

“Fateful Voice of a Generation Still Drowns Out Real Science”

John Tierney
New York Times

Document Excerpt #1

For Rachel Carson admirers, it has not been a silent spring. They've been celebrating the centennial of her birthday with paeans to her saintliness. A new generation is reading her book in school — and mostly learning the wrong lesson from it. If students are going to read “Silent Spring” in science classes, I wish it were paired with another work from that same year, 1962, titled “Chemicals and Pests.” It was a review of “Silent Spring” in the journal *Science* written by I. L. Baldwin, a professor of agricultural bacteriology at the University of Wisconsin.

He didn't have Ms. Carson's literary flair, but his science has held up much better. He didn't make Ms. Carson's fundamental mistake, which is evident in the opening sentence of her book: “There was once a town in the heart of America where all life seemed to live in harmony with its surroundings,” she wrote, extolling the peace that had reigned “since the first settlers raised their houses.” Lately, though, a “strange blight” had cast an “evil spell” that killed the flora and fauna, sickened humans and “silenced the rebirth of new life.” This “Fable for Tomorrow,” as she called it, set the tone for the hodgepodge of science and junk science in the rest of the book. Nature was good; traditional agriculture was all right; modern pesticides were an unprecedented evil. It was a Disneyfied version of Eden.

Ms. Carson used dubious statistics and anecdotes (like the improbable story of a woman who instantly developed cancer after spraying her basement with DDT) to warn of a cancer epidemic that never came to pass. She rightly noted threats to some birds, like eagles and other raptors, but she wildly imagined a mass “biocide.” She warned that one of the most common American birds, the robin, was “on the verge of extinction” — an especially odd claim given the large numbers of robins recorded in Audubon bird counts before her book.

Ms. Carson's many defenders, ecologists as well as other scientists, often excuse her errors by pointing to the primitive state of environmental and cancer research in her day. They argue that she got the big picture right: without her passion and pioneering work, people wouldn't have recognized the perils of pesticides. But those arguments are hard to square with Dr. Baldwin's review. Dr. Baldwin led a committee at the National Academy of Sciences studying the impact of pesticides on wildlife. (Yes, scientists were worrying about pesticide dangers long before “Silent Spring.”) In his review, he praised Ms. Carson's literary skills and her desire to protect nature. But, he wrote, “Mankind has been engaged in the process of upsetting the balance of nature since the dawn of civilization.”

While Ms. Carson imagined life in harmony before DDT, Dr. Baldwin saw that civilization depended on farmers and doctors fighting “an unrelenting war” against insects, parasites and disease. He complained that “Silent Spring” was not a scientific balancing of costs and benefits but rather a “prosecuting attorney's impassioned plea for action.” Ms. Carson presented DDT as a dangerous human carcinogen, but Dr. Baldwin said the question was open and noted that most scientists “feel that the danger of damage is slight.” He acknowledged that pesticides were sometimes badly misused, but he also quoted an adage: “There are no harmless chemicals, only harmless use of chemicals.”

Ms. Carson, though, considered new chemicals to be inherently different. “For the first time in the history of the world,” she wrote, “every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death.” She briefly acknowledged that nature manufactured its own carcinogens, but she said they were “few in number and they belong to that ancient array of forces to which life has been accustomed from the beginning.” The new pesticides, by contrast, were “elixirs of death,” dangerous even in tiny quantities because humans had evolved “no protection” against them and there was “no ‘safe’ dose.”

She cited scary figures showing a recent rise in deaths from cancer, but she didn't consider one of the chief causes: fewer people were dying at young ages from other diseases (including the malaria that persisted in the American South until DDT). When that longevity factor as well as the impact of smoking are removed, the cancer death rate was falling in the decade before "Silent Spring," and it kept falling in the rest of the century.

Why weren't all of the new poisons killing people? An important clue emerged in the 1980s when the biochemist Bruce Ames tested thousands of chemicals and found that natural compounds were as likely to be carcinogenic as synthetic ones. Dr. Ames found that 99.99 percent of the carcinogens in our diet were natural, which doesn't mean that we are being poisoned by the natural pesticides in spinach and lettuce. We ingest most carcinogens, natural or synthetic, in such small quantities that they don't hurt us. Dosage matters, not whether a chemical is natural, just as Dr. Baldwin realized.

