

Psalm 104
The Butterfly Effect
April 23, 2017-Earth Sunday

Psalm 104, is a creation hymn. I think it's one of the most beautiful treasures of the book of Psalms. It affirms God's creation of the distinct elements of the natural creation for their own purposes, independent of human beings. So often when we talk about God's creative activity, we talk in terms of the beauty that God has created *for us*. While human beings do have a special place in the order of things...it is not all about us. This psalm reminds us, streams were created to water the trees that grow beside them, storks nest in the trees provided for their nesting, craggy mountain peaks are created for mountain goats and the goats for the mountains.

Unlike the writers of the creation stories, the writer of Psalm 104 understands the work of human beings, relative to creation, not as a curse or special burden, but simply as the function or purpose of human beings. For the psalmist, the work of tending to and caring for what God has created is the reason God created human beings. Verse 23 says, "People go out to their work and to their labor until the evening." It is the order of things; how God designed it. This psalm presents the world as well-ordered and reliable. It is to be celebrated and God is to be celebrated as Creator.

Let's think for a few minutes about this concept of the world being well-ordered and reliable. When I was in 2nd grade, my mom began to teach me how to play the flute. First, she taught me how to get sound from the mouthpiece by teaching me to make noise by blowing across the top of a pop bottle. Then she taught me how to hold the flute and gradually she showed me how to play notes. When I had mastered a good number of notes and learned a few simple songs, she began to teach me scales. I remember being very intimidated by scales after learning that I would not be looking at music, but just playing them from memory. I didn't think there was any way I could remember all of those notes. And how would I know if I had played it right without music?

My mom assured me I would know. And why? Because musical scales are well-ordered and reliable.

Here is the C scale. (Play scale)

And what happens when part of something that is well-ordered and reliable is missing? (Play scale without one of the notes)
You notice, don't you?

And what about stairs? Have you ever been going up or down stairs and realized, too late, that one of the steps is a little bit different height? We have grown to expect stairways to be well-ordered and reliable...even a little alteration, as little as half an inch, can have potentially disastrous effects. Take a look. (Show video)

Musical scales and stairways remind us that even small variations have an effect on things that are well-ordered and reliable. This is true for the environment as well. Our actions, even actions that seem small and insignificant, matter. This week, I read a fictional, sci-fi short story by Ray Bradbury. It's called, "A Sound of Thunder." It was copy righted in 1952. The story is about a man who pays money to go back in time in order to hunt a T-Rex.

In the story, there are strict rules that had to be followed in order to go on one of these hunting excursions. First and foremost, participants could not touch anything. They had to stay on a metal pathway that was made of anti-gravity metal that floated above the ground, not touching it. They could only shoot the animal the guide told them to shoot because the safari company had traveled back in time earlier in order to mark the animals that would be naturally dying 1-2 minutes later than the time the hunters would travel back to. That way they wouldn't be significantly altering the animal's life span.

These strict rules baffled the man in the story. This is what the guide said to him, "...say we accidentally kill one mouse here. That means that all the future families of this one particular mouse are destroyed...And all the families of the families of the families of that one mouse! With the stamp of your foot, you annihilate first one, then a dozen, then a thousand, a million, a billion possible mice!

The man still doesn't get it. The guide goes on, "...what about the foxes that'll need those mice to survive? For want of ten mice, a fox dies. For want of ten foxes, a lion starves. For want of a lion, all manner of insects, vultures, infinite billions of life forms are thrown into chaos and destruction." "Eventually," he says, "it all boils down to this: Fifty-nine million years later, a cave man, one of a dozen or so in the entire world, goes hunting wild boar or saber-toothed tiger for food. But you, friend, have stepped on all the tigers in that region, by stepping on

one single mouse. So, the cave man starves. And the cave man is not just an expendable cave man...he is an entire future nation. From his loins would have sprung ten sons. From their loins a hundred sons, and then onward to a civilization. Destroy this one man, and you destroy a people, an entire history of life.

As I mentioned, this story is fictional, however, philosophers and scientists have been talking about time travel as it relates to chaos theory and the butterfly effect for a very long time. Chaos Theory is a branch of mathematics focused on the behavior of systems that are apparently random, yet there seems to be underlying patterns, repetition, and self-organization within them. The Butterfly Effect, part of Chaos Theory, describes how one small change can result in larger differences much later, such as the differences described in the Bradbury story. You have probably heard about the Butterfly Effect, from a meteorological perspective, in terms of the small disturbance of a flap of a butterfly's wings affecting the formation and path of a tornado weeks later.

