



Reconnecting to Nature in the Age of Technology

in

By Richard Louv

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A best-selling author argues that our relationship with our natural environment is in jeopardy, imperiling our future well-being. But the growing trend of social networking may in fact inspire new tools to help us restore nature to our lives.

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Every day, our relationship with nature, or the lack of it, influences our lives. This has always been true. But in the twenty-first century, our survival—or thrival—will require a transformative framework for that relationship, a reunion of humans with the rest of nature. In 2005, in *Last Child in the Woods*, I introduced the term nature-deficit disorder, not as a medical diagnosis, but as a way to describe the growing gap between children and nature. After the book's publication, I heard many adults speak with heartfelt emotion, even anger, about this separation, but also about their own sense of loss.

In my most recent book, *The Nature Principle*, I describe a future shaped by an amalgam of converging theories and trends as well as a reconciliation with old truths. This amalgam, the Nature Principle, holds that a reconnection to the natural world is fundamental to human health, well-being, spirit, and survival.

Primarily a statement of philosophy, the Nature Principle is supported by a growing body of theoretical, anecdotal, and empirical research that describes the restorative power of nature—its impact on our senses and intelligence; on the physical, psychological, and spiritual health; and on the bonds of family, friendship, and the multispecies community. Illuminated by ideas and stories from good people I have met, the book asks: What would our lives be like if our days and nights were as immersed in nature as they are in technology? How can each of us help create that life-enhancing world, not only in a hypothetical future, but right now, for our families and for ourselves?

Our sense of urgency grows. In 2008, for the first time in history, more than half the world's population lived in towns and cities. The traditional ways that humans have experienced nature are vanishing, along with biodiversity.

At the same time, our culture's faith in technological immersion seems to have no limits, and we drift ever deeper into a sea of circuitry. We consume breathtaking media accounts of the creation of synthetic life, combining bacteria with human DNA; of microscopic machines designed to enter our bodies to fight biological invaders or to move deadly clouds across the battlefields of war; of computer-augmented reality; of futuristic houses in which we are surrounded by simulated reality transmitted from every wall. Inventors and futurists like Ray Kurzweil describe a coming "transhuman" or "posthuman" era in which people are optimally enhanced by technology. NASA's Steven Dick describes a "postbiological universe" where "the majority of intelligent life has evolved beyond flesh and blood intelligence."

I am not arguing against these concepts or their proponents—at least not the ones who are devoted to the ethical use of technology to expand human capacities. But I do suggest that we're getting ahead of ourselves. We have yet to fully realize, or even adequately study, the enhancement of human capacities through the power of nature. In a report praising higher-tech classrooms, one educator quotes Abraham Lincoln: "The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulties, and we must rise with the occasion. As our case is new, so we must think anew and act anew." That we should; but in the twenty-first century, ironically, an outsized faith in

technology—a turning away from nature—may well be the outdated dogma of our time.

In contrast, the Nature Principle suggests that, in an age of rapid environmental, economic, and social transformation, the future will belong to the nature-smart—those individuals, families, businesses, and political leaders who develop a deeper understanding of nature, and who balance the virtual with the real.

In fact, because of the environmental challenges we face today, we may be—we had better be—entering the most creative period in human history. This is a time defined by a goal to extend the past century of environmentalism, and to go beyond sustainability to the renaturing of everyday life.

The Connection between Nature and Health

In 2007, naturalist Robby Astrove and I were driving through West Palm Beach, Florida, on our way to an event promoting the preservation of the Everglades. He told me: “As a kid, I was always glued to the car window, taking notice. I still do this and must sit in a window seat when flying. Looking back, it’s no wonder I’m a naturalist, having trained my senses to detail, images, sounds, and feelings.”

In fifth grade, a school field trip to the Everglades led to his career choice. After college, he surveyed hundreds of miles of the Everglades, to learn about the great river of grass, the threats to it, and its recovery. In 1979, when he was 15, Astrove was diagnosed with HIV and hepatitis C, which he contracted from three life-saving blood transfusions for a staph infection that had spread from a blister on his thumb. Following the blood test that revealed HIV, he was called into the doctor’s office. He found his parents in tears. “The doc sat me down and shared the news. My first words were, ‘What are we going to do now?’”

During the ensuing years, he found himself drawn, more and more, to the river of grass. “It’s hard to explain, but acknowledging the cycles, patterns, and interconnectedness of the world has provided healing to me,” he said. “Sometimes, I awake in the middle of the night and find myself putting on boots, grabbing a raincoat and collection containers. I don’t question actions like that. I’m excited to hike in the dark not knowing what I’ll find. It might not be until I hear the call of a barred owl that I realize why I came. Or seeing a familiar tree that I’ve studied a million times during the day that reveals something new at night. I go because I trust my instincts, have patience, and allow for things to happen. Well, there’s luck, too. But the same trust and instinct is required to manage a disease. When I haven’t gotten enough nature time, my body tells me. I listen.”

