

# We & Rachel Carson: Our Environmental Awakening

ZYGMUNT PLATER '65

QUITE remarkably, our class's arc of years since that late-summer day in 1961 when we entered Princeton almost exactly tracks three tectonic changes in how our society views the world and governs itself. This essay addresses one of those—the appearance and explosive development of *environmentalism* as a fundamental cognitive and political innovation, and forever-after an unavoidable societal reality. In reviewing the course of environmentalism over the past 50-plus years, we will encounter a fundamental, but largely-unrecognized, shift in national political governance and, to my undoubted shame, a truly egregious pun.

That September in 1961, as we began our freshman year, William Shawn, the editor of *The New Yorker* magazine, contracted with a shy female scientist to publish her extended article, initially titled “Control of Nature.” It came out under a new name in a three-part “Reporter-at-Large” series as we were finishing our freshman year exams—Rachel Carson’s “Silent Spring.” Appearing soon thereafter as a Houghton Mifflin book, it landed on all the best-seller lists and was selected as October’s Book-of-the-Month Club choice.<sup>1</sup>

Using chemical pollution as her dominant metaphor, Carson’s scientific perceptions in *Silent Spring* revealed systemic deficiencies in the way humans during the Industrial Age have made technological and behavioral decisions. Then and now most projects, programs, or human problem-solving approaches utilize some form of one-shot technology—insulated, narrow, uni-dimensional:

“You got bugs? Go get a pesticide.”... Zap.... “Now you’ve got what you wanted: Dead bugs. The End.”

But Carson showed us that’s not the end of it. There is no such thing as simple one-shot technology. As the First Law of Ecology instructs us, Everything Is Connected to Everything Else. Human actions have continuing long-term interconnected consequences. Pesticides don’t just disappear after they have killed the target bugs. They linger on and on, blowing in the wind, leaching into groundwater, eliminating the rich, interconnected communities that had naturally evolved in the land to give it its fertility in the first place, moving up through ecological food chains, and diffusing far and wide through the air currents of the hemisphere and our bodies before they finally, if ever, dissipate.

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Our nation had internalized a vast and critically significant failure to acknowledge, account for, and avoid the negative consequences of human technological activities in the natural systems that surround and support our people and economy.

The lessons Carson drew from DDT and other chlorinated hydrocarbon pesticides were readily applied to many other settings as well—to other kinds of chemical pollution, to resource management issues like timber-cutting and grazing, highway and transportation planning, pharmaceuticals and health technology, and by extension to many other areas of national and international policy like the current apocalyptic threat we pose to ourselves with global climate destabilization.

At Princeton some of us studied an economics article that had recently come out of the University of Chicago, Professor Ronald Coase's "The Problem of Social Cost" (1960). Building on several British economists' analysis, Coase's article emphasized an important tendency of human nature: When deciding whether or not to take some significant action, most individuals will attempt to maximize the amount of benefit or profit they can internalize to themselves, and jettison—externalize—into the environment or onto others as much as possible of the consequential costs. He called this "market failure." The complex marketplace of human enterprises doesn't automatically serve the overall public good. Absent some kind of public or private regulatory control, profit-maximizing human nature tends to generate and impose destructive social costs upon the public.<sup>2</sup>

**I**N EFFECT, Rachel Carson and *Silent Spring* spread a broad intellectual catch-basket beneath the Coasian welfare economists' universe of benefit-maximizing individual actors. Her intellectual construct, which would become the core of "environmental" analysis, emphasized the necessity of identifying and taking overall account of externalized social costs, even if they are hidden, indirect, or based upon unmarketized "quality of life" societal values. Rational decision making requires realistic accounting of actual societal costs as well as actual benefits, in light of all realistically available alternatives. Carson showed that serious local, national, and international problems follow when official players, both corporate and governmental, make decisions in traditional terms, seeking short-term profits and benefits with a narrowed, fore-shortened, insulated field of vision.

