When Preaching to the Choir Isn't Preaching to the Choir: Churches, Trees, and Environmental **Perspectives**

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Trees are sanctuaries. Whoever knows how to speak to them, whoever knows how to listen to them, can learn the truth. They do not preach learning and precepts, they preach, undeterred by particulars, the ancient law of life. .

Herman Hesse, Essay on Trees

Ecologists are charged with understanding and communicating the ecological values of the natural world from the standpoint of science. They are trained to bring the tools of science—observation, experimentation, modeling-to document patterns, understand processes, and make predictions following disturbance. Ecologists are also trained to communicate their research findings to other scientists in language that is efficient, technical, and targeted toward our closest peers.

There is nothing wrong with this mode of understanding or communication. However, it is growing increasingly clear that scientists—at least some scientists—must go beyond the typical modes of scientific communication if they are to be effective in motivating the large pool of non-scientists to understand, conserve, and sustainably use the natural world. The scientific literature can be exclusionary among people who are not schooled in the language of science. Non-scientists must often rely on the media to "translate" scientific work into the more accessible forms of popular magazines and television documentaries.

Although many media people are sincere and well trained, they often have to respond to short deadlines and lack the technical background to give full treatment to complex scientific stories. Scientists and environmental practitioners, however, have advantages over media people when communicating to non-scientists, for two reasons. First, they have the technical expertise that allows them to understand and explain the complexity that characterizes many

environmental issues. Second, scientists have a passion for the organism or ecosystem they study, and that passion can be conveyed to infuse the listener with a parallel enthusiasm.

When scientists decide to spend some of their time and energy communicating with non-scientists, however, they usually choose to give presentations to groups who are already convinced of the importance of conservation. Usually they write articles for magazines such as Natural History or Smithsonian Magazine, or give talks to Audubon or Nature Conservancy groups. These efforts are positive, but they do relatively little to change the minds of people who are not already convinced of the importance of conservation and sustainability. Thus, environmental practitioners have been exhorted to expand their communication spheres and to go "beyond preaching to the choir."

Here, I report a novel way to create awareness and a sense of stewardship for trees and forests. This has involved speaking to people in places of worship and meditation. Although some churchgoers are interested in and aware of environmental issues, this arena is not a typical outlet for environmental scientists. However, people who come to church or synagogue or a temple are in a receptive mode—they make time, dress carefully, sit quietly, and have open hearts and minds in that time and place to consider spiritual matters. It struck me that churches would be a good venue to explore links between the ecological values of trees and their spiritual values, and to evoke a stronger sense of conservation.

In 2001, I was supported by a Guggenheim Fellowship to investigate how scientists can overcome obstacles to communicating with non-scientists. One aspect was to discuss trees and spirituality as a means of awakening a sense of conservation of forests in non-traditional venues, such as churches. I first simply attended and listened to a wide range of places of worship in the Pacific Northwest. After a few months, I offered to give a sermon or lead a discussion group on trees and spirituality. The congregations I spoke to ranged from the fundamentalist to the progressive, and included Unitarian Universalist groups, Zen Buddhist temples, Jewish synagogues, Catholic churches, and secular interfaith organizations. I presented the sermons not as a scholar of religious studies or as a particularly religious person myself. Rather, I portrayed myself both as a scientist interested in understanding trees with my intellect, and as a person who cares deeply and passionately about trees with my

I started my sermons with an explanation that my own affinity for trees began when I was a child of a large and sometimes chaotic family. Trees were my refuge. They held me in their branches and reassured me that there are safe places in the world. I chose as my profession the study of forests, and trained myself with the tools of science to come to better understand how trees work and how they provide innumerable functions for humans. They have since provided me with a livelihood that has brought me professional and personal fulfillment. I now carry out research on the upper canopy of tropical and temperate rainforests, and teach forest ecology as a Member of the Faculty at The Evergreen State College.

I then articulated some of the relationships between trees and spirituality, both in a general sense and for specific religions. I described the importance of trees, grouping these into ecological, economic, aesthetic, and spiritual values, with an emphasis on the spiritual. Finally, I discussed actions that we might take as a result of heightened awareness, and opened up the subject for discussion.