But scientists like him were no match for Ms. Carson's rhetoric. DDT became taboo even though there wasn't evidence that it was carcinogenic (and subsequent studies repeatedly failed to prove harm to humans). It's often asserted that the severe restrictions on DDT and other pesticides were justified in rich countries like America simply to protect wildlife. But even that is debatable (see www.tierneylab.com), and in any case, the chemophobia inspired by Ms. Carson's book has been harmful in various ways. The obsession with eliminating minute risks from synthetic chemicals has wasted vast sums of money: environmental experts complain that the billions spent cleaning up Superfund sites would be better spent on more serious dangers.

The human costs have been horrific in the poor countries where malaria returned after DDT spraying was abandoned. Malariologists have made a little headway recently in restoring this weapon against the disease, but they've had to fight against Ms. Carson's disciples who still divide the world into good and bad chemicals, with DDT in their fearsome "dirty dozen."

Ms. Carson didn't urge an outright ban on DDT, but she tried to downplay its effectiveness against malaria and refused to acknowledge what it had accomplished. As Dr. Baldwin wrote, "No estimates are made of the countless lives that have been saved because of the destruction of insect vectors of disease." He predicted correctly that people in poor countries would suffer from hunger and disease if they were denied the pesticides that had enabled wealthy nations to increase food production and eliminate scourges.

But Dr. Baldwin did make one mistake. After expressing the hope "that someone with Rachel Carson's ability will write a companion volume dramatizing the improvements in human health and welfare derived from the use of pesticides," he predicted that "such a story would be far more dramatic than the one told by Miss Carson in 'Silent Spring.'" That never happened, and I can't imagine any writer turning such good news into a story more dramatic than Ms. Carson's apocalypse in Eden. A best seller titled "Happy Spring"? I don't think so.

Tierney, John. "Fateful Voice of a Generation Still Drowns Out Real Science." *New York Times* 5 June 2007.

“Rachel Carson, Mass Murderer? The creation of an anti-environmental myth”

Aaron Schwartz

Fairness and Accuracy in Reporting (fair.org)

Document Excerpt #2

Sometimes you find mass murderers in the most unlikely places. Take Rachel Carson. She was, by all accounts, a mild-mannered writer for the U.S. Fish and Wildlife Service—hardly a sociopath’s breeding ground. And yet, according to many in the media, Carson has more blood on her hands than Hitler. The problems started in the 1940s, when Carson left the Service to begin writing full-time. In 1962, she published a series of articles in the *New Yorker*, resulting in the book *Silent Spring*—widely credited with launching the modern environmental movement. The book discussed how pesticides and pollutants moved up the food chain, threatening the ecosystems for many animals, especially birds. Without them, it warned, we might face the title’s *Silent Spring*.

Farmers used vast quantities of DDT to protect their crops against insects—80 million pounds were sprayed in 1959 alone—but from there it quickly climbed up the food chain. Bald eagles, eating fish that had concentrated DDT in their tissues, headed toward extinction. Humans, likewise accumulating DDT in our systems, appeared to get cancer as a result. Mothers passed the chemical on to their children through breast milk. *Silent Spring* drew attention to these concerns and, in 1972, the resulting movement succeeded in getting DDT banned in the U.S.—a ban that later spread to other nations. And that, according to Carson’s critics, is where the trouble started. DDT had been sprayed heavily on houses in developing countries to protect against malaria-carrying mosquitoes. Without it, malaria rates in developing countries skyrocketed. Over 1 million people die from it each year. To the critics, the solution seems simple: Forget Carson’s emotional arguments about dead birds and start spraying DDT again so we can save human lives.

“What the World Needs Now Is DDT” asserted the headline of a lengthy feature in the *New York Times Magazine* (4/11/04). “No one concerned about the environmental damage of DDT set out to kill African children,” reporter Tina Rosenberg generously allowed. Nonetheless, *Silent Spring* is now killing

African children because of its persistence in the public mind.” It’s a common theme—echoed by two more articles in the *Times* by the same author (3/29/06, 10/5/06), and by *Times* columnists Nicholas Kristof (3/12/05) and John Tierney (6/05/07). The same refrain appears in a *Washington Post* op-ed by columnist Sebastian Mallaby, gleefully headlined “Look Who’s Ignoring Science Now” (10/09/05). And again in the *Baltimore Sun* (“Ms. Carson’s views [came] at a cost of many thousands of lives worldwide”—5/27/07), *New York Sun* (“millions of Africans died . . . thanks to Rachel Carson’s junk science classic”—4/21/06), the *Hill* (“millions die on the altar of politically correct ideologies”—11/02/05), *San Francisco Examiner* (“Carson was wrong, and millions of people continue to pay the price”—5/28/07) and *Wall Street Journal* (“environmental controls were more important than the lives of human beings”—2/21/07).