Private corporate decision makers and public agency officials alike still often operate as if they're in an insulated sphere, ignoring their actions' societal impacts, physical detritus, and accumulated interacting

<sup>1</sup>The other two tectonic events that occurred within 12 months of our freshman year were Betty Friedan's *The Feminist Mystique*—which changed the Western conception of a woman's rights and roles, and coincidentally accompanied the start of a shift at Princeton that began on our watch—and Jane Jacobs' *Death and Life of Great American Cities*, dragging our rapidly-urbanizing nation's planning and architecture away from monumentalism and static fractionalization toward a recognition of human communities' dynamic interactive linkages, in the way human living space operates in the structures and streets of cities and suburbs.

<sup>2</sup>Coase, as a good University of Chicago economist, whimsically hopes that private ordering can attach an accountability social cost to externalized negative harms, avoid "rent-seeking" behavior, and the marketplace will make things go right, but most of us students focused more realistically upon his threshold explanation of how things go wrong.



consequences. Although humans may not take account of the extended real social and ecological costs of their actions, Nature keeps a comprehensive tab, and real consequences follow.

Rachel Carson's paradigm changed the scope and hierarchy of the perceptual landscape we apply to human actions. King Canute's lesson notwithstanding, Western societies traditionally have tended to view human actors as the central players in the life of the planet, with nature as a subservient and pliant backdrop. But nature is not "outside" our human economy or our jurisprudence. Through an ecological lens Carson demonstrated that the natural backdrop to human activity may be far larger in scale and importance than the human figures pirouetting in the foreground, and unless societal governance can take account of potentially interconnected effects and alternatives, the long-run consequences to humans as well as to natural systems can be drastically negative.

### *A Systematic Change in Public Awareness and Citizen Activism*

*Silent Spring* triggered not only a wide-ranging, full-throated, industry attack on Rachel Carson personally but also, more significantly, a broad, powerful popular awareness of environmental degradation as a systemic problem. Soon enough these recognitions led to teach-ins, mass public gatherings, and extensive media coverage, and thereafter to action in legislatures and the law.

Before *Silent Spring*, the protection of Nature and of human health were considered in two very different ways. "Conservationists" during and after the Teddy Roosevelt era tended to be silk-stocking brahmins, including the wives of some of New England's major industrial dynasties. They pioneered back-to-Nature recreation and parks, preservation of wilderness and endangered species, and control of population pressures—usually focusing efforts at the national level. The Wilderness Act of 1964, signed into law at the start of our senior year, was the conservationists' marvelous swansong.

Meanwhile, public health issues—particularly air and water pollution—were becoming ever harder to ignore. Drinking water supplies were discovered to be tainted, urban smog was causing elderly citizens to collapse on the sidewalks of industrial America, the morning-sickness drug thalidomide was revealed to

*Cleveland, Ohio: the Cuyahoga River, a designated fire hazard, ablaze.*



have horrific teratogenic effects, causing thousands of babies to be born with misshapen or absent limbs, and more. Public health initiatives tended to focus, rather ineffectively, on low-income urban conditions; the federal role too was generally weak or non-existent.

The word “environment” was rarely used in reference to the natural physical world or cultural values during our Princeton years, nor “eco-systems” or “ecology.” Much less did the word “environment” represent a critical norm of international governance. The word “conservation” didn’t evoke much of anything beyond national parks, or maybe stories of protecting birds being hunted for their plumage. When my roommates and I went biking on the scenic country byways out toward Pennington and saw a forest being bulldozed, or when John Page Williams and I were fishing on the Millstone River near Lake Carnegie or on Stony Brook and wondered about erosion runoff pollution, these seemed to be just unfortunate, disconnected perturbations of “Nature” and of outdoor places we enjoyed, caused by “progress.”

“Environmentalism” began to define itself in the mid-Sixties, incorporating public health concerns and soon eclipsing “conservation.” Pollution provided environmentalism’s primary initial focus; Carson’s revelations of the wide-ranging dispersal of chemical wastes awakened wide popular recognition of industrial pollution in lakes, streams, rivers, and neighborhoods across America—and planted the concept of “ecosystems,” in which impacts upon any element within a living system have interconnected consequences upon the entire system.