Chaos Theory is a theory. The Butterfly Effect is more philosophical than scientific. The problem is, science requires reproducible results and control groups. Chaos cannot provide that. This is one of the reasons, I believe, we have so much trouble getting everyone on the same page with regard to climate change and other environmental issues. For people who do not want to believe human beings negatively affect the environment, the absence of reproducible results and control groups provides their out. But, the reality is, it is clear that small changes have the power to affect the world in big ways. I believe the way forward is to stop arguing and agree that the *possibility* that we are harming the environment is worth doing whatever we can to protect it and all of the creatures that rely on it. Our psalm today makes it pretty clear that the Earth was not made for human beings to use up, but to care for.

I want to give a few specific examples of how we can better care for the Earth, but first, it's important to acknowledge that we can, indeed, do better and acknowledge that not everyone agrees on the best way forward. First, how many of you remember the pictures of American cities covered in smog? I do. As a child, I remember seeing pictures of smog-filled skylines in my Scholastic Weekly Reader. Here is a picture of L.A.'s skyline. The photo on the left is from the 1980's, the photo on the right, from March 2015. Children in the Los Angeles region have

substantially healthier lungs than they did just 20 years ago, thanks largely to laws put in place with regard to vehicle emissions and industrial pollution. It seems clear to me that these laws were a good thing. Over all, the air quality in our cities is much better than it was 20 years ago, even while our cities are larger and busier than ever. Many of us may find government regulation troubling. Certainly, the president had guests at the White House this week who feel very strongly about that. When asked about his meeting with the president this week, Ted Nugent tweeted, "We discussed specifically the counter-productive follies of the Endangered Species Act and the Environmental Protection Agency, as well as the U.S. Fish and Wildlife Service, Black Lives Matter, and other out of control bureaucracies." Mr. Nugent and I have vastly different worldviews. Regarding the work of the EPA especially, I think evidence supports the necessity of their work and the positive outcomes that have resulted from that particular agency. These government regulations enable people in big cities to breathe easier and they keep our nation beautiful. I cannot imagine anything more patriotic than that. We cannot allow these air quality saving measures to be rolled back. Clean air has been turned into a political issue. It shouldn't be. It is an issue of well-being for everyone. In the long run, nobody benefits from smog-filled air.

An example of our failure to protect the creatures we share the Earth with features sperm whales. Last year, autopsies of 29 sperm whales found dead on the shores of the North Sea showed stomachs full of plastic, including plastic car parts. The cause of death for the whales was not the plastic, but the stomach contents is a scathing indictment of the affect human beings have on the other creatures we share this Earth with.

And, here in OK, due to the current state of affairs with regard to the budget, there is consideration being given to the idea of closing almost half of our state parks. This is a picture of Osage Hills State Park, one of the parks being considered for closure. Closing these parks would be a huge loss for our state, both in terms of the sanctuaries the parks offer wildlife and human beings. When Oklahoma Senator Inhofe was asked about the EPA cuts that are precipitating the cuts to the state Tourism and Recreation Department, he said, "The Environmental Protection Agency is releasing propaganda that is brainwashing our kids." I'm not sure, specifically, what he is talking about, but my experience of the EPA's work has not been so.

Honestly, I could go on and on. There are many, many challenges facing us with regard to the environment. And they matter. All of it matters. Christianity, as a faith tradition, puts great value on passing on wisdom, tradition, and faith from one generation to the other. I wonder, though, as future generations look back at 2017, what will they think about what we have passed on to them? When confronted with wisdom about our effect on the environment, did we act or did we care more about what was profitable or convenient? Will our Green Chalice be a symbol of our unwillingness to do and say hard things or will it be a symbol of hard work and progress toward a way of being that prioritizes all of creation?

We can prioritize the environment and all creatures by minding the small things that we can do as individuals and confronting the big things that corporately we need to tend to. Here are the things, if we aren't already doing them in our homes, we can do today.