Even novelists have gotten in on the game. “Banning DDT killed more people than Hitler, Ted,” explains a character in Michael Crichton’s 2004 bestseller, *State of Fear* (p. 487). “[DDT] was so safe you could eat it.” That fictional comment not only inspired a column on the same theme in Australia’s *Sydney Morning Herald* (6/18/05), it led Senator James Inhofe (R-Ok.) to invite Crichton and Dr. Donald R. Roberts, a longtime pro-DDT activist, to testify before the Senate Committee on Environment and Public Works. But other attacks only seem like fiction. A web page on junk-science.com features a live Malaria Death Clock next to a photo of Rachel Carson, holding her responsible for more deaths than malaria has caused in total. (“DDT allows [Africans to] climb out of the poverty/subsistence hole in which ‘caring greens’ apparently wish to keep them trapped,” it helpfully explains.) And a new website from the Competitive Enterprise Institute, *RachelWasWrong.org*, features photos of deceased African children along the side of every page.

At one level, these articles send a comforting message to the developed world: Saving African children is easy.

We don't need to build large aid programs or fund major health initiatives, let alone develop Third-World infrastructure or think about larger issues of fairness. No, to save African lives from malaria, we just need to put our wallets away and work to stop the evil environmentalists. Unfortunately, it's not so easy. For one thing, there is no global DDT ban. DDT is indeed banned in the U.S., but malaria isn't exactly a pressing issue here. If it ever were, the ban contains an exception for matters of public health. Meanwhile, it's perfectly legal—and indeed, used—in many other countries: 10 out of the 17 African nations that currently conduct indoor spraying use DDT (*New York Times*, 9/16/06).

DDT use has decreased enormously, but not because of a ban. The real reason is simple, although not one conservatives are particularly fond of: evolution. Mosquito populations rapidly develop resistance to DDT, creating enzymes to detoxify it, modifying their nervous systems to avoid its effects, and avoiding areas where DDT is sprayed — and recent research finds that that resistance continues to spread even after DDT spraying has stopped, lowering the effectiveness not only of DDT but also other pesticides (*Current Biology*, 8/9/05). “No responsible person contends that insect-borne disease should be ignored,” Carson wrote in *Silent Spring*. “The question that has now urgently presented itself is whether it is either wise or responsible to attack the problem by methods that are rapidly making it worse. . . . Resistance to insecticides by mosquitoes . . . has surged upwards at an astounding rate.”

Unfortunately, her words were ignored. Africa didn't cut back on pesticides because, through a system called the “Industry Cooperative Program,” the pesticide companies themselves got to participate in the United Nations agency that provided advice on pest control. Not surprisingly, it continued to recommend significant pesticide usage. When *Silent Spring* came out in 1962, it seemed as if this strategy was working. To take the most extreme case, Sri Lanka counted only 17 cases of malaria in 1963. But by 1969, things had once again gotten out of hand: 537,700 cases were counted. Naturally, the rise had many causes: Political and financial pressure led to cutbacks on spraying, stockpiles of supplies had been used up, low rainfall and high temperatures

encouraged mosquitoes, a backlog of diagnostic tests to detect malaria was processed and testing standards became more stringent. But even with renewed effort, the problem did not go away.

Records uncovered by entomologist Andrew Spielman hint at why (*Mosquito*, p. 177). For years, Sri Lanka had run test programs to verify DDT's effectiveness at killing mosquitoes. But halfway through the program, their standards were dramatically lowered. “Though the reason was not recorded,” Spielman writes, “it was obvious that some mosquitoes were developing resistance and the change was made to justify continued spraying.” But further spraying led only to further resistance, and the problem became much harder to control. DDT use was scaled back and other pesticides were introduced—more cautiously this time—but the epidemic was never again brought under control, with the deadly legacy that continues to this day.

Instead of apologizing, the chemical companies went on the attack. They funded front groups and think tanks to claim the epidemic started because countries “stopped” using their products. In their version of the story, environmentalists forced Africans to stop using DDT, causing the increase in malaria. “It's like a hit-and-run driver who, instead of admitting responsibility for the accident, frames the person who tried to prevent the accident,” complains Tim Lambert, whose weblog, *Deltoid*, tracks the DDT myth and other scientific misinformation in the media.

