

Rachel Carson inspires today's frontier science researchers

by Jeane Manning

Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts - Rachel Carson, biologist

Shocking incidents jolt people into eco-activism. The March 24, 1989, Exxon Valdez oil tanker spill near my Alaskan birthplace reinforced my own commitment. By then my parents had moved to northern Idaho and joined the Kootenai Environmental Alliance to protect nearby lakes, and I was traveling between Colorado and Canada. Nevertheless, the news that 11 million gallons of crude oil had fouled the pristine waters of Prince William Sound battered my heart, so I vowed to continue researching clean-energy inventions that work in harmony with nature.

I had already learned, from frontier scientists, that a primal source of power – the universe's background energy – could make oil-burning and nuclear power plants obsolete. Yet inventors of fuel-less electric generators usually lacked funding for further development of their prototypes.

As a journalist, I could spread public awareness of their work. Avery Publishing Group of New York published my first book, *The Coming Energy Revolution*, and a later co-authored book *Breakthrough Power* won an Independent Publishers Book Awards medal for “most likely to save the environment.”

When students attending new-energy conferences in Europe told me they were there because they had read foreign editions of my books, I knew my decades of interviewing scientists and inventors made at least a small difference. Another validation was an invitation to speak to 300 women from 25 countries at the 2017 International Women's Forum for Future Energy in Kazakhstan. Since then, a new book I co-authored, *Hidden Energy*, sparked the interest of students in the Global Breakthrough Energy Movement.

I take heart from the rise of activism globally. Youths are planting trees and community gardens, and restoring urban creeks. They act locally while thinking globally, and connect online. Where I live in Canada, young people from three indigenous nations came together in person for a Youth Salmon

Warriors Gathering. Excerpted from their statement: “We have come to the headwaters of the mighty Columbia River We are here as salmon's witness. Our sacred relative has been gone from these waters for too long, ... and we will never stop fighting for their right to come home.”

In her lifetime, Rachel Carson (1907–1964) had her own reasons for passionate defense of nature. A recent BBC series, Simon Schama's *History of Now* inspires this article about her lasting influence and her successors.

Carson was a biologist who revered the myriad expressions of life in the natural world. She informed the public about the chemical industry's unregulated pesticides – products such as DDT that damage the web of life. As a result, use of DDT (Dichlorodiphenyltrichloroethane, a synthetic insecticide that disorganizes nervous systems) began to be restricted and in the 1970s many countries banned it.

Rachel Carson valued nature so much that neither the anger of the chemical industry nor her fight with breast cancer could stop her from publishing her landmark book *Silent Spring*, in 1962. She succumbed to her illness eighteen months later, yet the book became a bestseller. It inspires Earth stewards today.

What would she say to youth who fear their future? I believe Carson would have compassion for young people who face daunting issues of pollution, disturbed climate, the rising threat of nuclear war, and shattered economies. And they confront the same forces of greed that caused Carson to describe her century as “...an era dominated by industry, in which the right to make a dollar at whatever cost is seldom challenged”.

Destruction also results from a century of materialistic, reductionistic science that largely ignores nature's wisdom. Rachel Carson, on the other hand, saw intelligence as well as beauty in the workings of the natural world.

If she had been an onlooker in a meeting room at my city's library a few years ago, Carson would likely have been saddened. A friend had invited me to speak to a local group of young people affiliated with an

international network which warns about catastrophic pollution. My research into the possibility of a new power source is relevant. Discoveries such as the reality of a universal life-force are not part of school curricula, so we anticipated lively skepticism. That's not what I encountered.

The main speaker was older than the youths; she represented the provincial level of the network and had traveled to our city from the British Columbia coast. Her slide deck consisted of facts about what our species is doing wrong. Describing the threats to survival of numerous species required a lengthy presentation.

The young people wilted before my eyes. Some had been looking down at their phones or slumped into their chairs when I arrived; now nearly all except my friend appeared bereft of hope. I waited my turn, expecting youthful fire to spark in at least some eyes when I reported what I've seen – experiments that prove principles of how to tap a previously-unknown source for plenty of clean electricity from small-scale prototypes.

The meeting's allotted time was running out when I began, perhaps jumping too quickly into the big picture. New inventions could bring light, heat or cooling to even the most remote villages. There is no need for constructing a central power grid. As I spoke, I sensed that my voice was too soft to penetrate the gloom, so I projected with more volume. I remember including my usual talking points that evolved from decades of meeting frontier scientists. “No fuel is consumed in such devices, not even uranium or thorium. Instead they innovatively use magnetics in certain geometries, or resonant electric circuits, or spiraling plasma like nature uses in the cosmos...”

The provincial representative looked uninterested, but I continued. “Small generators could produce energy-densities far beyond solar, wind or other conventional energy. The next step is engineering the experimental devices into plug-and-play generators ready for the marketplace. That's doable. It needs ordinary levels of funding for product engineering. And extraordinary public awareness.”