**E**ARTH DAY 1970 epitomized the new environmental movement’s broad populism, linking people from every generation and all social strata in communities throughout the nation. And to the threshold issues of environmental pollution, environmentalism’s critical analysis proceeded to add a growing list of areas of concern in which the structures and practices of modern business and industry created deep social costs quite unacknowledged in the market economy—acid precipitation, depletion of groundwater aquifers, brutal deaths for whales and seal pups on winter ice, clearcutting and stripmining of public and private lands, lead paint poisoning of low-income children in urban tenements, fears for radioactive hazards in the operation and waste cycles of nuclear power stations, and dozens more.

The broad nationwide arousal of environmental concern prompted a response from politicians in Congress and the White House, resulting in the most remarkable parade of environmental protection laws ever seen before or since. Who therefore became the world’s greatest environmental law-maker in human history? Richard Milhous Nixon, who by my count signed 34 significant environmental measures into law.

Why did effective environmental protection require federal, rather than state, action? Our class was exposed to one of the major reasons: during our junior year several hundred of us went to Alexander Hall to hear Mississippi’s Governor Ross Barnett speak. His main agenda was to defend lingering segregation, but assuming that many of us would soon be captains of industry, he also urged us to bring our factories to Mississippi “where we have a *reasonable* approach to labor and environmental issues.” In the absence of a federal regulatory floor, most states could obviously find themselves in a competitive “race of laxity,” to the extent they decided to protect their own citizens’ environment they would find themselves losing economic resources to other states like Mississippi.

### ***Just Another Fad, Soon to Pass?***

The wistful reaction of many industry leaders was that environmentalism was just another fad, and soon enough, as one corporate vice president told me, “the pendulum will undoubtedly swing back to where it was.” An outraged alumnus wrote in a letter to PAW sometime in the 1980s, “Acid rain doesn’t exist. I challenge any environmentalist to come to [my town] and go up on my office building’s rooftop and prove to me that acid rain exists.”

There are two main reasons the pendulum did *not* swing back against the federal environmental protection laws. One is that the physical and societal problems they addressed were real, belatedly-recognized

but critically important to the quality of human life and long-term sustainability. The other is that active, widespread, citizen intervention in the legislative-regulatory process forever changed the dynamic of governance in the United States.

Citizen law enforcement efforts in the federal courts and regulatory agencies made the new federal environmental statutes functional instead of mere symbolic reassurance under politics as usual. A dramatic early example: after the federal Clean Air statute set nationwide limits on allowable amounts of air pollutants, the federal EPA, under prodding from Establishment business lobbies, initially permitted industries to move dirty factories into states like Kansas with existing clean air so they could pollute up to the federal limits. But citizen environmental groups—using precedents set in civil rights law during our Princeton years by the Reverend Martin Luther King and the Southern Christian Leadership Council, in consumer law by consumer advocates, and the Storm King mountain excavation case during our senior year—won the legal “standing” right to challenge agencies in court, and persuaded the Supreme Court to nail down an interpretation prohibiting such circumventions of the statute’s goal of protecting and enhancing the nation’s air quality.

Every one of the environmental protection law structures created in the U.S. has been fundamentally shaped by active citizen interventions, first in their initiation—most often by the public’s clamorous reaction to a vivid tragedy highlighted in the media. Once incorporated into statutory form, it has been continually active citizen pressures in courts and the political arena that have pushed federal agencies to implement and enforce the statutory mandates against the contrary lobbying pressures of regulated interests.

**B**UILDING on the broad ferment that surfaced in the years following *Silent Spring* and Earth Day 1970—with ever-increasing sophistication in ecological science, natural resource economics, and policies and philosophy of environmental sustainability—the environmental protection movement in the U.S. created a mosaic of regulatory policies that became a model for copycat nations around the globe: laws on air pollution, water pollution, pesticides, herbicides, hazardous materials in commerce, toxic land contamination, endangered species, historic preservation, marine mammals, consumer protection, safe drinking water, hazardous industrial waste, migratory birds, coastal zone protections, food and drug safety, noise pollution, worker safety, oil pollution, forest management, parkland protection, rangeland management, invasive species, and more.