Schwartz, Aaron. “Rachel Carson, Mass Murderer?” *Extra* Sept./Oct. 2007.
< <http://www.fair.org/index.php?page=3186>>

“Rachel Carson and the Deaths of Millions”

J.R. Dunn
American Thinker

Document Excerpt #3

Silent Spring was published in September 1962 to immediate and near-universal acclaim. It was a strange time in American history - the public had only recently endured scares over radioactive fallout from nuclear testing and a horrifying incident involving the pregnancy drug thalidomide, which led to gross birth defects. *Silent Spring* rode this wave of paranoia as if designed for it. Along with a thirty-week run on *The New York Times* bestseller list, the book was discussed in the Senate, debated by Congressional committees, analyzed by the presidential Science Advisory Committee and widely covered on television. All of which was a deep pity, because *Silent Spring* was an extremely dishonest and flawed piece of work.

Carson's book was rife with omissions, misrepresentations, and errors. She neglected to mention that the spraying of Huckin's bird sanctuary was accompanied by fuel oil, which would have harmed the birds in and of itself. The fact that DDT had eliminated malaria in the northern hemisphere went unnoted. The threat of cancer (Carson herself had been diagnosed with breast cancer while at work on the book) was overemphasized—to put it mildly—on no scientific basis. But far worse was the tone of hysteria permeating the entire work. DDT was not simply a chemical compound, to be analyzed dispassionately like any other. No—it was representation of absolute evil, a demonic threat to all forms of life, one that had to be ousted from the environment at all costs. Such an overwrought treatment is perhaps understandable from a woman effectively writing under the gun of cancer, but it's scarcely acceptable in a work purporting to be a serious scientific study.

This attitude of Carson's was imported into environmentalism whole, becoming the standard for dealing with environmental matters of all kinds. DDT became target number one for the new environmental movement (one organization, the World Wildlife Fund, was founded with no other goal than its elimination). It was an uphill battle for several years, since serious

serious scientific analysis of Carson's claims overthrew virtually all of them. DDT did not cause cancer. It had no health effects whatsoever on humans, mammals, or any other higher animals. The sole deleterious effect involved the eggs of raptors, where ambiguous evidence of shell-thinning was discovered.

Even the Environmental Protection Agency, founded in answer to the uproar generated by *Silent Spring*, dismissed claims against DDT. The environmentalists solved that one by going straight to the top. The EPA's head, William D. Ruckelshaus, was a committed environmentalist and a member of several environmental organizations, with widespread connections throughout the movement. On June 14, 1972, Ruckelshaus rescinded the registration for DDT, effectively banning the compound. (Many sources, such as this site, claim that there never was any such ban, a contention easily answered by this EPA release.) Ruckelshaus later worked for the World Wildlife Federation, a fact that may or may not be relevant.

With the Ruckelshaus ban, the DDT story deepens into tragedy. One thing unmentioned throughout the debate was the fact that DDT had effectively eliminated malaria in the developed world. Though not as fearful as diseases such as plague or tuberculosis, malaria was a greater killer than any of them, perhaps responsible for up to 300 million deaths in the 20th century alone. Malaria was a slow killer, a parasite that debilitated and weakened over years of repeated attacks. Even when it didn't kill, it reduced its victims to lives of unending misery. DDT had ended its reign throughout Europe, the American South, and Latin America, one of the greatest humanitarian advances in recorded history, and one effectively forgotten by the 1970s. Also forgotten was the fact that one more challenge remained. Africa had been left out of previous international efforts due both to its vastness and the fact that the anopheles mosquito and the malaria parasite differed slightly from the species of other regions, seriously complicating any eradication campaign. Consideration was being given to overcoming those problems when the DDT ban undercut all such efforts.

Environmentalists and aid bureaucrats insisted that DDT could be replaced by other pesticides and procedures such as "integrated vector management." But mosquitoes quickly developed resistance to newer pesticides, and vector management was a gimcrack theory that failed everywhere it was tried. Malaria rates began soaring worldwide, not only in Africa but in areas which a few years earlier had been malaria-free. Only a small number of nations with the financial ability to fund their own programs, such as Ecuador, Mexico, and South Africa, continued DDT use. In all cases, these countries remained healthy.