As always, I added that no technology



Beside the lake beneath the trees

is a cure-all. On the contrary, the more powerful a technology, the more caution must be taken, so that it is used responsibly or not at all. However, abundance of low-cost power could tackle major problems, especially in an era when energy scarcity is used as an excuse for resource wars, economic turmoil, social injustice and life-threatening pollution. “Game-changers can help build a better world.”

The meeting time ran out; the organizer wrapped it up and the young audience grabbed their phones and left.

“Only as a child’s awareness and reverence for the wholeness of life are developed can his humanity to his own kind reach its full development.”

If Rachel Carson had time-traveled to that day, what might she have said? Carson certainly would share my maternal concerns. She loved young people; it didn’t matter that she had birthed none. She advised parents to help their children by example. “Take time to listen and talk about the voices of the earth and what they mean—the majestic voice of thunder, the winds, the sound of surf or flowing streams.”

Rachel Carson was not the type of personality that is called an influencer. Most of

her career was as a quiet marine biologist with the US Fish and Wildlife Service. In those postwar years when nuclear physicists were virtually hoisted onto a pedestal, Carson’s chosen field – biology – was pushed farther out of the circle of influence. The scientific establishment saw her as an outsider with no PhD degree, not affiliated with a prestigious university, and who wrote

more for the public than for peer-reviewed journals. And the culture in science was unquestionably male; female voices were ignored. She was dismissed as a mere ‘spinster’ who loved bunnies and birds.

She may have wrestled with the same emotions that sideline sensitive people today who ask, “What can *I* do?” Carson’s life points toward an answer: don’t vaguely aspire to ‘save the world’. Instead, learn what you care most about, then develop whatever talents you have. Carson’s passion was to clearly explain complex science and expose destruction of the web of life, while describing the wonders of nature lyrically.

She began by writing *The Sea Around Us*, followed by *The Edge of the Sea*. Then she tackled the topic no other scientist was exposing.

Carson was not fooled by corporate slogans such as, ‘Better living through chemicals.’ Where Carson had as a child in Pennsylvania enjoyed nature walks with her mother, years later she saw an industrial wasteland. Coal dust and chemical emissions fouled the air and river. ‘Captains of industry’ took no responsibility.

Their mix of chemicals brought death to life forms – from soil microorganisms on up – when landscapers, municipalities and homeowners sprayed DDT, onto fields, city lots and school grounds. Carson meanwhile said the word ‘insecticide’ stands for ‘biocide,’ and the phrase ‘control of nature’



Dancing in the breeze



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Creatures great and small

comes from arrogant belief that nature exists merely for our convenience. “But man is a part of nature, and his war against nature is inevitably a war against himself.”

DDT was widely used despite the fact that insect species developed resistant

populations. DDT accumulated in soils. Its stability caused it to concentrate in insects eaten by creatures higher up the food chain. If deaths of songbirds continued, Carson knew, their springtime warbling would go silent.



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Quiet splendor

In the introduction to the latest edition of *Silent Spring*, Linda Lear* points out that in 1962 Rachel Carson’s book contained the kernel of social revolution. The fury launched against Carson related to the chemical industry’s role in America’s post-war prosperity. Lear wrote, “The public endowed chemists, at work in their starched white coats in remote laboratories, with almost divine wisdom.”

Rachel Carson had said, “In this now-universal contamination of the environment, chemicals are the sinister and little-recognized partners of radiation in changing the very nature of the world – the very nature of its life.” She was referring to radiation from atomic bomb tests or radioactive by-products of nuclear power; Carson lived well before cellphone towers began dispersing a different type of radiation.

Those towers you see today enabled the communications industry’s fourth generation of wireless technology, named 4G. It allowed mobile phones to do more, faster. As with the utility industries’ “Smart” meters, 3G and 4G use radiofrequency (RF) microwave radiation that is modulated – pulsed in various sequences to send information. Industry’s choice for WiFi usually includes 2.4 gigahertz, a frequency used in microwave ovens.



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The splendor and the glory

A whistle-blowing American scientist, Beverly Rubik, PhD, learned that the industry in her country selected frequencies in that band because they can use 2.4 gigahertz without having to pay the Federal Communications Commission; that band was free-of-charge. Yet the electromagnetic spectrum contains other bands of frequencies and some are beneficial to health.

Rubik says proper health studies by scientists not connected to the industry were not done. Corporations and governments deny the hazards of continuous exposure to pulsed, data-modulated, Radio-frequency Electromagnetic Microwave Radiation (RF-EMR), and the fact that it causes biological damages at levels many thousands of times lower than current RF-EMR radiation exposure guidelines.