Webster's 3rd Edition dictionary definition of spirituality is: "Having the nature of spirit, which is the vital principle or animating force traditionally believed to be within living beings; the part of a human being associated with the mind and feelings as distinguished from the physical body." A simpler definition from the Buddhist Dalai Lama is: "Spirituality guides people about the essence, which is contentment, self-discipline, caring, sharing, forgiveness, and tolerance."

Trees, in many religions, have spiritual and symbolic importance. In holy writings, plants-especially trees-are often seen as

symbols or manifestations of divine knowledge. They have the power to bestow eternal life or renew the life force. One example is Buddha's enlightenment under the Bodhi tree. In Egypt, the gods sit in a tall sycamore known as the tree of life, and in Indian mythology there is a tree in heaven that provides a life-giving drink called "soma" to Yama and the other gods. The Jewish Talmud says "... and the Lord God planted a Garden in Eden, and so you, too, when you come to Israel, shall do nothing before you have planted. . . . And as early as the second chapter of Genesis in the Bible, trees and forests are portrayed aesthetically, practically, and symbolically: "The Lord God made to grow every tree that is pleasant to the sight and good for food, the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil...."

I focused on how the holy scriptures of the Judeo-Christian tradition reflect the attitude of followers of that faith on trees. I downloaded the text of the Old Testament of the Bible and searched for all references to "tree" and "forest." I categorized the 328 references into six groups (Figure 1). Nearly 50% of the references described the use of trees for symbolic, aesthetic, and practical purposes ("He offered sacrifices and burned incense ... under every spreading tree"). I found that about 20% of the references used trees as an analogy to life and God ("Like an apple tree among the trees of the forest is my lover among the young men"). Only 3% of the references describe aspects of tree biology, ecology, or physiology ("So it towered higher than all the trees of the field; its boughs increased and its branches grew long spreading because of abundant waters").

Although few references apply to the "ecosystem services" that trees provide, it is clear that trees are not only inextricably tied into human needs-for food, shade, wood, rituals, and ornamentation-but are at the base of what is most spiritual. As the Bible and other holy writings amply demonstrate, trees are symbols—analogies to God, and to that which is holy.

Looking at the writings of other religions and hearing the responses of the congrega-

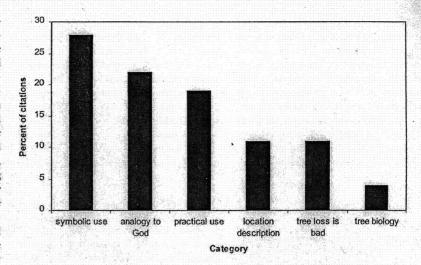


Figure 1. Histogram indicates the percentage of citations for each of six categories of the 328 references to the term "tree" or "forest" from a search of the text of the Old Testament of the Bible. Categories from left to right are: symbolic and aesthetic use (e.g., temple decoration); analogy to life and God (e.g., the Lord is like a tree); practical use (e.g., food, shelter); description of location (e.g., locators of battle camps); tree loss is bad (e.g., loss of trees leads to devastation of land); and tree biology (e.g., tree presence indicates presence of water). The breadth of uses of trees depicted in the Bible is one indication of the importance of trees in our society.

tions during discussions that followed my talks, I learned that trees are linked closely to a number of spiritual concepts: enlightenment, breathing, silence and stillness, time and dynamics of life, and the hidden spheres within each of us, described below.

Trees connect us to enlightenment. Herman Hesse wrote: "In the trees' highest boughs, the world rustles, their roots rest in infinity. Nothing is holier, nothing is more exemplary than a beautiful, strong tree." Their very form, with their roots in the soil and their foliage reaching towards the sun, reminds us of the connection between the earth and that which is not earth. The Indian poet, Rabindranath Tagore, wrote that "Trees are earth's endless efforts to speak to the listening heaven." Their shape and form are ubiquitous; we see dendritic forms everywhere-in rivers, caves, blood vessels, lungs, family trees, and temple hierarchies.

As with all other living beings, trees breathe. Through photosynthesis, they help supply the most basic need of humans-clean air to breathe. Also, the spiritual life force of many religions comes by way of air and respiration. The word spirituality is derived from the Latin word, spirare, to breathe. The Hebrew word for breath—nesheemais derived from the same stem as the word for soul-neshama. Zen Buddhists use the action of paying attention to air entering and exiting the nostrils for initiating and maintaining a meditative state.

