

# Rachel Carson and 'Silent Spring'

*Biochemist Dr. Thomas Jukes, a professor at the University of California-Berkeley, appraises a PBS docu-drama shown in February.*

*Theme:* It is alleged that Rachel Carson, in writing *Silent Spring*, changed the world by founding the environmentalist movement. She did this while she was dying from cancer. Her detractors were the pesticide industry, whom she had caught red-handed. She was a martyr to the cause of saving the world.

## Background

Public terror (this word is applicable) about pesticides was implanted in November 1959 when the Secretary of Health, Education and Welfare, Arthur Flemming, went on the radio repeatedly to warn against eating cranberries because they contained a carcinogenic pesticide, the weed killer aminotriazole. (He had been supplied with the adverse information about aminotriazole by American Cyanamid scientists.) Hundreds of tons of cranberries were destroyed. Newspapers spoke of "the poisoned cranberries of Madison Avenue." A Cyanamid employee was refused gasoline at a service station. About 0.3% of the crop had traces of aminotriazole at levels biologically equivalent to thyroid inhibitors in cole slaw. Waiting in the wings, so to speak, was an eloquent author: Rachel Carson, ready to write a best-seller, *Silent Spring*. The way for this had also been prepared by books such as *The Poisons in Your Food*, and *A Hundred Million Guinea Pigs*.

Part of the success of her book is undoubtedly because people like to read a book that "makes their flesh creep." This is why millions of fictional murder stories are purchased. Chapter 1 to *Silent Spring* is a masterpiece of blood-curdling fiction. Add to this the idea that the reader was the victim, and that the notorious agri-business complex was responsible. As Justice William Douglas said, "With every page, the horror mounts . . . we need a Bill of Rights against the poisoners of the human race."

Meanwhile, the poisoned human race continued to explode in numbers with the aid of DDT. This furnished another boost to *Silent Spring*—there were too many people, and numerous thoughtful individuals preferred birds to people, especially to *other* people.

The idea that rampant technology is destroying the environment was an old one: pioneered by John Muir in the 1900s. The Sierra Club continued this with the book *This Is the American Earth* (1960), lavishly illustrated with beautiful photographs by Ansel Adams and containing statements such as "the oceans sunk to foul and deadly shallows" (obviously before the environmentalists got on the global warming bandwagon).

Another appeal of *Silent Spring* was its evocation of nostalgia for the golden days when nature smiled on people and the landscape alike. This delusion is eloquently voiced in the opening paragraph.

## The attack on DDT: humanity lost

The attack on DDT was a colossal drama, and human beings lost the fight. No sense of this is conveyed in the television program. The main protagonist of DDT was the World Health Organization (WHO), which needed it for their campaign against malaria, primarily in tropical countries. The beneficiaries of DDT were millions of silent people; the opponents succeeded in banning DDT by following the procedures perfected by Josef Goebbels. DDT was banned in 1972 by an administrator who ignored the findings of his own hearing examiner.

*Silent Spring* starts with a big lie when it says that DDT killed people. The pesticide industry had only a minor role in this drama. Bob White-Stevens and I were not speaking on their behalf; they are resourceful, and they responded by selling non-persistent pesticides that were more expensive than DDT. DDT cost only 17¢ a pound. Moreover, new pesticides save lives. American Cyanamid is now processing and supplying (without charge) the pesticide *Abate* for the eradication of the guinea-worm in Africa in former President Jimmy Carter's program.

Bob and I were joined by Gordon Edwards, professor of entomology, and Norman Borlaug (a Nobel Laureate in Peace). We were slandered in the *New York Times*. We won our libel suit against the Audubon Society and the *New York Times*, only to have the verdict overturned by a judge who

was well known to be a friend of the publishers (cf. "Judge Irving Kaufman and 'Edwards v. Audubon': a Reminiscence," *EIR*, Feb. 21, 1992, p. 65).

The plea is made by the opponents of DDT that it is of no use against malaria because the mosquitoes have become resistant. But WHO says that in only a small fraction of cases has this taken place.