We led the world. The explosion of environmental awareness triggered by Carson’s *Silent Spring* in the U.S. was instrumental in launching the Stockholm Conference in 1972, the first in a series of international gatherings of scientists, heads of state, and citizen activists that continues today. The expansion of ecological sciences and policies has been accompanied by new conceptions of evolution, the natural world, and the place of humans within it: there is no such thing as an originalist “Balance of Nature,” a golden state which we ideally should strive to re-achieve, nor a Holy Grail of ecological perfection which, once earned, will secure us all in a state of environmental bliss. Nature is dynamic, evolving, ever-changing, and we humans—though only one tiny part of the complexity of interacting systems that make up the planetary whole—have a demonstrated capacity to trigger major reverberating repercussions throughout that global entirety. “Sustainability” has become the necessary proactive societal strategy.

### ***A Parade of Statutes: a Fundamental Shift in the Context of Social Governance***

But how can it be said that citizen environmentalism—far from being just a fad, and in addition to broadening the process of major decision making to incorporate interconnected logical consequences—also “forever changed the dynamic of modern democratic governance”? The answer is that environmental citizen action became the major exemplar of a dramatic shift in the conception of republican societal governance. In the years following *Silent Spring*, the traditional “di-polar” design of government has had to confront a far more dynamic, pluralistic, “multi-centric” model.

Harvard's Lon Fuller once described the standard format of 20th-century regulatory government as, fundamentally, a dynamic two-sided balance. In his "di-polar" model, one pole is the economic marketplace—the largest, most powerful, societal engine, driving our economy to generate innovation, wealth, jobs, culture, and an extraordinary quality of life, as well as negative externalities like pollution. On the other pole is government with its regulatory laws and agencies, holding the primary role and responsibility of overseeing, counterbalancing, and correcting the excesses of the marketplace economy.

**I**NDEED, day by day, week by week, year by year, the marketplace provides our largest, most powerful governance of societal behavior. Counterbalancing the marketplace forces, official government entities are charged with the task of protecting the public against the negative externalities that the market system inevitably generates—"market failures." In practice, however, as the resource management history of the nation reflects, the di-polar Establishment, dominated by the politics of market forces, often fails to provide adequate protection for declared public values and the public interest. Given the vast political lobbying power of marketplace players and the "agency capture" and "iron triangle" phenomena noted by political scientists, government too often becomes an insiders' game where regulators and regulatees shape comfortable policies quite insulated from the public values and mandates that had been pushed with so much effort onto the law books. As the Exxon Valdez and BP Deepwater oil spills revealed, the counterbalancing "poles" too often incline centripetally into each other. The industry and agency players are too easily pulled together into a combined culture of complacency, collusion, and neglect.

Perhaps best exemplified by environmentalism, however, the turbulent populist currents released by the late Sixties arguably introduced a revolutionary modification of the standard "di-polar" model of governance. Prior to that decade the public was conceptually a stolid, passive multitude, severely limited in its ability to enter actively into the processes of governance. Starting during our years at Princeton, the 1960s brought a series of significant societal changes in broad active citizen movements for civil rights, consumer protection, good music, opposition to imperial wars, and environmental protection.

As citizens found traction within the political and legal systems, and the media learned to question the authority of Establishment leadership, in some areas America began to expand the di-polar to a much more pluralistic "multi-centric" model. No longer were the official agencies and Washington insiders the insulated sole determinants of how environmental and other civic policies were interpreted and implemented. No longer did you need a specific property or business interest, or a vested legal right, to be allowed "standing" for formal intervention in agency or court proceedings.

Today a host of individuals and entities with a far broader range of interests have legal standing to participate in or challenge official decisions, a situation that often produces a chaos of noisy participation but also, when the process is thus opened to greater external realities and accountability, often results in more principled governance.

### ***Backlash: The Counter-Push Against Environmentalism and Multi-Centric Pluralism***

Given the profit-diminishing costs of pollution control, it was predictable that the new environmental constraints would be resisted from the start. Newly regulated industries bitterly resisted environmental controls, politically, legally, and technically as well. (At the paper factory where I worked during Princeton summers I was distressed to discover that "the pollution control facility" was essentially a huge holding tank in a building filled up during daylight hours and released into the Delaware River at nightfall.)

