

Don't Be Surprised If Your Doctor Prescribes a Park

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The Nature Cure



The first time J. Phoenix Smith told me that soil has healing properties that can help thwart depression, I just nodded slowly.

Smith is an ecotherapist, a practitioner of nature-based exercises intended to address both mental and physical health. Which means she recommends certain therapies that trigger in me, as a medical doctor, more skepticism than serenity: Listen to birdsong, in your headphones if necessary. Start a garden, and think of the seeds' growth as a metaphor for life transitions. Find a spot in a park and sit there for 20 minutes every week, without checking your phone, noting week-to-week and seasonal changes in a journal.

Ecotherapy is a fledgling profession, still unrestrained by such things as “standards of practice” and “licensing requirements.” It can mean regular outdoor sessions with a therapist or simple exercises undertaken on one's own, and can be part of a general approach to well-being or a supplement to treatment for a medical condition. (It is not intended as a replacement for standard evidence-based treatments.)

Smith almost lost me at the part about not checking your phone. But I couldn't dismiss her out of hand. Her certainty that she is doing something great for people was disarming. Plus, she has a background in public health: She worked in HIV prevention for 20 years, until she was laid off in 2010.

After Smith lost her job, aimlessness led to stress, which led to depression. But she found solace on long hikes in the Northern California hills, and was inspired to volunteer at a garden in East Oakland. “I remember walking into the garden, and I immediately felt better,” she told me. “I just saw wealth and abundance. There was food growing, and flowers. It really helped to shift my thinking.”

Smith became so convinced of nature's healing powers that she decided to start a consulting company, EcoSoul, predicated on the idea that "bringing forth your medicine is a way of honoring your ancestors, your highest self, and the earth." The next year, she was part of the first class to graduate from the ecotherapy certificate program at John F. Kennedy University in Pleasant Hill, California.

Ecotherapy training programs are springing up around the country, but the one Smith attended was launched by a pioneer of the movement: Craig Chalquist, the chair of the East-West Psychology Department at the California Institute of Integral Studies. When I tracked him down, he shared some familiar advice: "If you hold moist soil for 20 minutes," he told me, "the soil bacteria begin elevating your mood. You have all the antidepressant you need in the ground."

What was it with these guys and dirt? It turned out that Smith and Chalquist were referring to a study published in *Neuroscience*, a prestigious journal, that had found that soil bacteria called *Mycobacterium vaccae* increase serotonin in the brains of mice, much like Prozac and similar medications. It's a stretch to apply this preliminary finding to humans—ask your doctor before replacing your psychoactive medications with dirt.

But other research, conducted with actual humans, does support the idea that spending time in nature makes people healthier. Children with ADHD who regularly play in parks have been found to have milder symptoms than those who spend more time indoors, for example, and therapeutic-camping programs have been found to decrease relapse rates in substance addicts. Such findings generally have more to do with mood and behavior than basic biology—but mood and behavior are intimately tied to physical well-being. Social connection, for instance, is one of the most important factors in human health. And communal green spaces foster that.

The idea that nature exposure is important to human health goes way back, predating fears about iPad addiction by a few generations. In an 1862 issue of *The Atlantic*, Henry David Thoreau praised the vigor-inducing virtues of walking in nature: "Think of a man's swinging dumbbells for his health, when those springs are bubbling up in far-off pastures unsought by him!" Also in this magazine, the next year, when tuberculosis was believed to account for one-third of all deaths in "the civilized world," a physician wrote, "No doubt the lives of thousands would be saved by destroying their houses, and compelling them to sleep in the open air."

I was disappointed that none of the ecotherapists I interviewed encouraged me to destroy houses. But some of the simple principles behind ecotherapy are gaining acceptance even in mainstream medicine. And when nature therapy is recommended by a doctor, it tends to carry more weight.

At his office in Washington, D.C., Robert Zarr, a pediatrician, writes prescriptions for parks. He pulls out a prescription pad and scribbles instructions—which park his obese or diabetic or anxious or depressed patient should visit, on which days, and for how long—just as though he were prescribing medication.

