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FINDINGS

Fateful Voice of a Generation Still Drowns Out Real Science

By JOHN TIERNEY
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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.

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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

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“Chemicals and Pests.” I.L. Baldwin. *Science*, Sept. 28, 1962.

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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

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



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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.

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