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## The Noisy Response to *Silent Spring*, 1962

DOUGLAS ALLCHIN 

### ABSTRACT

The Fact-or-Faux series addresses misinformation and science media literacy. Here, we revisit the public response to Rachel Carson’s landmark 1962 book about the dangers of pesticides in the environment – and the stormy media barrage it elicited from industry.

**Keywords:** Credibility; conflict of interest; consensus; pesticides; *Silent Spring*; science media literacy

Rachel Carson helped spark the modern environmental movement with the publication of *Silent Spring* in 1962 (Figure 1). In vivid prose, she portrayed the adverse environmental and health effects of the excessive use of pesticides. She also evoked a respect for nature based on its complex interactions and interdependence. She rendered the hubris of human efforts to

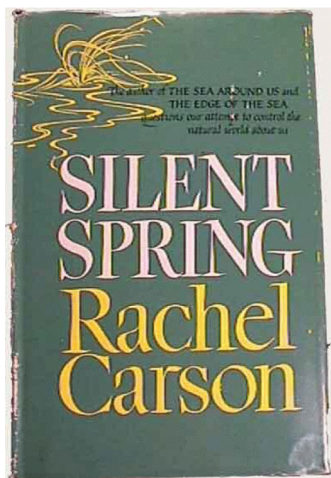
control nature – all well before “sustainability” became a common watchword.

The response was anything but silent, at least from the chemical industry. The media was flooded with accounts deriding Carson’s claims, as well as her very credibility to speak for science. Monsanto distributed an essay, “The Desolate Year” (1962), depicting an image of human devastation wrought by

insects uncontrolled by pesticides. *Time* magazine reported on her “oversimplifications and downright errors.” “Many scientists sympathize with Miss Carson’s love of wildlife, and even with her mystical attachment to the balance of nature,” they advised their readers. “But they fear that her emotional and inaccurate outburst in *Silent Spring* may do harm by alarming the nontechnical

FIGURE 1

First edition of Rachel Carson's *Silent Spring*, published in 1962.



public, while doing no good for the things that she loves." Her claims, they contended, were "unfair, one-sided, and hysterically overemphatic" (*Time*, 1962). Which of the contrasting scientific claims should the average citizen-consumer believe? Were pesticides a genuine danger or was it all a false alarm? Fact or faux?

We know now that Carson's science was basically sound. Her cautionary message was timely. In retrospect, we can clearly see a concerted disinformation campaign by commercial interests (Figure 2). Situating students in history can thus provide a valuable lesson for interpreting misinformation in context. What were the signs *in 1962* about what, or who, to trust?

### History as a tool

History is a valuable tool for studying misinformation. Current controversies, even if they seem lively and relevant, are unresolved. Students' own views, shaped by family, religion, or local culture, may already diverge from the scientific consensus. Strong emotions can confound a teacher's earnest effort to teach science media literacy. For example, when an AP Bio

FIGURE 2

Pesticide misinformation, here from a 1947 magazine advertisement.



teacher in Ohio began discussing global warming, one "A"-student walked out in protest, never to return (Harmon, 2017).

History, however, offers some emotional distance. It provides the privilege of hindsight. We can compare what we know *now* with what was claimed at some point *in the past*. That's an opportunity for insights: how were folks once fooled by media messaging? So, for example, if we want students to learn about the risks of current vaccine hesitancy, a fruitful approach is to have them consider the response to smallpox variolation back in the 1700s (Allchin, 2022). In this case, we can return to 1962 and consider the response to *Silent Spring* in its original historical context, while recalling that Carson's claims were largely vindicated. For example, DDT was banned in the U.S. in 1972. What can we learn from the misinformation that circulated at the time?

A simple activity would be for students to read the preface to Carson's book, "A Fable for Tomorrow" (<https://teachcity.org/sites/default/files/resource/RachelCarson-AFableForTomorrow.pdf>), followed by Monsanto's (1962) "counter-essay": "The Desolate

Year" (Figure 3). What information was highlighted in each, and what was significantly omitted (from a modern perspective)? How did those omissions matter? How did each author try to persuade readers? Knowing what we know today, how could we have been well-informed at the time?

As a fuller alternative, you could walk through the whole episode, posing questions about media messaging in the historical context: see the inquiry activity by Allchin (1996). If you were Rachel Carson, how would you have framed the issue to be informative and accurate, yet also persuasive? If the pesticide industry tried to smear you, how would you respond? As a citizen-consumer in 1962, how would you know what to believe?