Astrove, who is studying international public health at Emory University, finds HIV biologically fascinating. “It’s able to reproduce rapidly and can mutate, always creating the demand for new medicines. In a weird way, HIV is elegant, beautiful. I understand what this monster is capable of, so I establish limits. Not staying out too late, eating healthy, not ever smoking.” Avoiding these behaviors as a teenager was difficult for him, but respect for the virus trumped peer pressure. “Nature is always making adaptations, so why can’t I do the same? I listen. When I hear ‘rest,’ I rest. When I see macroinvertebrates in a stream indicating clean water, that reminds me to pay attention to indicators for my own health. Stumbling upon a rare plant reminds me of the uniqueness of my situation. No two people are the same in their response to a virus.”

In his role as an educator, Astrove teaches his students that wetlands serve as “nature’s liver.” He relates to systems personally. “The wetlands purify water and trap pollutants.” He explains that the rain forests and other natural places are the source of many of our medicines, that spending time in that world reduces stress. “We feel good from the endorphin release it stimulates, and it inspires us. Inspiration is another giver of health. I go to the woods knowing I will receive healing. And the benefits come in the form of physical, psychological, and spiritual gains. It’s a natural high sometimes when I get the feeling of light, energy, and awe.” He looked out the truck window at the passing landscape as he drove. “Now that I’ve been taking meds for some time, sensitive blood tests can’t find the virus; I test ‘undetectable.’”

Does research give weight to Astrove’s experience? Possibly. A study of 260 people in 24 sites across Japan found that, among people who gazed on forest scenery for twenty minutes, the average concentration of salivary cortisol, a stress hormone, was 13.4% lower than that of people in urban settings.

“Humans lived in nature for 5 million years. We were made to fit a natural environment.... When we are exposed to

nature, our bodies go back to how they should be,” explained Yoshifumi Miyazaki, who conducted the study. Miyazaki is director of the Center for Environment Health and Field Sciences at Chiba University; he is Japan’s leading scholar on “forest medicine,” an accepted health-care concept in Japan, where it is sometimes called “forest bathing.”

In other research, Li Qing, a senior assistant professor of forest medicine at Nippon Medical School in Tokyo, found green exercise—physical movement in a natural setting—can increase the activity of natural killer (NK) cells. This effect can be maintained for as long as 30 days.

“When NK activity increases, immune strength is enhanced, which boosts resistance against stress,” according to Li, who attributes the increase in NK activity partly to inhaling air conditioning phytoncides, antimicrobial essential wood oils given off by plants. Studies of this sort deserve closer scrutiny. For example, in the study of natural killer cells, there was no control group, so it is hard to say if the change was due to time off work, exercise, nature contact, or some combination of influences.

Nonetheless, for Astrove, wilderness has helped create a context for healing. It may have strengthened his immune system and offered protective properties that he, and the rest of us, do not yet fully understand.

The Third Ring

Remember those cardboard kaleidoscopes we had when we were kids—how, when you twisted the cylinders, the pieces of colored plastic would snap into a vivid pattern? Sometimes the future comes into focus just like that. For me, one such moment occurred at a conference held in New Hampshire in 2007. On that day, more than a thousand people from across the state traveled to chart the course of the statewide effort to connect families with nature.

As hours of productive meetings came to an end, a father stood up, complimented the attendees’ creativity, and then cut to the chase. “We’ve been talking a lot about programs today,” he said. “Yes, we need to support the programs that connect people to nature, and yes, we need more programs. But the truth is,” he added, “we’ve always had programs to get people outside and kids still aren’t going outside in their own neighborhoods.” Neither, for that matter, are that many adults. He described his own experience. “A creek runs through my neighborhood, and I would love it if my girls could go down and play along that creek,” he said. “But here’s the deal. My neighbors’ yards back up to the creek, and I have yet to go to my neighbors and ask them to give permission to my kids to play along the creek. So here’s my question. What will it take for me to go to my neighbors and ask them for that permission?”

The New Hampshire dad was raising a fundamental question for people of all ages.

What will it take?

The goal is deep, self-replicating cultural change, a leap forward in what a society considers normal and expected. But how do we get there from here? Let me offer my Three Ring theory. The First Ring comprises traditionally funded, direct-service programs (nonprofits, community organizing groups, conservation organizations, schools, park services, nature centers, and so on) that do the heavy institutional lifting of connecting people to nature.

