

Spiritual Redwoods: Rooted and Grounded

Jeremiah 17:7-8a, Ephesians 3:17

September 13, 2020

Rev. Cynthia Cochran-Carney, First Presbyterian Church of San Rafael, CA

Blessed are those who trust in God, whose trust is God. They shall be like a tree planted by water, sending out its roots by the stream. *Jeremiah 17:7-8a*

...that Christ may dwell in your hearts through faith, as you are being rooted and grounded in love. *Ephesians 3:17*

Last week I reflected on redwood trees and how their seeds are some of the smallest seeds in the world. They grow to be magnificent redwood and sequoia trees. Like the parable Jesus told about the mustard seed, redwood seeds are so small and yet given the right conditions, will grow to be something great. We plant small acts of love and compassion and justice and kindness. We plant those small seeds and together create something large that offers beauty and hope.

Today we're going to focus on the roots of redwood trees and what we can learn from them.

First let's look at passage from Jeremiah. This prophet was telling the people of Israel to live in ways that honored God. Live in ways that were "righteous" or "godly" – right relationship with God and one another. Follow God's ways of justice and loving kindness. He compares them to the "ungodly" who purposely turn away from God; they trust (believe) in humankind's power and strength. On the other hand, the "godly" truly trust in God. He likens the ungodly to a shrub: it dies in the desert sun. But the godly are like a green tree whose roots are sustained with water from a stream, like the Spirit waters our souls.

Redwood trees need a significant amount of water and their roots need a constant source. Scientists and researchers estimate that a mature tree requires hundreds of gallons of water per day, and for this reason the roots need an ample supply of water. Redwood trees thrive in the river bottoms where they obviously have access to lots of ground water. But these giant trees also make their own rain, out of fog! The moisture in the air condenses between the leaves and eventually drips down to the root zone. It is believed that one of the reasons redwood trees have adapted to their great height is because the higher the tree, the more moisture it can provide for itself. And the reason they thrive along Northern California's Pacific Coast is because this area often gets a daily fog. (1) Our spiritual roots certainly need to be "watered" to be life-giving.

Let's turn to our passage from Ephesians. Paul's wrote a letter to the early followers of Jesus who were living in and near Ephesus. Early followers were called People of The Way. He was writing to them about what it meant to live in a community of faith. The foundation was to be

rooted and grounded in love. That's agape love, love for others, unconditional love. They will need deep roots in order to withstand challenges and persecution in conflict. This section of Ephesians chapter 3 is part of a prayer. Ephesians 3:16-17 lists several things that are the content of the author's prayer: that the church would be strengthened inwardly, that Christ may dwell within the church, and that the church may be firmly founded upon and growing in the soil of love.

Paul goes beyond looking back in time at Jesus. He views the life of faith not simple as a matter of looking back to the life and ministry of Jesus, but as a matter of Christ living in our hearts in the here and now. And he says this happens through faith. He also says this happens "as you are being rooted and grounded in love" (Eph. 3:17). He's talking about things that seem more down-to-earth. Although Paul often writes in lofty and esoteric theological concepts, he says that the life of faith is grounded in the experience of God's love. His next verse - the breadth and length and height and depth, and to know the love of Christ that surpasses knowledge." (Eph 3:18-19). Don't stay in your head. Experience love in community. The idea is that it is in the community of faith that we experience the love of God. We enjoy this mysterious internal relationship with God as we support and encourage and love one another. He wants them to stay rooted and grounded in that love.

You would think that a 350-foot-tall tree would need deep roots, but that's not the case at all with the *Sequoia sempervirens*. Redwood tree roots are very shallow, often only five or six feet deep. But they make up for it in width, sometimes extending up to 100 feet from the trunk. They thrive in thick groves, where the roots can intertwine and even fuse together. This gives them tremendous strength against the forces of nature. This way they can withstand high winds and raging floods.

The roots are intertwined with other redwood trees and other trees. We too are called to see the ways we are intertwined and how that helps us withstand challenges together. I have come to learn that intertwined roots and trees do even more for each tree and the forest. They communicate with each other.

Trees appear to be talking about mutual defense. . . . There is so much we cannot yet understand with our limited human capacity. Some studies of mast fruiting have suggested that the mechanism for synchrony comes not through the air, but underground. The trees in a forest are often interconnected by subterranean networks of mycorrhizae, fungal strands that inhabit tree roots. The mycorrhizal symbiosis enables the fungus to forage for mineral nutrients in the soil and deliver them to the tree in exchange for carbohydrates. The mycorrhizae may form fungal bridges between individual trees, so that all the trees in a forest are connected. These fungal networks appear to redistribute the wealth of carbohydrates from tree to tree. A kind of Robin Hood, they take from the rich and give to the poor so that all the trees arrive at the same carbon surplus at the same time. They weave a web of reciprocity,

of giving and taking. In this way, the trees all act as one because the fungi have connected them. Through unity, survival. All flourishing is mutual. (2)

How might we learn in a deeper way to share our resources so that all may flourish?

I recently started reading a book called *The Hidden Life of Trees: What They Feel, How They Communicate* by Peter Wohlleben. There are so many interesting ways that trees can teach us about how they use their roots to be connected to one another and how that brings health and life. One is related to photosynthesis.