Despite clear evidence as to the effects, international aid groups such as the World Health Organization (WHO) and USAid ceased supporting DDT operations. By the mid-80s, malaria had reached and surpassed previous levels. Up to 500 million people were suffering attacks each year. Two to three million of them died as a result. Up to nine-tenths of the dead were children under five. So it continued for a quarter of a century. The tide began to turn when South Africa was persuaded in 1995 to abandon DDT in favor of the more expensive pyrethroid. Within three years, resistant mosquitoes appeared. By 2000, malaria cases had shot up by more than 1200%, to 62,000. The government resumed DDT spraying, and within months the disease rate dropped by four-fifths.

Other African nations began pleading for DDT. The UN had been attempting to ban the pesticide worldwide, but could not ignore evidence of such magnitude. An exception was made for spraying for health purposes, and aid organizations encouraged to begin financing such programs. Even so, it took another five years (and ten to fifteen million-odd deaths) to overcome bureaucratic inertia. It was only last September that the WHO acquiesced to such programs. Environmental organizations such as the World Wildlife Fund and Greenpeace all applauded the decision. It was what they'd wanted all along, so they said.

One of the crucial figures in the fight for DDT was Sen. Tom Coburn, who spent a decade or more fighting alone against Greens, international aid bureaucrats, and the media on behalf of the wretched of the earth. Coburn spent those years contemplating armies of children dead for an empty ideology.

So it's no surprise that it was he who stepped in to put a halt to Sen. Benjamin Cardin's resolution honoring Rachel Carson for her great work on the occasion of her centennial this Sunday.

Carson was not directly responsible. She is far from the equivalent of Hitler or Pol Pot that some overheated individuals claim to see in her. Neither are Ruckelshaus or the faceless aid bureaucrats, though we're getting closer to the bone there. No malice was involved in this case, no hatred, no hostility. We are simply confronted with the terrible mystery of human stupidity rendering the highest intentions more murderous than the worst. But Rachel Carson lit the fuse, and no reinterpretation can ever change that. As Coburn is well aware, you do not pass resolutions in favor of people who were involved in the deaths of millions, however inadvertently. Neither do you name bridges after them, or institutes, or office buildings, or schools. In particular the schools, since you do not want to give naive children any notion at all that Carson's way is the way that things ought to be done.

It's doubtful that Sen. Coburn or anyone else will ever make any real impression on Carson's reputation. She is an archetype now, something of a goddess-figure embodying human decency and right action. People will sacrifice at her altar despite everything. But that doesn't mean that such gestures as the senator's are empty - at the very least, they embody a statement that the truth is there for those who want it. That counts for quite a bit.

Dunn, JR. "Rachel Carson and the Deaths of Millions." *American Thinker* 25 May 2007. 15 Jan. 2008
<http://www.americanthinker.com/2007/05/rachel_carson_and_the_deaths_o.html>

“Silence, Miss Carson!”

Michael Smith
Feminist Studies

Document Excerpt #4

The "control of nature" is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man. The concepts and practices of applied entomology for the most part date from that Stone Age of science. It is our alarming misfortune that so primitive a science has armed itself with the most modern and terrible weapons, and that in turning them against the insects it has also turned them against the earth. --*Silent Spring*

Thus did Rachel Carson conclude her most controversial work, a book that has since been compared to Harriet Beecher Stowe's *Uncle Tom's Cabin* for its capacity to awaken Americans out of ethical and moral somnolence and to Darwin's *On the Origin of Species* for its challenge to the dominant scientific paradigm. Despite being largely a synthesis of studies showing the ecological toll pesticides and other agri-chemicals were exacting, *Silent Spring*--first appearing in an abridged serialization in the *New Yorker* in the summer of 1962--and its conclusions came as a shocking revelation to most Americans. Following on the heels of the thalidomide debacle and recent publicity about the danger of nuclear fall-out, *Silent Spring* reached an audience already anxious about the brave new world of chemicals and atomic energy. Carson's invocation of Albert Schweitzer's epitaph to humanity in the introduction to her book--"Man has lost the capacity to foresee and to forestall. He will end by destroying the earth."--powerfully primed readers for her account of how illusory humanity's control of nature really was, a most dangerous kind of self-deception. And readers responded. The mailbox at the *New Yorker* received a deluge of letters in support of Carson, as did the mailrooms on Capitol Hill and the White House.

Carson's broadside against the petrochemical industry, the United States Department of Agriculture, and research universities, and the public support it generated posed a grave and immediate threat to the economic interests and institutional integrity of these entities.