This one-hour TV program was a skillful effort to elevate Rachel Carson to sainthood. The specific target of this program is DDT, and the general theme is that chemical technology, specifically pesticides, is upsetting the balance of nature. The pesticide manufacturers are depicted as unscrupulous villains. Criticism of Rachel Carson and *Silent Spring* consists of a few moments of carefully selected statements by the late Bob White-Stevens and myself. Her supporters are nine in number; some of them come on camera several times. In addition, there are several character witnesses for her. The pictures of spraying are devastating and terrifying, including massive spraying of children at lunch and a swimming pool.

A biased feature of the program is its omissions. Malaria is omitted. The World Health Organization is not mentioned. The worldwide life-saving effects of DDT are not mentioned. It has saved more lives and prevented more diseases than any chemical in history, and the only known injuries to human beings are from accidental use in pancake flour, and attempted suicides.

The facts about birds are left out—we are shown the paralyzed birds, but actually, the Audubon bird counts per observer *increased* for the majority of species between 1941 and 1960. Some birds were killed when they got in the way of the spray nozzle, during treatment of elm trees to kill an insect-borne disease. *Silent Spring* said in 1962 that the American robin was on the verge of extinction when in 1963, Roger Tory Peterson stated that it was the most common bird on the North American continent. The red-winged blackbird, which lives in marshes that were sprayed with DDT to kill insects, underwent a population explosion (from 1.4 million to 20 million in the Audubon bird counts). Chickens, which *Silent Spring* said could not hatch eggs when exposed to DDT, reproduce normally when fed a diet containing 100 parts per million (ppm) of DDT. Carson's book is extolled in the program as being "scientific" and "carefully researched." Actually it uses anecdotal information on birds, such as a friend telling Carson she hadn't seen any swallows lately (p. 111). The Audubon swallow count, per observer, increased fourfold (1941-1960). Many of Carson's critics, even eminent ones such as Wayland Hayes, seem to believe that she was "probably right about the harm to wild birds." This is not the case.

I have dwelt at some length on "the bird question," but the main offense of *Silent Spring* is its omission of the tremendous benefits that DDT has brought to the Third World, and to other countries as well, in the field of public health. This

is documented at great length in two articles in the book *DDT* by W. Hayes and S. Simmons (1,200 references). Carson deliberately contradicts the facts on DDT in *Silent Spring's* introduction, in which she infers that DDT kills children: She said "there had been several sudden and unexplained deaths, not only among adults, but even among children who would be stricken suddenly while at play and die within a few hours."

### A one-sided presentation

I turn now to a detailed commentary on the program. It starts with alarming pictures of dusting and spraying, including on children eating lunch. A skeleton is then shown carrying "untested" pesticides. (No such pesticides exist.) Stuart Udall makes the first of several appearances, and says the book has a good flow to it, and that its essence is that humans have to come to terms with nature. (Actually, its essence is that pesticides are wiping out life.)

*Roland Clement* then makes the first of seven appearances on camera.

Clement was prominent in our libel trial against Audubon and the *New York Times*, 1976 (*Edwards et al. v. Audubon et al.*) In sworn evidence, it was disclosed that he wrote a letter to the *Times* in 1972 commending the newspaper for stating that we (G. Edwards, T. Jukes, R. White-Stevens, Nobel Laureate N. Borlaug, and D. Spencer) were paid liars. He signed the name of Arbib (another employee of Audubon) to the letter. Arbib was out of town. Clement phoned Arbib and told him. Arbib said, "Don't sign it." Clement replied that it was already mailed. I had the impression that the Audubon Society reprimanded Clement for this "trick." Clement's contributions to the TV program should be weighed in this light.

The statement that DDT was smuggled in from Switzerland, and that it was a previously described chemical taken off the shelf and put to use are incorrect. Paul Muller, the scientist who received the Nobel Prize in Medicine "for discovery of the insect-killing properties of DDT," synthesized DDT as part of his research program for Geigy, and found not until later that it was an "old" compound (described in the "new" book *The DDT Story* by K. Mellanby).

*John L. George* appears. His scientific field in *American Men and Women of Science* is listed as "effects of pesticides on wildlife." He makes the first of six appearances, and gives some incorrect history.