Students at The Institute for Environmental Research discovered something amazing about photosynthesis in undisturbed beech forests. Apparently, the trees synchronize their performance so that each are equally successful and that is not what one would expect. Each beech tree grows in a unique location and conditions can vary greatly in just a few yards. The soil can be stony or loose. It can retain a great deal of water or almost no water. It can be full of nutrients or extremely barren. Accordingly, each tree experience is different growing conditions; there for each tree grows more quickly or more slowly and produces more or less sugar or wood Unless you would expect every tree to be photosynthesizing at a different rate.

And that's what makes the research results so astounding. The rate of photosynthesis is the same for all the trees. The trees it seems our equalizing differences between the strong and the weak. Whether they are thick or thin, all members of the same species are using light to produce the same amount of sugar per Leaf. This Equalization is taking place Underground through the roots. There's obviously a lively exchange going on down there. (3)

Again sharing resources and sharing in the work of collecting and using “food’ for growth and health.

Wohlleben goes on to talk about root systems of trees. It is in the chapter called “Friendships” which I love.

If you look at roadside embankments, you might be able to see how trees connect with each other through the root systems. On these slopes, rain off and washes away the soil, leaving the underground networks exposed. Scientist in the Harz mountains in Germany have discovered that this really is a case of interdependence, and most individual trees of the same species growing in the same stand are connected to each other through their root systems. It appears that nutrient exchange and helping their neighbors and times of need is the rule, and this leads to the conclusion that Forrest are super organisms with interconnections.

But why are trees such social beings? Why do they share food with their own species and sometimes even go so far as to nourish their competitors? The reasons are the same as for human communities: there are advantages to working together. (4)

Yes, we know in our hearts there are advantages to working together, not as individuals with disregard for our neighbors or our planet. We know it maybe at a deeper level during the pandemic. Work to keep each other safe and healthy. Wear a mask.

Roots of trees are intertwined. Our lives are intertwined. The Holy One invites us to live rooted and grounded in a love the weaves together holy and ordinary, self and neighbor.

One of the parts of the book that I found most compelling was a note from a forest scientist. Her name is Dr. Suzanne Simard. She is a professor of Forrest Ecology at the University of British Columbia in Vancouver. Here are some of her reflections about her research and the underground social networks of trees highlighted in the book.

The underground social network of trees that Wohlleben describes in his home woodlands of Germany were discovered in the Inland temperate rainforest of western North America. In the early 1990s when searching for clues to the remarkable fertility of these Pacific forests, we unearthed a constellation of fungi linking manifold tree species. The mycelial web, as we later discovered, was integral to the life of the forest. Peter's account of these networks as in our old growth forest, are also important to the well-being of other forests of Europe is heartening.

With this web uncovered, the intricacies of the below ground alliance still remained a mystery to me, until I started my doctoral research in 1992. Paper birches, with their lush leaves and gossamer bark, seem to be feeding the soil and helping their coniferous neighbors. But how? In pulling back the forest floor using microscopic and genetic tools, I discovered that the vast below-ground mycelial network was a bustling community of fungal species. These fungi are mutualistic.... The trees were communicating through the web! This discovery was published in an article in 1997 and called it the "wood wide web."

...The research continued about underground communication through the roots of trees. The discoveries have transformed our understanding of trees from competitive crusaders of the self to members of a connected, relating, communicating system. (5)

As we reflect on the roots of the redwood trees and how they are intertwined, let's think about what it means for us to be rooted and grounded in love. What keeps you rooted and grounded in these very challenging days? I invite you to consider doing something today that reminds you and keeps you rooted and grounded in love. Maybe it's listening to music, maybe it's making music. Maybe it is taking time to write. Maybe it's taking time to call someone and

have a conversation about what's going on to encourage one another. Maybe it's sending a note. Maybe it's sending a letter to a leader in government to do something to protect the Earth. Maybe it's taking time for silence in centering prayer. Find ways to be open to the spirit.

We are intertwined as a church.

We need to remember that to face the current storms and to hold on to each other. I'm concerned that in these times of multiple challenges of the pandemic, fires, unhealthy air, efforts to address racial inequality and injustice has, that our mental health is being strained. I know many people who are struggling with depression. And with different kinds of loss. And being in a season of grief and sadness. Take time for yourself to talk to someone. Find a therapist or counselor. It takes effort to stay rooted and grounded in love.

We are intertwined with our neighbors.

We continue to look for ways to show empathy and compassion so that we can lean each other on each other. Particularly with people who are vulnerable and struggling in our community. Our church is committed to helping people find and have food, housing, support.

And we are intertwined with the Earth.

We know this. This time of massive fires in the west is reminding us of the reality of climate change and how it is imperative that we do what we can to address what is happening because we are intertwined with the Earth.

May you go into this day and this week knowing that You are beloved and that you can be rooted and grounded in that love. Amen.

1) "The Redwood Forest and the Role of Water" sunnyfortuna.com accessed 9.11.20

http://sunnyfortuna.com/explore/redwoods_and_water.htm

2) Richard Rohr, "Reciprocity," Center for Action and Contemplation, Nov. 8, 2019

<https://cac.org/reciprocity-2019-11-08/>

3) Peter Wohlleben, *The Hidden Life of Trees*, pg 14 Kindle version

2018 Greystone Books

4) Ibid. pg 2 Kindle

5) Ibid. pg 247