The Second Ring is made up of individual docents and other volunteers, the traditional glue that holds together so much of society. These two Rings are vital, but each has limitations. A direct-service program can only extend as far as its funding will allow. Volunteers are constrained by the resources available for recruitment, training, management, and fund-raising. Many good programs are competing for the same dollars from the same funding sources, a process with its own price. Particularly during difficult economic times, the leaders of direct-service programs often come to view other groups doing similar work as competitors. Good ideas become proprietary; vision is reduced. This response is understandable.

The best programs and volunteer organizations transcend these limitations, but doing so is always a struggle.

Now for the Third Ring: a potentially vast orbit of networked associations, individuals, and families. This Ring is based on peer-to-peer contagion, people helping people create change in their own lives and in their own communities, without waiting for funding. This may sound like traditional volunteerism, but it’s more than that. In the Third Ring, individuals, families, associations, and communities use the sophisticated tools of social networking, both personal and technological,

to connect to nature and one another.

Family nature clubs offer one on-the-ground example. Using blog pages, social networking sites, and the old-fashioned instrument called the telephone (or smartphone), families are reaching out to other families to create virtual clubs that arrange multifamily hikes and other nature activities. An array of free organizing and activity tools is now available on the Internet for these clubs. They're not waiting for funding or permission; they're doing it themselves, doing it now.

The California-based organization Hooked on Nature networks people who form "nature circles" to explore their own bioregions. In the San Francisco Bay Area, Exploring a Sense of Place organizes groups of adults who meet on weekends to go on hikes with botanists, biologists, geologists, and other experts on their regions' natural world. Similarly, the Sierra Club has networked hikers for years.

New Third Ring networks could connect people who are rewilding their homes, yards, gardens, and neighborhoods; neighbors creating their own small, do-it-yourself "button" parks; businesspeople and professionals, including developers, hoping to apply biophilic principles. These networks, unlimited in their ability to grow, could transform future policies of more traditional professional societies. For example, today's influential Green Building Certification Institute's LEED certification for buildings is almost exclusively focused on energy efficiency and low-environmental-impact design. It's overdue for an update that would go beyond energy conservation to include the benefits of more natural environments to human health and well-being. For the proponents of that change, going the conventional route to achieve such a policy change could take years. But an expanding network of individual professionals could accelerate that change—and as you read this, that may have happened already.

Similarly, networks of health care and wellness professionals already committed to the nature prescription could change elements of their professions without waiting for top-down pronouncements. Through peer-to-peer networks, they could change minds, hearts, and eventually official protocol, and they could, through this process, build a funding base for direct-service programs.

When I mentioned this Third Ring notion to the director of the Maricopa County (Arizona) Parks and Recreation Department, the largest urban park district in the United States, he grew excited—not only about family nature clubs but about the broader context of the Third Ring.

"I have programs right now in my park system for families, but they're under-enrolled. This could be a way to change that," he said. Moreover, he faces new budget challenges. By encouraging families to create self-sustaining, self-organizing nature networks, he would be expanding the number of people who use his parks. Just as important, the growth of a Third Ring could translate into future political support for park funding.

Similarly, as large land-trust organizations and governments help neighborhoods create their own nearby-nature trusts, overhead would be small, but their reach would grow. So would the public's understanding of the importance of the land-trust concept. College students, those who hope to pursue careers connecting people to nature, could be similarly networked.

The Third Ring could be especially effective in changing the closed system of public education. At this writing, efforts are afoot to gather "natural teachers" into a national network. These educators, in primary and secondary schools, colleges and universities, are not necessarily environmental education teachers. They're the teachers who intuitively or experientially understand the role that nature experience can play in education. They're the art teachers, English teachers, science teachers, and many others who insist on taking their students outside to learn—to write poetry or paint or learn science under the trees. I meet these teachers all over the country. Every school had one or two. And they feel alone.

What if thousands of these natural teachers were networked and, through this network, gained power and identity? Once connected, these educators could push for change within their own schools, colleges, and communities. Connected and honored, natural teachers could inspire other teachers; they could become a galvanizing force within their own schools. In the process, they would contribute to their own psychological, physical, and spiritual health.

Third Ring networks can reach well beyond the immediate members. In Austin, Texas, a grade-school principal told me

that he would love to include more nature experience in his school. “But you can’t imagine the pressure I’m under now with the testing,” he said. “We can’t do everything.” When I described the family nature club phenomenon, the principal was enthusiastic. I asked if he could provide toolkits—packed with educational material, guides to local parks, and so forth—and encouragement to children and parents to start their own nature clubs. “I could do that,” he said, and he meant it. He immediately began to think of how the educational elements of these clubs might augment his curriculum.