*T.H. Jukes* appears briefly and states that DDT controlled louse-borne typhus fever in World War II. A speaker immediately says that there was a "different kind of threat in the U.S.A.!" (Actually DDT was used in 1943-44 to eradicate malaria in the U.S.A. See Muller text, pp. 253-257.)

*Robert Rudd* appears, pro-Carson. Interestingly, Rudd said in 1956, before *Silent Spring*, that the "spread of suburbs, industrial pollution, the building of superhighways, the increase in numbers of people, all have a disrupting effect on

the wildlife population compared with which pesticides are of minor significance." This was a good analysis, but since then he has changed his tune.

Carson (whose voice is portrayed by Meryl Streep) tells about the "delicate balance of nature" but does not say what this balance does to human beings. The fact is, that this balance held humans in check until the discovery of the germ theory of disease. I wrote a note about this, "A Town in Harmony," in 1962.

Three more appearances by Clement follow, then a re-run of spraying and dusting pictures, including a repeat of dusting of children at lunch, and spraying from a P-38 Lockheed Lightning Interceptor plane—rather unusual.

Paul Brooks then makes the first of six appearances as the former head of Houghton Mifflin, publisher of *Silent Spring*—a terrific best-seller. He is scarcely a disinterested party and, of course, is a great supporter of Carson.

An allegation is then made that information against effects of pesticides on pheasants and fish was suppressed by the U.S. Department of Agriculture. Actually pheasants are highly resistant to DDT—see DeWitt, *Ag. Food Chem.* 4, 672 (1955) 4, 863 (1956) for "unsuppressed" data. I don't believe this claim of suppression is correct.

Clement then says supporters of pesticides were paranoid, and that opponents lost their jobs.

No mention is made in the program of Carson's predecessors such as Laura Tallian who used to published diatribes against pesticides in *The Police Gazette*, or Jerome Rodale, who had been declaiming against pesticides starting in 1950 in *Prevention Magazine*, supported by the organic farming cult. Rodale's biography (p. 107) states that he appeared in relevant congressional hearings in 1950 "long before Rachel Carson became famous for *Silent Spring*." Carson is represented as personally discovering the evils of pesticides.

J. George comes back on with the remarkable allegation that dieldrin was applied so that it was "three inches thick" on chickens, cats, and dogs. He then alleges that TEPP and parathion were applied at a rate that could have killed all the people in the world. (He doesn't mention that a related compound, Malathion, has low toxicity.)

Brooks tells us that people had just been exposed to dangerous chemicals "for the first time in the history of the world" (then why is life expectancy steadily increasing?) and the pesticide industry has a "Neanderthal philosophy."

It is then revealed that Carson is under treatment for breast cancer, but no mention is made that industry pioneered in cancer chemotherapy (Methotrexate, 1953, American Cyanamid).

The publication of excerpts from *Silent Spring* in the *New Yorker* is then described by Rudd, Brooks, Udall, and George. The Velsicol Co. objected. President John F. Kennedy appears briefly and answers a question at a press conference, mentioning the name of Rachel Carson. Udall says that the chemical people began to speak up, clobbering Carson,

which is not surprising since she accused them of poisoning the planet.

The American Medical Association is mentioned as being anti-*Silent Spring*: perhaps because the AMA knows something about malaria, typhus, and plague. A page from Monsanto's "The Desolate Year," a pamphlet describing how the pests might take over, is displayed briefly, but not discussed.

Brooks comes back on, and says that the "lowest blow of all" was when someone said that Carson did not have any children, and therefore could not speak on behalf of future generations.

Actually the lowest blow of all was struck by Carson herself. She is probably responsible for more deaths of infants than any other woman in history, in view of her campaign against DDT, which saved the lives of numerous children threatened by deadly infant malaria.

It is next stated that the chemical industry appropriated the vast subsidy of \$250,000 to "fight her book." What a trivial sum! Carson was alleging that the industry was ruining the world, and all they came up with was \$250,000. Incidentally, neither Bob White-Stevens nor I ever saw a nickel of it. Bob kept telling the chemical industry they should spend millions on public education. They ignored him completely. Bob then appears on camera, as an employee of American Cyanamid (the poisoners) in 1963, criticizing Carson in moderate and measured phrases. He comes on in a white lab-coat (mad scientist). What he says is discounted before he starts because of his affiliation with the pesticide industry.