Collectively they mounted a frantic public relations

campaign to denounce Carson and her collaborators, bringing to bear all the nefarious machinery of the public relations industry. The history of this effort to discredit Carson is already well-covered scholarly terrain. But although these studies have probed the virulent and ad hominem rhetoric of the attacks against Carson, no one has really scrutinized the gendered nature of these criticisms of both Carson as a person and scientist and of her vision for the praxis of science. The story of how Rachel Carson and her work were received by her mostly male critics is important for both the history of science and the history of women, for this reception illuminates quite starkly the gendered ways Western culture has constructed science. Sandra Harding and Evelyn Fox Keller, have led the way in identifying and offering correctives to the androcentrism inherent in the evolution of Western science and the effect this has had on women practitioners of science in Western culture. The criticism of Rachel Carson's work as a scientist serves as an important case study for exploring the very cultural dynamics philosophers of science such as Harding and Keller have been urging scholars to address. Moreover, through her use of metaphors about a balance of nature--precisely the language that so incensed many of her critics--Carson crafted a vision of nature that would resonate well with the philosophy of ecofeminism that began to develop a decade after *Silent Spring* was published.

Through an examination of the avalanche of press coverage that followed the publication of *Silent Spring*, I will argue that Carson posed a threat to her detractors not merely because she had marshaled a scientifically sound indictment of the indiscriminate use of chemicals in the United States and the world. Carson was also threatening because she was a woman, an independent scholar whose sex and lack of institutional ties placed her outside the nexus of the production and application of conventional scientific knowledge. In an insightful observation about the plight of women scientists in the Cold War era,

Margaret Rossiter describes how well-trained women scientists “were, to use some military terms of the period, ‘camouflaged’ as housewives, mothers, and ‘other’ and ‘stockpiled’ in cities and college towns across America . . . ready but uncalled for the big emergency that never came.

Carson, in a sense, called herself to address a big emergency. Her scientific credentials included a master's degree in marine biology from Johns Hopkins University and considerable work toward a Ph.D. Her family's financial circumstances in the Depression obliged Carson to abandon her doctoral work in favor of a job with the Fish and Wildlife Service. Despite her degree, her well-respected research for a government agency, and two best selling books on ocean biology in the 1950s, she was attacked by critics of *Silent Spring* for both her science and her training.

The gendered language used to discredit Carson was really quite extraordinary, as we shall see. In order to assess why *Silent Spring*--considered apart from its author--proved to be such a provocative book, I will also examine some of the rhetorical flourishes Carson employed. As the epigraph to this paper illustrates, Carson had a vision of the world as an organic system, a living organism that insofar as humans needed to exploit it required a delicate balancing act, a tenderness, if you will. As Carolyn Merchant and others have pointed out, the scientific revolution of the sixteenth and seventeenth centuries reordered the human perception of the natural world in mechanistic terms. "The world we have lost was organic," Merchant begins *The Death of Nature*, her pioneering work on the shift in attitudes toward nature in early modern Europe. Merchant's organic model of relations between humans and nature included the perception of nature as a living, feminine organism requiring a special kind of stewardship, one that demanded full reciprocity in human-nature interactions. For Merchant, the most problematic result of the scientific revolution was the fundamental reconstruction of nature as a machine comprised of discrete, comprehensible, controllable bits. Male scientists came to conceive of nature as an unpredictable harridan in need of constraint and mastery, and the notion of nature as a partner eroded. The quest to dominate a female nature paralleled and reinforced the cultural trend toward the increased subordination of women in society.

This, indeed, is the position eco-feminists have staked out in the cultural debates over ecological consciousness: as the “lost world” of a more reciprocal relationship between humans and nature and between men and women has succumbed to various forms of domination by men and male-constructed science, women and nature have suffered together. By positing that women are innately more connected to the natural world (retaining the construction of nature as female) and instinctively conceptualize the world in organic terms, eco-feminists have argued that reestablishing the old notions of reciprocity is a task that should fall predominantly to women. While the tacit assumption that women are biologically (rather than merely culturally) ordained to be better stewards of nature remains a controversial tenet of eco-feminism, the eco-feminist critique of culture helps us see that the roots of the oppression of women are more than economic. Although the label of eco-feminist would be an anachronistic one for Carson, she clearly evinced a reverence for the natural world that falls under Merchant's rubric of a lost perspective. She also proved to be a catalyst for the then embryonic environmental movement, a movement that has had a disproportionate number of women as its motive force.

Smith, Michael B. "Silence, Miss Carson! Science, gender and the reception of *Silent Spring*." *Feminist Studies* 27.3 (Fall 2001)