, UUs love ecology. Ecology, the interdependent web, flower power. That's the good stuff. And ecology is fantastic, of course, and we should embrace it, but sometimes it feels like it sets an impossible standard. If there's already a perfect balance of nature, then all we can do is screw it up. It sounds a bit like: bite the wrong apple and you've doomed your species forever. An evolutionary viewpoint, that life is constant change, provides a little more leeway and forgiveness, and can help show us how to be the best humans we can be.

I want to focus today not on the ancient past but on evolution as an ongoing process, genetic shifts that have happened since the time of Adams and Eves, and Adams and Steves, that are still happening. Evolution is a river flowing around and through us, splashing as we flail. Our survival and flourishing on this planet depend on many other species which are not frozen statues but frothing currents of ever-changing variation. Keep your head up.

In 1962, Rachel Carson wrote *Silent Spring*, arguing passionately that pesticide use was destroying ecosystems. Her book launched the modern environmental movement, sometimes called eco-consciousness because it made us all conscious of ecological interactions. But Carson didn't just write about ecology, she also wrote about evolution. Insects were quickly evolving resistance to poisons. Not only did this render these chemicals useless even for small, targeted applications, but it also meant we were altering wild gene pools in uncontrolled ways. And yet, her evolutionary message never really resonated like her ecological one. You can't buy "evo-friendly" detergent. There's no "evo-consciousness" movement. But maybe there should be. And by this I mean living your life aware of evolution as a force around us that influences us and that we influence in turn. Being conscious of evolution, which is different from the question of how consciousness evolved in the first place, though I can summarize that as "we don't actually know."

But we do scientifically understand the evolution occurring around us today. I study infectious disease, where evolution happens all the time. Remember in 2021, when people were finally getting COVID-19 vaccines and it felt like the pandemic might be ending? But then new variants like Delta, and later Omicron, ruined the party. These viruses spread more efficiently than earlier versions and replaced them. That's natural selection, the basis of adaptive evolution. The same thing happens with diseases I work on like malaria. We start to get it under control, but then a new mutation appears that overcomes the existing pharmaceuticals and we have to start all over. If we provided comprehensive health care to everyone globally at once we could get ahead of this kind of evolution, but if we let some marginalized people languish sick, that's when new dangerous variants appear. A half-hearted effort just leads to endless whac-a-mole against new resistance mutations.

So evolution's lesson is not "look out for number one". It's the opposite: "we're all in this together". Because of evolution, infection anywhere is a threat to health everywhere. Even if you're currently safe, a new variant can evolve in someone else that threatens you as well. Survival is a collective effort. But of course, it's not just germs that evolve. Everything evolves. And these days, it's often influenced by people. Sometimes that's a good thing, as in agriculture. The original corn cobs were the size of your pinky. The original bananas were full of seeds. Life didn't give us lemons, we had to invent them.

Sometimes it's a bad thing, though. Codfish are shrinking in size after we fished out the biggest ones. Elephants without tusks are becoming more common because poachers target ivory. In fact, humans are probably the single strongest driver of evolutionary change for every species currently on the planet. Even those in pristine habitats. Owls in Scandinavian forests are becoming more brown and less grey because the winters aren't as snowy, due to climate change. The native birds of Hawaii suffer from their own version of malaria introduced there by Europeans, endangering many of them, but at least one species of honeycreeper finch is evolving immunity to the parasite. Such stories are a little bittersweet: certainly evolution is better than these animals going extinct, but it also feels like we're messing with nature. And we are, but maybe that's okay since nature is always changing anyway. The question isn't how to prevent evolution from happening entirely, but how to guide it in sustainable and desirable ways.

Perhaps the most potent symbol for savage, wild nature is a slaving wolf, especially one with a pitch-black pelt. But even black wolves exist because of humans: we first bred dogs to be black thousands of years ago, and one or two of those mated with wolves. And then, because the main job of the gene for black fur is actually part of the immune system, black wolves seem to be more resistant to germs that people brought to America. So they became more common. Now it's not that there are two kinds of wolves, black and grey, and one is replacing the other. These are all just one kind of wolf. Different colored wolves might be siblings that just happen to differ at this particular gene. But we really fixate on that color difference. In fact early biologists incorrectly classified black wolves as a separate species. Our brains love to divide the world into discrete categories, and we struggle to perceive the more subtle continuous variation that exists within species, the sorting of which permits evolution to occur. Our brains do what they do because they too are products of evolution. This also has relevance for religion. People believe myths because our brains evolved to accept simple explanatory stories without any evidence, including this sentence. I'll give you a second with that one.