The counter-movement against environmental protection efforts did not tarry long after being hit by the green blitz of the early Seventies. By 1973 Richard Nixon announced to his Cabinet that "it's time to get off the environment kick." Lewis Powell, soon to join the Supreme Court, prepared a strategy memorandum for the U.S. Chamber of Commerce urging the nation's business interests to work together to resist governmental regulation and marginalize environmentalists, labor unions, and consumer protection. The Powell

Memorandum inspired the creation of the Heritage Foundation and a coherent political strategy for using industries' superior financial, lobbying, and press resources.<sup>3</sup> Since then a “conservative” resurgence has inexorably mounted, guided by Powell’s memorandum and richly funded by an array of right-wing foundations, many from the fossil-fuel sector. From the beginning this insider initiative took on environmental protection laws and the EPA as strategic targets, and has continually fought a rear guard action in Congress and the Supreme Court to oppose active citizen participation in the enforcement of federal law generally.

The current political scene reflects a continuing battle between the multi-centric pluralist tendencies inherited from the 1960s and strong Establishment pressures to return to a “di-polar” structure of governance, inviting the national stagnation that Daron Acemoglu and James Robinson describe as the consequence of having “extractive élites” come to dominate a system’s economy, its sources of information, its utilization of power, and its cultural expressions.

**F**OR THE past thirty years, under continuing attack in court, plutocratic lobbying, and Roger Ailes’ Fox News, environmental protection laws in the U.S. have gradually been slowed or eroded. The torch has been passed to other developed industrial democracies, particularly in Europe, to address global environmental threats to future generations. We live today in a time when the backlash against environmentalism is a major element in America’s dysfunctional politics, where dominant sectors of governmental leadership reject science and our society’s essential long term needs. The current chairman of the Senate Committee on Environment believes that climate destabilization—a human-caused existential threat at a scale never before encountered (confirmed by 13,950 scientific papers between 1991 and 2012, and doubted by only 23)—is all a hoax.

We’ve come a long way since Rachel Carson. We’ve gained a great deal of critical knowledge about our world and ourselves. In a context where political dominance is increasingly characterized by short term thinking at an ever-narrower insulated apex of wealth and power, however, the prospects for navigating all levels of human society to a sustainable future in a livable world are not cheerily obvious.

So, in sum, we come to the particularly bad pun promised at the outset. It emphasizes the long-term utilitarian importance of sustainable environmentalism, and where we are today. Here it is:

Professor Arnold Reitze once observed that there are three major human-caused problems—*Population*, *Wasteful Consumption of Resources*, and *Pollution*—threatening our long-term ability to sustain the global quality of human life in the natural setting we inherited from our ancestors. All three reflect serious implications from the human tendency to externalize costs by ignoring the consequences of individual human actions upon the commons. But, observing where we are today, there appears to me to be a need to identify *four* systemic problems, *Four Horsemen of the Eco-palypse*. With apologies for the pun, I’d define the Fourth Horseman as a critically important governance problem—*The Gap between What We Know and What We Do*. Despite a truly amazing expansion of ecological knowledge—about pollution, population, resource losses, and the interconnectedness of human and natural systems—and the ability to communicate that knowledge globally at the speed of light, it is distressing to observe the difference between knowledge and practice. Our capacity to implement what we know about these serious threats consistently falls short, and may even be falling further behind.

Thanks to the awakening we got from Rachel Carson, however, we know where ultimately we must go. If intellectual understanding doesn’t do it, we’ll look forward to experiencing vivid but hopefully limited and instructive disasters that over time will inevitably energize rational societal response. When you scratch away at almost any environmental puzzle, pretty soon you find yourself looking deep into questions of science, human nature, ethics, and democratic governance.

<sup>3</sup>For more on the Powell Memorandum, see Plater, *Dealing with Dumb and Dumber: The Continuing Mission of Citen Environmentalism*, 20 J. Env’tl. L. & Litig. 25, 38 (2005) and *Environmental Law & Policy* 64, 406 (4th ed. 2009); [www.bc.edu/natlaw](http://www.bc.edu/natlaw) at “Supplemental Materials.”