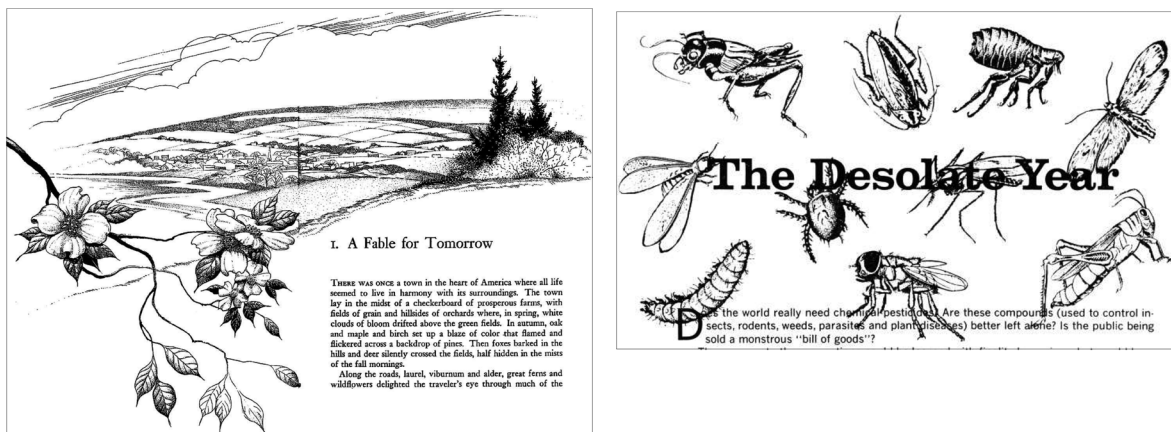
### Dissecting the reviews

A third, more direct option is to have students themselves consider the original book reviews of *Silent Spring*, each student (or pair) reading and reporting on a different review – the reviews are available online at <http://pesticides1963.net>.

For example, *The Saturday Evening Post* (a magazine oriented to middle-class readers) featured a scathing review by Edwin

FIGURE 3

Contrasting images of pesticides: (a) Rachel Carson's "Fable for Tomorrow" vs. (b) Monsanto's "Desolate Year."



Source: (a) <https://teachcity.org/sites/default/files/resource/Rachel%20Carson%20-%20A%20Fable%20For%20Tomorrow.pdf>; (b) Monsanto Magazine, <https://archive.org/details/monsanto-magazine-1962-the-desolate-year>.

Diamond (Figure 4). As a science writer and former editor at *Newsweek* magazine, he would seem, at first, to be an informative source. The tone of his review is reflected in his title, "The Myth of the Pesticide Menace." Should the reader have dismissed Carson's claims as unduly "emotional" and "alarmist," as Diamond said?

Yet, Diamond was a journalist, not a scientist. He was thus not really qualified to assess the scientific claims on his own. Although he quoted others, he did not address the evidence itself. Further, in his byline, Diamond profiled himself as an original collaborator with "Miss" Carson, but apparently disagreed with her approach. That was a signal. In fact, Diamond was ambitious, apparently not interested in completing the research that Carson herself sought and was asked to withdraw, leaving him bitter (Lear, 1997, pp. 322–326). Namely, he carried a personal grudge. Diamond was neither an expert, nor disinterested. His criticism of Carson could be regarded as not much more than a biased personal opinion.

Some of the harshest criticism came from chemists, especially Robert White-Stevens and Thomas Jukes

(Figure 4). At least they had scientific expertise. At the same time, their expertise was in chemistry, and much of Carson's criticism was focused on how pesticides affected wildlife and nature. Relevant expertise matters.

Furthermore, these chemists (and others in industrial medicine or nutrition) represented the chemical companies – American Cyanamid, Monsanto, Shell Oil Company, Velsicol. That is, they exhibited a *conflict of interest*. While they might have been experts, you could not rely on them to share that expertise fully and openly, nor to be free of subconscious bias. Historically, it is easy to see how they cherry-picked only favorable data. Their disparaging comments often appeared in *Chemical Week* or *Chemical and Engineering News*: industry newsletters, not peer-reviewed journals. Their comments were not vetted by other critical experts; a reader would need to interpret anything they said cautiously, in that context. Only telling part of the whole story can be grossly misleading.