First, recycle. If you don't have them already, get a few bins or boxes. Label them paper, cardboard, plastic, glass, and aluminum. We have some experts here in the church. If you need help getting started, just ask! Second, replace your light bulbs with energy efficient light bulbs. If it seems like a lot to do at once, commit to replacing one room a month or replacing burned out bulbs with LED or halogen bulbs. Third, unless you have a specific use for plastic grocery bags, use canvas totes and reusable bags for groceries. All of these seem like small things...and they are, but small things matter. What we do and how we live matters.

I am proud of Disciples Christian Church and our commitment to the Green Chalice ministry of the General Church. I love it that we are intentional about recycling and that we encourage members to get the newsletter digitally when they can. We have motion sensitive lights and keep a close eye on the thermostats. I know a number of you are very upset about the proposed closing of the state parks and I know that some of you were planning to take part in the Science March yesterday, partially because of your commitment to the environment, wanting to be sure that climate change does not get dismissed. In some respects today, I feel like I am "preaching to the choir."

In my preparation for this sermon, I read the book *The Upcycle: Beyond Sustainability---Designing for Abundance* by William McDonough and Michael Braungart. I really recommend it. In the book, they laid out a plan that goes far beyond recycling and sustainability to the abundance that is possible because of

the goodness of human beings who are capable of designing products that have a life beyond a life time warranty, a benefit to the biosphere after the product's death. They write, "The goal of the upcycle is a delightfully diverse, safe, healthy, and just world with clean air, water, soil, and power---economically, equitably, ecologically, and elegantly enjoyed."

In the chapter called, "The Butterfly Effect," they write about businesses that have made caring for the environment and sustainability part of their business model by looking at design in some out of the box ways. One example in the book is the story of the Ford Motor Company's River Rouge Plant. The "living roof" on the auto plant provides habitat, decreases energy costs, and protects roof membranes from thermal shock and ultra-violent degradation, thereby extending its life. It also acts as an on-site treatment plant for cleaning storm water through natural filters, exceeding the performance called for by the Clean Water Act.

There's another story in the book about the design of a pharmaceutical lab in Barcelona. The authors, one an architect, and the other a chemist, were asked to design this building and they decided to use the design to celebrate butterflies and the joy they create in the world. They designed each side of the building differently, based on the direction each side faced. On one side, there are shades which shield the afternoon sun and are made in colors inspired by the colors of butterfly wings. On one side, the plants that are planted are watered with the building's gray water...gently used water from sinks, filtered through sand. The tile work in the center interior of the building is done in patterns reminiscent of the patterns found on butterfly wings. The tiles are eco-friendly, manufactured without harsh chemicals and coloring. Perhaps the most striking feature of the building is the butterfly hatchery in the building's lobby. It's a partnership with the local zoo.

When you walk into the lobby, you see, behind the glass, chrysalids, hanging from shelves, alive and changing before your eyes. Each week, the new butterflies are released into the community. The authors do a wonderful job of writing about what the effects of these butterfly releases might have long term. Children gain a curiosity about the environment, homeowners in the area plant flowers which will attract the butterflies to their property. Highway medians may be revisualized as butterfly habitats, maybe reseeded to promote butterfly activity. These habitats might attract more birds given the juicy caterpillars about. The authors make the

point that it is a decision, for corporations and for us as individuals, to make this type of abundance a priority. The future depends on our choices.

I have great hope for the future. One reason for this is what I am hearing from young people regarding the environment. I know a number of young, college educated adults who have set for themselves a goal of visiting all of the National Parks in the nation. I know others who have traded their cars for bikes and who have taken up hiking and nature photography as their serious hobbies. I see in some millennials a desire to reconnect with nature and this inspires them to advocate for its protection as well. Perhaps this is an opportunity for the church to engage this elusive group. Clergy journals are filled with articles about how to engage the millennials who have rejected organized religion. Maybe one way to involve them in our community is to show them that, as people of faith, we believe in our role as *caretakers* of the world, rather than being content to just be takers.

Next Saturday morning, we will be doing the highway clean up our church has committed to doing twice a year. I hope, if you are able, you will join us. And tell your friends and neighbors to join us. We will meet here at the church at 8:30 am. In what other ways will you choose abundance, making creation care a priority? Will you keep your ears and eyes open for legislation that effects the environment, perhaps emailing or calling legislators' offices registering your concern? Caring for the environment and the creatures we share the Earth with is one way that we act out our faith and certainly one way we thank and praise God. Let us recommit this day to the work which God has created us for...caregivers, sustainers, lovers of all of creation. Amen.