Electro-smog is ignored just as the hazards of DDT had been. Honeybees, humans, trees and other life forms are affected. In the past two decades American bumblebee populations have dropped by 90 per cent. Granted, neonicotinoid chemicals are cited as causing bee-colony collapse, but the tiny workers who pollinate our food crops may also be weakened by invisible pollution. Wireless communications are digital; they pulse on and off very rapidly, in ever-changing sequences. Insects and mammals' organs experience that as stressors.

Much of the electro-smog is unnecessary, because communication via fiber optics can be as fast as, and more reliable than, wireless technologies. The industry now has 5G, a new generation of wireless that uses higher-frequency radio bands to deliver signals. Among the frequencies they will use for 5G is 60 gigaHertz. Rubik points out that those high frequencies interact with oxygen in the air, which we breathe.

Rubik searched medical databases to learn about the interaction between 60 gigahertz and our bodily tissues. "There is no research. We don't have enough safety and health research on the 5G frequencies, let alone the combinations of all these frequencies and their modulation....What's that going to do to the oxygen/hemoglobin binding in the blood? Nobody knows."

Is 5G the new DDT?

On the positive side, Dr. Beverly Rubik is internationally known for her research about biofields—the energy fields of living systems. I view her as one of Rachel Carson's successors. Rubik acknowledges the reality of a life force that courses throughout nature, and taking that stand

requires courage in a culture of science that denies such nonphysical realities.

Rubik says biofields are "the basis of energy medicine, whereby the softer, gentler therapies act in harmony with the body's innate dynamics". Instead of fighting the mainstream view that life is merely biochemical, she views the biofield perspective as complementary to it. She also reminds us that we could obtain technological conveniences such as communications connectivity in a more harmonious manner, and says the public should demand fiber optic networks for transferring data to and from homes and businesses.

Other courageous scientists – 258 EMF (electromagnetic field) specialists from 44 nations – signed an international appeal to regulators. It seeks better health protection on EMF exposure. Dozens of well-credentialed scientists added comments about danger to bees and birds as well as human bodies. For instance, a Swiss biologist and apiary adviser calls for more research regarding EMFs, to protect pollinators. He says active cellphones have a dramatic impact on the behavior of honeybees, causing signs of a disturbed bee colony. "Signals from mobile phones and masts (i.e., cell towers) could also be contributing to the decline of honeybees around the world."

We need to radically change our approach to nature's resources. The renowned futurist Buckminster Fuller said you never change things by fighting the existing reality. "To change something, build a new model that makes the existing model obsolete."

Many grassroot groups already work toward new models. Their work will be easier when new energy systems result in clean air and water. I take heart from the fact that public awareness of New Energy discoveries is rising. Dr Steven Greer and film maker Michael Mazzola plan to release their documentary about suppression of non-polluting energy technologies, *The Lost Century*, in June 2023.

Nutritious food and herbs grown in living soil, and subtle-energy medicine, eventually should attract more people than systems controlled by Big Pharma. Holistic systems and regenerative agriculture on family farms are more life-enhancing than chemical-dependent agribusiness, for instance.

In numerous ways, the Rachel Carsons of our century explain how to create systems that benefit all life instead of merely pleasing multi-billionaires. One leading light

is India's articulate physicist and seed-saving advocate Vandana Shiva, PhD. Meanwhile, Jane Goodall has been called a Rachel Carson for championing endangered primates. A Canadian forester, Dr Susanne Simard, reveals the folly of killing deciduous trees with chemicals for the false promise of more board-feet of lumber. She describes how to have healthy forests – allow nature's mix of species to continue working in their natural harmony.

Men and women whose homelands range from Asia to Africa and around the globe also point to better ways. Indigenous people who honor their own traditions notably are water protectors and stewards of their lands and forests, planning for the benefit of children seven generations beyond.

Spiritual awareness was absent from the 20th century's mechanistic, reductionistic approach to science. Carson, however, had grown up with a more expanded view. Linda Lear reports that young Rachel "read widely in the English Romantic tradition (nature poets with noble ideals) and had articulated a personal sense of mission, her 'vision splendid.'"

Rachel Carson insisted that "natural beauty has a necessary place in the spiritual development of any individual or any society". Where can city dwellers find that beauty? Many people have access to a park or boulevard where they could befriend a tree. Perhaps they can glimpse the sky from a balcony. In a kitchen you can watch a seed sprout and develop into a plant. The life force has countless manifestations; pets for example can model abundance of love.

Carson believed that "the more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for the destruction of our race. Wonder and humility are wholesome emotions, and they do not exist side by side with a lust for destruction".

Her words echo through the decades: "The human race is challenged more than ever before to demonstrate our mastery, not over nature but of ourselves."

Jeane Manning's most recent book is the co-authored *Hidden Energy: Tesla-inspired Inventors and a Mindful Path to Energy Abundance*. Her website is <https://jeanemanning.com>.

* Linda Lear is the author of the acclaimed biography of Rachel Carson, *Rachel Carson: Witness for Nature* (republished 2009 by Houghton Mifflin Harcourt).