A frequent feature of the criticism was attacks on Rachel Carson herself. For example, William Darby (Figure 4)

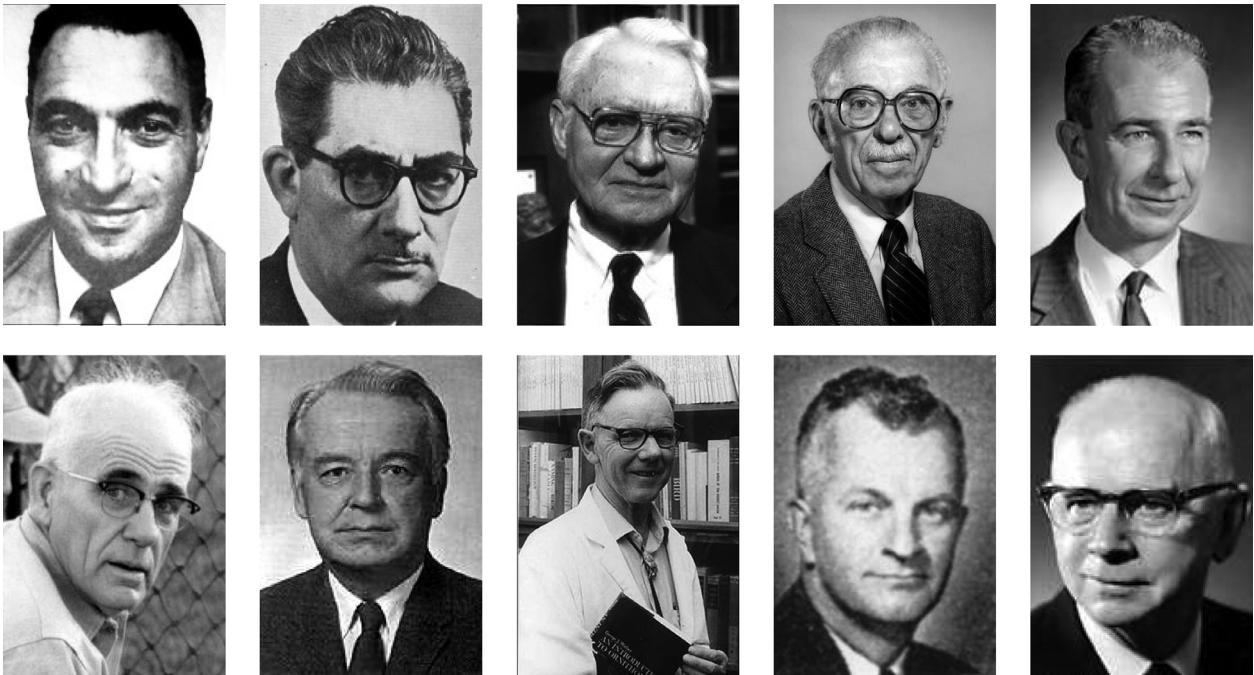
titled his review, "Silence, Miss Carson" – emphasizing Carson's gender. Drawing on cultural prejudices of the period, they implied that women were not competent to speak for science. They called Carson a "bird-lover," "a priestess of nature," or "hysterical." Of course, Carson had a degree in biology and had worked as a writer for the U.S. Fish and Wildlife Service for many years. Carson devoted one of every seven pages in her book to citing sources. Attacking Carson's credibility reflected another distracting tactic: trying to dodge the evidence by discrediting the person presenting it. That strategy is still part of the disinformation playbook today (Union of Concerned Scientists, 2022).

We may set all these negative remarks against the many reviews that endorsed Carson's conclusions and praised her efforts in bringing them to public attention: from Lamont Cole (an ecologist, writing in *Scientific American*), Clarence Cottam (Carson's former boss, writing in the *Sierra Club Bulletin*), Robert Rudd (an entomologist and pesticide textbook author), George Wallace (a zoologist who documented bird deaths from DDT),



FIGURE 4

Edwin Diamond (Science writer); Robert White-Stevens (chemist), Thomas Jukes (biochemist), and William Darby (nutritionist), defenders of the chemical industry; Lamont Cole (ecologist), Clarence Cottam (wildlife biologist), Robert Rudd (entomologist), George Wallace (ornithologist), Roland Clement (conservationist) all concurred with Carson's conclusions; and Ira Baldwin (agricultural bacteriologist and chair of the NRC Committee on Pest Control and Wildlife Relationships).



Source: *Saturday Evening Post* (1962).

and Roland Clement (a biologist with the National Audubon Society, commenting on the control of nature) (Figure 4). For the non-expert consumer, this diverse set of experts reflected an indirect *consensus* about Carson's claims.