Our brains like to divide people into categories as well, again often based on color. This is part of the reason we can be uncomfortable with evolution: if humans are also evolving, does that mean some groups of us are more evolved than others? But actually evolution proves racism wrong. When some people left Africa and moved to Europe, they barely changed at all genetically, but the genes that changed the most were those that yielded lighter skin, which more efficiently generated vitamin D from the weak sunlight of northern skies. Just like the wolves, there was a small change that happened to have a big visual effect, and people throughout history have latched onto that difference and made a much bigger deal of it than was ever warranted. Genetic differences everywhere are mostly skin deep. No human population is truly isolated because we have always traded and mated even between the continents: go back to the Bronze Age and you can find common ancestors of all humans alive today. We are all evolving together. Indeed, we are evolution, a part of it, just as one of your skin cells is a part of your life. You are the part of evolution that can understand what evolution is.

Evolution also can help heal the wounds we've inflicted on our planet. Bacteria have been found that can eat plastic. Some fish can now tolerate the high pollution found in industrial harbors. Certain flowers have evolved to grow on toxic mineral tailings outside of copper mines, containing this waste. And other examples, most probably still undiscovered. In graduate school I studied amphibians, and one night

some friends and I were looking for salamanders in the Oregon woods. You might think of salamanders in ponds and streams, but some species live entirely amid moss and decaying logs. And this was a beautiful spot, but we weren't finding any animals. It occurred to me that this wasn't really their natural habitat, because it wasn't an old growth forest, so it didn't have the enormous fallen trees that would have been full of amphibians hundreds of years ago. So salamanders have had to adapt. And then we found something unexpected: an old decrepit purse, with a driver's license and credit cards that were decades old. We later turned it in and the police found the owner, still living in the area, from whom it had been stolen 30 years prior. But here's the thing: in addition to ID cards, the purse was full of living salamanders. That's where they had been hiding. Now as a scientist, I have no evidence that these particular salamanders had genetic adaptations that helped them to live in littered purses. But I think they illustrate a broad trend of adjustment to survive in a human-dominated world. Evolution can't correct all of our mistakes; sometimes we change things too much, too fast. But if we are gentle, nature can meet us halfway.

Science and religion complement each other, like a human couple, as in my own marriage between scientist and minister. So we might imagine Adam and Eve, real ones, two of the countless human ancestors who spent their lives out in nature making observations, starting to figure it out.

"Hey Adam, look at those leopards!"

"That one's a leopard, Eve, and the black one's a panther. Remember, I dreamt God instructed me to name every animal, so I..."

"But they're not different kinds, Adam! Look, they have babies!"

"A black animal and a light spotted one are definitely different, Eve. The first thing God did was separate the light from the darkness".

"Oh, how do you know what happened? Were you there? I'm coming up with a new theory to explain everything, called Eve-o-lution."

"How would that work?"

"Maybe leopards are turning black so they can hide better. And if we can get black leopards that way, who knows what else we got that way? Maybe everything!"

"But God made this a perfect paradise for us from the start, so nothing needs to change."

"Is it really so perfect? There are dangers and discomforts. I think we could make it better."

"We could also make it worse. God formed me from the clay..."

"Yes, it is like clay. Sometimes when you make a clay cup, you poke a hole and ruin it, but sometimes you turn it into artwork."

"You just have to be careful."

"Exactly! So maybe this isn't supposed to be paradise already, but a sort of clay we can shape. A project for us to work on."

"A pliable Eden?"

"Why not? Think about it. I could choose what kind of fruit I want and plant a seed to grow that tree. We can help create this garden."

We are both products of evolution and agents of evolution, and we can accept these roles with pride and responsibility. Like a river, evolution can be dangerous, or can be misdirected by human hubris, but

with a little understanding it can sustain us both biologically and spiritually. Go and feel it flowing around you.

Now please join me in signing the hymn that my daughter as a toddler called the “wild geese song” and found great comfort in, #343: A Firemist and a Planet.