

BOOKS

# Vitamin T

Are trees chemical factories that could save our lives? **Nathalie Atkinson** reports on a collection of new books that argue for the benefits and beauty of forest bathing



Canadian author and forest medicine expert Diane Beresford-Kroeger.

COURTESY OF CALL OF THE FOREST

**NATHALIE ATKINSON** >

SPECIAL TO THE GLOBE AND MAIL

PUBLISHED JANUARY 25, 2018

UPDATED FEBRUARY 7, 2018

**I**n Canada, swapping screen time for time under the tree canopy is as easily said as done. About 40 per cent of Canada's land acreage consists of forest



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enlightening us on the topic of how trees can save our lives. No more will dust jackets of thickets of trees proliferate on just suspense novels – the empty woods will be a familiar sight in the self-help aisle now, too.

Although several other cultures have similar practices, Japanese forest bathing, or *shinrin-yoku*, is the centuries-old variation that has lately become serious business. Both tourism and popular culture are heading into the woods to explore the ecological, emotional and spiritual value of trees. Parks Canada attendance was up 7 per cent last year. Many of England's Forestry Commission rangers are now trained as qualified forest therapy experience guides, and a slew of wellness-focused North American startups such as Getaway offer small, unplugged box cabin rentals in the woods. But we needn't practice *shinrin-yoku* as thoroughly as Henry David Thoreau did to reap beneficial effects. A few hours a month can suffice.

A range of new books show how approaches can vary: The simple approach, a mindful walk in the woods, can lower blood pressure and stress levels, while a more radical technique calls for hours or days of immersion in a forest of tree varieties chosen for their purported role in the prevention and alleviation of medical conditions such as heart disease, cancer and diabetes.

Canadian medical biochemist and botanist Diana Beresford-Kroeger is a fellow of the Royal Geographical Society and among the world's experts in forest medicine. She views trees as complex chemical factories and is the author of several books on the subject, including *Arboretum Borealis* and the recent *The Global Forest: Forty Ways Trees Can Save Us*, which inspired the new Canadian Screen Award-nominated documentary *Call of the Forest: The Forgotten Wisdom of Trees* ([calloftheforest.ca](http://calloftheforest.ca)).



Diane Beresford-Kroeger has written several books on trees, including *The Global Forest: Forty Ways Trees Can Save Us*.

COURTESY OF CALL OF THE FOREST

Based on Buddhist and Shinto practices, *shinrin-yoku* has been a recognized relaxation practice in Japan since 1982. Beresford-Kroeger points out that these spiritual traditions, be they Celtic or aboriginal, are often because of their actual medicinal properties. She explores the science on the *shinrin-yoku* talks and walks she leads.

A tree is not just a tree. Among other things, it's camphor compounds, or it's limonene, which can produce a slightly narcotic reaction. "It's an ethereal thing – so many of the compounds in the tree are released like a rocket into the air," she explains. Researchers including Beresford-Kroeger cite the antibiotic role of phytoncides (volatile molecules from the essential oils trees secrete, which purify the air) in enhancing immune function.

The 1998 ice storm's extensive damage to trees set Beresford-Kroeger on her dual environmental and public-health mission, and led to her writing her first tree book. "And I'm always delighted to get questions about forest bathing," she says from her home near Ottawa, on the property where she maintains an extensive arboretum.

"The big hotels are interested in it – Banff and Lake Louise, the Japanese and Chinese come over to the paths for forest bathing. We could really increase tourist interest from the East to Canada enormously," she adds, "if we catered more to it."

It's not just the West: Eastern Canada could capitalize on therapy trails, too: It boasts more than 20 species for prescriptive forest bathing. "Hawthorn, for example, opens up the left descending coronary artery," she suggests. Exposure to the aerosol release of the *pinus strobus* can raise T-cell ratios, she says. Trails could be designed with certain health conditions in mind – one for rheumatism, for example, or another with "all the species to get rid of early childhood viruses."

In *The Biophilia Effect* (Sounds True, 208 pages, \$23), Austrian biologist Clemens G. Amon builds on Harvard evolutionary biologist Edward Wilson's landmark 1984 book, *Biophilia*.



and scholar Hildegard von Bingen called "green power" in the Middle Ages. Except that her chapters didn't include tips on which types of trees to visit for maximum benefit, or what exercises to practise once there (think qigong breathing techniques and concentration-boosting nature meditation).