Finally, consider the review in the prestigious journal *Science*. Ira Baldwin (Figure 4) was an agricultural bacteriologist. He characterized pesticides as “valuable but dangerous.” He acknowledged that they could be misused and abused, especially by ill-informed agricultural workers, while also trying to defend the benefits of chemical pest control. While he portrayed agribusiness favorably, he nonetheless echoed most of Carson's central concerns. Here, we may be reminded that Carson did not advocate completely banning all pesticides – an extreme image

promoted by her critics. Rather, she targeted the *indiscriminate* use of pesticides. She criticized a worldview that nature could easily be controlled, especially by simply spraying chemicals at every insect. Accordingly, she also discussed the alternatives: biological control, or using natural predators and parasites.

### Consensus?

Of course, the most reliable benchmark for the average citizen-consumer is the *consensus* of the relevant experts (see Fact-or-Faux, May/June 2024). Was there a scientific consensus in 1962? What was expressed in various *institutions'* position statements or policies (see Fact-or-Faux, July/August 2024)?

Independent of Carson, the National Research Council had been asked to

review the problem. In 1962-63 they published a large report on *Pest Control and Wildlife Relationships*. Ira Baldwin was the chair of the committee. They concluded that pesticides were a “modern necessity ... in agriculture, in forestry, in public health.” “On the other hand,” it noted, “there have been instances where pesticides under certain conditions of use have brought about a reduction in numbers of desirable forms of life.” They acknowledged “the number of people interested in the conservation of wildlife.” While admitting that certain practices “pose very real hazards,” they primarily blamed misuse and “lack of proper safeguards.” That is, they insisted that people *should* heed existing warnings (although in practice they did not). They closed, “In order to hold wildlife losses to

a minimum, scientists representing all of the disciplines involved should unite forces in an all-out effort to identify and evaluate specific hazards and to develop corrective measures to objectionable procedures” (Part I, pp. vii, 27-28). That was, essentially, Carson’s message. What was missing, however, was the personal, emotional dimension. Should humans use technology to try to control nature?

While this report was public, it was not likely to receive much attention, at least in the age before electronic media and the internet. Nowadays, access to such documents is much easier. In 1963, however, journalists acted as “gatekeepers.” They helped inform non-experts of the expert consensus. *CBS Reports*, a highly reputable television news program aired a one-hour investigative report on “The Silent Spring of Rachel Carson” (Figure 5). (It is available on YouTube: <https://www.youtube.com/watch?v=kVxMuQgRuzs>, and on pesticides1963.net). It was hosted by Eric Sevareid, a widely respected journalist. The program included interviews with White-Stevens (speaking on behalf of the chemical industry), Luther Terry (Surgeon General), George Larrick (Food and Drug Administration), Orville Freeman (Secretary of Agriculture), along with others from the Public Health Service and the U.S. Fish and Wildlife Research Center, as well as Carson herself – quite a thorough sampling of the relevant perspectives.

In the program, Carson was able to speak directly to the television public, with both confidence and poise. By contrast, White-Stevens (wearing a white lab coat, a conspicuous symbol of scientific authority) displayed arrogant overstatement: “The major claims of Miss Rachel Carson’s book, *Silent Spring*, are gross distortions of the actual facts, completely unsupported by scientific, experimental evidence, and

**FIGURE 5**

Rachel Carson’s interview on *CBS Reports*.



Source: <https://www.environmentandsociety.org/exhibitions/rachel-carsons-silent-spring/silent-spring-television>.

general practical experience in the field... If man were to faithfully follow the teachings of Miss Carson, we would return to the Dark Ages and the insects, and the diseases, and the vermin would once again inherit the Earth.” The many government officials did not share that dismal view and were not dismissive. They recognized problems, while also trying to reassure the public. Overall, the national broadcast had a profound effect. They supported Carson’s claims and further shaped public opinion towards questioning the blind use of pesticides.

Meanwhile, President John F. Kennedy had appointed a special President’s Advisory Committee on Pesticides. Their report followed six weeks later, echoing the same conclusions. Indeed, as a fourth possible teaching strategy, teachers may choose to re-enact that committee’s work in the classroom. Different students can fill many of the historical roles described above (up to 26). They share their testimony with the

class, which serves as the committee hearing. See “Debating Rachel Carson’s *Silent Spring*” (<http://pesticides1963.net>; Allchin, 2009). It is an occasion not only for learning about the ecology of pesticides, the roots of the environmental movement, and the pivotal role of Rachel Carson but also for analyzing the tactics of disinformation.

*Time* magazine’s verdict in 1962 was not favorable to Carson. But by 2000, their position had changed significantly. Carson was named one of the “Time 100” – the most influential people of the 20th century. That difference in perspective allows us to revisit history and to understand better just how disinformation works—and how we can sort fact from faux.

**DISCLOSURE STATEMENT**

No potential conflict of interest was reported by the authors.

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