Here I must interpose: Bob was my friend. He was deeply committed to preventing hunger and disease, and a memorial fellowship for him has been endowed at Rutgers University by the efforts of his wife. His field was not pesticides; it was nutrition and antibiotics, and he showed how to prevent the devastation of poultry by chronic respiratory disease. He entered the DDT dispute because of his sympathy for the work of the World Health Organization against malaria. He was not asked to do so by Cyanamid. Ironically, he died from a bee sting. The program spills buckets of tears over Rachel Carson, and doesn't mention that Bob is dead, or how he died.

Jukes comes on briefly. White-Stevens says that "much of the material in *Silent Spring* is scientifically accurate," thus contradicting himself. (I wonder how the producers managed to find this out-of-context statement!) Jukes appears again and criticizes Carson's inaccuracies, thus seeming in conflict with White-Stevens. He is immediately put down by Clement, who says there was a "tug-of-war," that no one knows the real answer, that adversaries are "staking out claims," and that the real concern is that of destroying the earth.

Television journalist Eric Sevareid is shown arranging a TV program for Carson, and says that commercial sponsors of his program called up and threatened to withdraw their support. (This is a pleasant contrast with today's industry,



Above: Spraying stagnant water with DDT insecticide in the 1950s in Guyana. Rachel Carson "is probably responsible for more deaths of infants than any other woman in history, in view of her campaign against DDT, which saved the lives of numerous children threatened by deadly infant malaria." Right: A poster in Italy in 1989 claims that "pesticides not only poison agriculture, but also the farmer. Sign for an ecological agriculture." The anti-pesticide referendum, thanks to a public terror campaign, gained enough signatures to be on the ballot, but was defeated by voters.



which pays blackmail to its detractors in the hope of appeasing them.)

A selected quote from White-Stevens is made about man "trying to control nature" (out of context, of course; he is actually referring to the diseases that nature threatens us with). This sets him up for a haymaker punch by Meryl Streep, masquerading as Carson, who tells him, "You might as well try to repeal the law of gravity."

By now, the program has reached a ludicrous stage of one-sidedness in favor of of Carson.

Sen. Abe Ribicoff [the former Democratic senator from Connecticut] appears, arguing for the Senate to help Carson who, he says, is not for complete outlawing of DDT, only for preventing its over-abuse (read *Silent Spring* to see that he is inaccurate).

Throughout the program, several women friends of Carson come on camera as character witnesses and devout admirers. The President's Scientific Advisory Council is then quoted as calling for an investigation of pesticides.

Udall then reappears and intones solemnly about the atomic age, the conquest of nature, and that the natural world has been pushed to the background, implying that Rachel Carson discovered these problems.

However, some of us Sierra Club members (I have been a life member since 1939) remember that John Muir had been saying for years that everything in the universe is hitched to

everything else.

The program now draws to its mournful conclusion with the death of Rachel Carson, and the statement is made that more people are reading *Silent Spring* now than ever before.

The box score for appearances of speakers on the program is: pro-Carson, 27, plus at least 10 appearances by character witnesses; anti-Carson, 6 (Jukes and White-Stevens, plus American Medical Association, 1). The time given to Jukes and Professor White-Stevens was less than 2% of the program. With one exception (typhus), the points that I wished to make, such as about bird counts, the World Health Organization and malaria, were excluded. White-Stevens was shown as an employee of a pesticide manufacturer.

The format of the program was that the statements by the two anti-Carson speakers (Jukes and White-Stevens) were "fed" to the pro-Carson speakers (such as Clement) for rebuttal, but the reverse procedure was not used, because I was not told who would be speaking, and, of course, White-Stevens was used by the program after he died, so he did not have a chance either to consent to being on the program or to respond to his critics. The budget allotted to this program was \$700,000. Note that the program criticized the Agricultural Chemicals Association for appropriating \$250,000 to rebut *Silent Spring*! It would be fascinating to learn how the expenditures for the TV program were allotted. My time was free, of course. What about the "pro-Carson" speakers?