Several writers, including Forest Bathing author Qing Li, argue we are suffering as a culture from 'nature deficit disorder.'

ISTOCKPHOTO

All paths (and most articles) on *shinrin-yoku*, including Arvay's, generally lead to Dr. Qing Li, the environmental immunologist at Tokyo's Nippon Medical School and a leading researcher of forest medicine.

Li's own forthcoming wellness guide, *Forest Bathing* (Viking, 224 pages, \$20), was one of the major deals to come from the Frankfurt Book Fair last fall. Over the years, the doctor has conducted many kinds of studies, including some that analyze blood and urine samples and other metrics of the nervous system, to substantiate how even a single day of forest air dramatically decreases levels of adrenalin and cortisol, the stress hormone. The illustrated compilation of his findings will be published this spring.

Li calls the culture's current disconnected condition a "nature deficit disorder," a view that other writers echo.

"Yes, we're busy," journalist Florence Williams writes. "We've got responsibilities. But beyond that, we're experiencing a mass generational amnesia enabled by urbanization and digital creep." Or, as Walt Whitman warned in his pseudonymous 1858 newspaper advice column: In the absence of nature, the "pestiferous little gratifications" of the city will not be enough to sustain us.

Williams covers a lot of ground explaining why that is in *The Nature Fix* (WW Norton, 288 pages, \$35.95). It's the most persuasive of recent titles, in part because, as an investigative reporter, Williams approaches the subject not as a true believer but as a curious but impartial outsider – and urban desk jockey – interested in the potential of natural environments to change both our emotional and cognitive brains.



traditions and scientific disciplines, including cutting-edge tech, are evaluating the empirical benefits. Her investigations into the effects of nature come from a welcome, cynicism-adjacent position. She mentions portable EEG devices that help measure the awe-inspiring effects of nature on the brain, and goes on a field trip with one of the many non-profits that take PTSD-afflicted members of the military on outdoor excursions.

That stress reduction can be triggered by awe, and also by what physicist Richard Taylor calls a physiological resonance between the fluid visual processing of complex fractal patterns found in nature and the eye's retina (the paintings of Jackson Pollock helped him reach this thesis). Simply put, it's that humans need to look at natural patterns but instead, are increasingly surrounding themselves with "straight Euclidean built environments."

Williams quotes a study by Trent University psychology professor Elizabeth Nisbet showing that a negative feedback loop occurs where people stay indoors because "a chronic disconnection from nature causes them to underestimate its hedonic benefits." Williams also visits University of Waterloo's Research Laboratory for Immersive Virtual Environments with Deltcho Valtchanov, who did his postdoctoral study on the effects of a virtual-reality version of nature. Valtchanov is developing an app called EnviroPulse that aims to predict the emotional response and restorative potential of certain views and nature scenes.

"The woods, the trees and rocks give man the resonance he needs," Ludwig van Beethoven wrote in a letter to a friend in 1808. The composer was a literal tree-hugger (he was known to embrace his backyard linden), a tidbit Williams shares to suggest that 21st-century neuroscience is finally bearing out what the Romantic movement knew to be true. We're only studying it properly now because of how dramatically we've lost the human connection to the natural world in recent years.

"Thanks to a confluence of demographics and technology, we've pivoted further away from nature than any generation before us," Williams says. "At the same time, we're increasingly burdened by chronic ailments made worse by time spent indoors, from myopia and vitamin-D deficiency to obesity, depression, loneliness and anxiety, among others."

Not all technology is detrimental, though: A free app on Beresford-Kroeger's The Call of the Forest website locates and identifies trees by region, and provides information on both environmental benefits and suggested health benefits. The *aero* *fi* *ai* *lc* *is* instance, are a traditional aboriginal cure "medicinal for loneliness," while the smoke of young

redwoods of northern California).



Kirsten Dunst in Woodshock.

In keeping with W.H. Auden's declaration that "a culture is no better than its woods," Beresford-Kroeger thinks that we need to return the favour, especially when it comes to the role of trees as our cheapest and best defence against climate change. She hopes that by educating people about the beneficial effect of forest environments on human health, it will encourage forest repopulation, which will, in turn, counteract the effects of global warming and pollution. "It's a fairly simple thing," Beresford-Kroeger adds. "You can't do forest bathing if there's no forest."

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