Zarr says it's important to give concrete advice instead of repeating the vague admonitions (Exercise more! Get outside!) that people are used to hearing. "If you came in to me with bacterial pneumonia," he told me, "I wouldn't say, 'You just go to any pharmacy, pick up any antibiotic you'd like, take it for as many days as you'd like, with or without food, and I'll see you in a month, buddy.'" He doesn't necessarily tell patients what to do at the park, however—just to go.

Zarr is part of a small but growing group of health-care professionals who are essentially medicalizing nature. He relies on a compendium of 382 local parks—the product of meticulous mapping and rating of green spaces, based on accessibility, safety, and amenities—that he helped create for DC Park Rx, a community-health initiative. The Washington program was one of the first in the United States; there are now at least 150 others.

Park prescriptions are a low-risk, low-cost intervention that, in Zarr's experience, people are quick to accept. And sure, people are more likely to move around in a park than they are when watching TV, but

there may be more to it than that. Researchers in the United Kingdom found that when people did physical activities in natural settings instead of “synthetic environments,” they experienced less anger, fatigue, and sadness. A 2015 study in *Proceedings of the National Academy of Sciences* reported that walking in a park reduced blood flow to a part of the brain that the researchers claimed was typically associated with brooding. And in one of the most famous studies on the topic, patients recovering from gallbladder surgery healed faster and with fewer complications when their room looked out on trees rather than a wall.

Why would natural venues be more therapeutic than built environments? “That gap, we don’t fully understand,” Richard Louv told me. Louv is a journalist whose 2005 book, *Last Child in the Woods*, is widely credited as the impetus behind the modern American nature-exposure movement. He points to research that says people are attracted to and feel restored by looking at images of nature, particularly savannas. Also restorative, according to an influential essay on health-care-facility design, are slow-moving water, foliage, and “birds or other unthreatening wildlife.”

Roger S. Ulrich, who co-authored that essay and led the study on hospital-room views, explains the effect in evolutionary terms: Natural environments trigger positive emotional reactions because observing nature was once important for humans’ survival. According to E. O. Wilson’s not-dissimilar biophilia hypothesis, we’re genetically hardwired to “affiliate with other forms of life,” and when we don’t, we suffer. Or, as Louv put it in his book, we develop “nature-deficit disorder.” (Because everything seems to be a disorder now, the term has proved divisive. Some believe it trivializes psychiatric diagnoses. But Louv was describing a social condition, not a psychiatric ailment.)

The answer may also have to do with nature’s capacity to instill awe. At a conference in February at UC Berkeley, scientists gathered to discuss the latest research on the health benefits of awe, including reductions in levels of cortisol, a stress hormone. The awe explanation particularly speaks to J. Phoenix Smith. In my conversations with her and Chalquist, both were careful to stick to evidence-based arguments. But beneath those arguments is something more than an interesting but unconvincing mouse study about soil bacteria. Something spiritual.

What makes ecotherapy different from an attempt to “mine nature for its beneficial effects,” Chalquist explained—perhaps sensing that I was eager to begin mining nature for its beneficial effects—“is that we have to give something back.” He tells students that if they want to experience the full value of ecotherapy, they can’t just go touch a tree; they need to come to care about that tree and help preserve it for future generations.

Actually, I found this to be one of the more persuasive arguments for ecotherapy. If the practice leads people to volunteer in an urban garden (as Smith did) or to start a bird-watching club or to fall in love while chained to a redwood, it could legitimately improve their health by giving them a sense of purpose and fostering social connections. The same could be said of so many unconventional therapies (equine, acroyoga, glassblowing) that seem to be beneficial despite the lack of a clear biological mechanism. And even if you don’t “give back,” it’s tough to argue against doctors’ prescribing time in a park, crazy as it may seem that they need to do so. Soil-holding remains optional.