Earlier that day, in a meeting of leaders from central Texas, a PTA president spoke movingly. “Listen, I’m really tired of going into a roomful of parents and telling them not to give their kids candy, because of obesity,” she said. “Recently, I’ve started talking to them about getting their children, and themselves, outside in nature more often. You can’t believe the different feeling in the room. In the room where I’m preaching about candy, the mood is rather unpleasant, but when I’m in a room with parents and we’re talking about getting outside, then the mood is happy, even serene. Parents immediately relax when we talk about that.” During our meeting, she began to make plans for her PTA to start encouraging family nature clubs.

Social networking, online and in person, has transformed the political world. Online tools are used to raise funds, to organize face-to-face house parties, and to turn out voters. A nature-focused Third Ring using those same tools, and ones not yet imagined, could create a growing constituency for needed policy changes and business practices. It could, in fact, help create a renatured culture.

What if family nature clubs really caught on, like book clubs did in recent years? What if there were 10,000 family nature clubs in the United States, created by families for families, in the next few years? What if the same process in other spheres of influence moved nature to the center of human experience? In such a culture, that father in New Hampshire would be more likely to knock on his neighbor’s door. Or, better yet, one of his neighbors will show up at his door, asking his family to join a new network of neighbors devoted to enjoying nature in their own neighborhood. Their first expedition: to explore the creek that runs through it.

Your Right to Nature

To be clear, I don’t believe that permanent cultural change will take root without major institutional and legislative commitments to protect, restore, and create natural habitat on a global basis.

Generous future historians may someday write that our generation finally met the environmental challenges of our time—not only climate change, but also the change of climate in the human heart, our society’s nature-deficit disorder—and that, because of these challenges, we purposefully entered one of the most creative periods in human history; that we did more than survive or sustain, that we laid the foundation for a new civilization; and that nature came to our workplaces, our neighborhoods, our homes, and our families.

Such a transformation, both cultural and political, will come only with a new consideration of human rights. Recently I began asking friends this question: Do we have a right to a walk in the woods? Several people responded with puzzled ambivalence. Look at what our species is doing to the planet, they said. Based on that evidence alone, isn’t the relationship between human beings and nature inherently oppositional? That point of view is understandable, given the destructiveness of human beings to nature. But consider the echo from folks who reside at another point on the political/cultural spectrum, where nature is seen as an object under human dominion or as a distraction on the way to Paradise. In practice, these two views of nature are radically different. Yet there is also a striking similarity: nature remains the “other”; humans are in it, but not of it.

My mention of the basic concept of rights made some of the people I talked to uncomfortable. One friend said: “In a world in which millions of children are brutalized every day, can we spare time to forward a child’s right to experience nature?” Good question. Others pointed out that we live in an era of litigation inflation and rights deflation; too many people believe that they have a “right” to a parking spot, a “right” to cable TV, even a “right” to live in a neighborhood that bans children. As a consequence, the idea of rights is deflated. Do we really need to add more rights to our catalogs of entitlements?

The answer to these questions is Yes, if we can agree that the right at issue is fundamental to our humanity.

About the Author

Richard Louv is a journalist and the author of eight books about the connections among family, nature, and community. His previous work includes *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Algonquin Books, 2005).

This article was excerpted from his most recent book, *The Nature Principle: Human Restoration and the End of Nature-Deficit Disorder* (2011, Algonquin Books of Chapel Hill).

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Technology in health sector. Medical practitioners are diagnosing illness quicker and more efficiently through the use of artificial intelligence and performing surgery effectively with the help of flexible robots - their hands essentially mimicking the human hand, but with the advantage of greater rotation and flexibility. Devices which help to improve our health are improving all the time, for example MED-EL audio processors (the externally worn part of a hearing implant) have come a long way from the first model 40 years ago and now boast wireless charging, wireless phone and TV connection Louv's "Nature Principle" consists of seven precepts, including balancing technology excess with time in nature; a mind/body/nature connection, which Louv calls "vitamin N," that enhances physical and mental health; expanding our sense of community to include all living things; and purposefully developing a spiritual, psychological, physical attachment to a region and its natural history.Â The model takes into account factors including the age of a rating, whether the ratings are from verified purchasers, and factors that establish reviewer trustworthiness. Customer images. See all customer images.Â 5.0 out of 5 stars Reconnecting with the Natural World. Reviewed in the United Kingdom on June 29, 2013. Format: Kindle EditionVerified Purchase.