In the services I attended this past year, the most powerful moments were the moments of silence—the time between speaking and hymns. Buddhist silence, samantha-stopping, calming, concentratingis critical to spiritual development. This stillness is evident when we look up at a tree on a windless summer day. Trees are rooted in the ground and make no sounds; they epitomize samantha.

Trees also help humans tell time; they spell the seasons. Nothing tells us about the passing of time more clearly than autumn colors, the tender green of emerging buds, or the delicate filigree of snow on tiny twigs. Hesse wrote:

When a tree is cut down and reveals its naked death-wound to the sun, one can read its whole history in the luminous, inscribed disk of its trunk: in the rings of its years, its scars, all the struggle, all the suffering, all the sickness, all the happiness and prosperity stand truly written, the narrow years and the luxurious years, the attacks withstood, the storms endured.

Forests also make manifest the dynamism of nature—the need to accept change even if it seems to be destructive. When I see a fallen tree in my research plots, a tree I have climbed and taken data from for decades, I must remind myself that this is the nature of the forest. Seedlings will grow in the light created by the fallen giant.

Trees also contain hidden spheres. Their roots are underground and out of sight, yet provide support for the tree and serve as the gathering apparatus for water and nutrients. The below-ground world sustains the aboveground parts. Tree roots can symbolize that which we hide from ourselves and others—our troubles, addictions, failings, ill health. To be truthful—full of troth, the Old English word for tree—we must recognize that these hidden parts are important parts of us, not something to discount, just as the soil-covered roots of a tree are essential to its being.

I concluded my talks in places of worship with a brief call for conservation. I pointed out that many humans are stirred to protect trees, and have established national, regional, and local groups to take political and societal action to save them. I urged the congregation to become aware of these organizations, and have since received requests from listeners for more information on ways to take action.

In the course of these talks, I learned that many religions give us thoughts about what we can do to help the earth. The Jewish tradition of Sabbath teaches its practitioners to consume less, to use less, to put a stop to our daily rounds. Shabbat (the day for rest in the Jewish religion) is not just for people. Nature gets a rest as well. Comparable with the cycle of rest for one of every seven days, there is a cycle of resting the fields one year for every seven years, which is congruent

with other traditional and modern prescriptions for sustainability of agricultural land. For Buddhists, teachers recommend exercises in selflessness. Practitioners are told to do something for others without seeking any reward or recognition, an activity called "secret virtue." For example, one can volunteer time and skills for community service or planting trees, with no goal of getting anything in return in the relatively short-term time frame of a human life.

My conclusions are that trees remind us of many important spiritual aspects of life and that humans have a natural affinity for them. The teachings of many religious traditions show strong ties to trees and forests, and are congruent with our inherent desire to protect them. These spiritual and religious precepts reinforce the messages conveyed by ecologists and environmental scientists who are awakening an awareness in society on such issues as global warming, loss of biodiversity, and the need for sustainability of natural resources.

I came away from these talks with a general sense of optimism. Despite the pressures of human populations on forests, our unthinking consumption, and the existence of laws that favor those who exploit rather than sustain our resources, there is hope for our relationship with trees. We are taking nascent steps to live more sustainably with our fellow species. We are becoming aware of the importance of knowing more about the natural environment, and we are teaching our children about those connections. Scientists are beginning to enter discussions that were formerly restricted to those concerned primarily with spiritual aspects of issues, and those in institutions concerned with the spirit are now listening to the warnings of scientists.

My experiences of speaking about trees and forests in churches taught me that environmental scientists who forge direct outreach pathways in non-traditional venues gain potentially powerful voices to raise awareness about the critical links between humans and nature. These activities are becoming more and more important as human connections to nature become

increasingly distant. Such efforts can also result in positive feedback for general scientific awareness and scientific funding via an improved social and political climate that is supportive of research activities. Equally importantly in this interchange is that the environmental practitioner who shares information and perspectives from a scientific point of view gains input and insights from those who listen and respond, thus expanding perspectives in all directions.

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