The Controversy of DDT

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Rachel Carson has been hailed as everything from an environmental goddess to the indirect murderer of millions. Her legacy, deeply ingrained in the public memory, closely relates to her work; thanks to the relentless critique of the famous and infamous *Silent Spring,* public views on Carson and her achievements have been polarized. First appearing serialized in the New Yorker during the summer of 1962, *Silent Spring* sparked a half-century long controversy that continues to the modern day. As an appeal to public virtue, "*Silent Spring* permanently changed the climate in which the policy would be made. Pesticides were now a public issue" (Dunlap 4). Even after Carson's death in the spring of 1964, the book continued to stir the new grassroots environmental movement, resulting in its greatest accomplishment: the ban on the domestic production of dichloro-diphenyl-trichloroethane. Better known as DDT, the technology was a new type of synthesized chemical pesticide, chlorinated hydrocarbons. DDT represented American modernity in a time where modernity was crucial to political and economic survival. The public response to *Silent Spring* created a controversy because in *Silent Spring,* Rachel Carson rejected the premise that modern technology was solely beneficial to the nation. Through examining the reactions of scientists, the chemical industry, and the general public to the thesis of *Silent Spring*, it becomes clear that a clash between Carson's approach of caution and doubt to pesticides and America's unquestionable faith in the benefits of technology created the controversy surrounding the book.

The United States of the late 1950s and 60s was in thrall to the scientific research and technologies that had guided the nation through much of the twentieth century. The twentieth century was America's century; after World War II, the nation was just growing into its own power, exuberant and prosperous, with record peacetime, record economic growth and an ethic

of limitless progress. Its power was attributed to the technological and scientific growth that had occurred in during the wartime periods, which many people recognized as beneficial to society. In the past, the Industrial Age had soured public opinion of technology, painting industrialization as harsh and unnatural. However, as the United States moved through the early and mid-1900s, views changed. The devastation of the World Wars pushed innovation to its limits, forcing the nation to develop new technologies that were unquestionably pumped out at an astonishing rate. New technologies became necessities. As the Cold War reached its peak in the mid-1900s, science and technology had become the medium with which the country waged war. Vannevar Bush of the Office of Scientific Research and Development, which developed sonar, radar, penicillin, and the atomic bomb, championed science as a state security issue (Whorton 18). People soon came to recognize the new technologies, almost mystical in their properties, as the pinnacle of modern America.

After its introduction into America for domestic use, DDT quickly became one of the most lauded technologies of the century. First synthesized in 1873, DDT's potential as an insecticide remained undiscovered until 1939, when Swiss chemist Paul Müller discovered its effectiveness as a cheap insecticide with low toxicity to human beings and other mammals. Müller won the Nobel Prize in 1948 for his discoveries. Upon Müller's report, both the Swiss government and the United States Department of Agriculture tested the compound and confirmed its potency against the various disease carrying pests, as well as its apparent harmlessness (C.). DDT was then used in mass aerial spraying programs abroad in World War II to eliminate insect vectors and reduce insect-spread diseases such as malaria, typhus, and dysentery; upon witnessing its effectiveness, some hailed as the "atomic bomb of insecticides"

(Dunlap 17). Unlike the true atomic bomb, which promptly generated a moral controversy over its devastating and immediate impact, DDT appeared helpful and harmless, with no acute toxicity or apparent repercussions. Brigadier General James Simmons reportedly said in a 1945 edition of the Saturday Evening Post, "The possibilities of DDT are sufficient to stir the most sluggish imagination… In my opinion, it is the War's greatest contribution to the health of the world" (Whorton 248). At first, the government was reluctant to allow widespread domestic use of the chemical until its long term effects had been confirmed. However, as news of DDT's success abroad spread to the American continent, agricultural workers clamored to use the new and fantastic technology in order to battle the insect menace which cost them so much of their profit. The American government relented, and released the compound for public use in 1945. As an essential part of the technological movement, DDT "gained support from the public perception, still widespread in the 1950s, that science and technology were unmixed blessings" (Dunlap 74).

Silent Spring entered the picture in the summer of 1962, when it was serialized in the *The New Yorker* and later published in September. The author, Rachel Carson, was a marine biologist and conservationist who had already published other, well-known and scientifically based works, including *The Sea Around Us,* and *Under the Sea Wind*. Her fame stemmed from her eloquence as a writer, combined with her solid, scientific direction. *Silent Spring* divulged the ecological damage of DDT, exposed the ignorance of scientists and called out the naivety of the public for unquestionable trusting in the proper application of pesticides. Her book claimed the pesticides had detrimental effects on the environment and even on human health, and that the chemical industry had not been taking the proper care in their application. Her solution was to take a more

natural approach to controlling pests. After they had been informed of the issue, the public was finally able to turn a skeptical eye to the wonders of technology and science. *Silent Spring* even started a grassroots environmental movement that ultimately led to a ban on the domestic production of DDT.

Rachel Carson had quite obviously written a book that rejected the postwar American premise that technology could provide indisputable benefits. Her writing appealed to Americans, and directly asked them reject the ideas of modernity which they relied upon. The style of writing bears similarities to the nature writing that characterized the early settling of the United States, in a manner that would have appealed towards the general patriotism of the country. The book targets Americans and called them to be personally more aware of the dangers around them, urging them to recognize the false shine of DDT and its fellow pesticides. She almost insults the public, pointing out that when — not if — the public protests, "confronted with some obvious evidence of damaging results of pesticide applications, it is fed little tranquilizing pills of half truth" (Carson 13), thereby inciting them to protest. By critiquing the modernity of chemical pesticides, calling them "primitive" and "as crude a weapon as a cave man's club" (Carson 297), Carson made it no secret that she was calling the people of the United States to reject the notion that had been embedded in American culture for over half a century. She also connected the dangers of pesticides directly to the technological danger that the public feared most: radiation. In the very first chapter of *Silent Spring*, Carson described chemicals as "the sinister and little recognized partners of radiation in changing the very nature of the world – the very nature of its life" (Carson 6). Of all the technologies in the Nuclear Age, radiation was a technology that all the public recognized and feared; by comparing pesticides to this unknown

danger, Carson was directly critiquing the technology of modern America. As historian Thomas Dunlap describes it, people began to question that "if DDT did spread through the air, if it might cause cancer, if it killed millions of fish and birds, what was safe? What other things might not the generous and wonderful laboratories of the scientists harbor?" (101). Moreover, her book was incredibly effective, alighting public opinion on the issue of chemical pesticides. By exposing its ecological harms in a manner that did not conform to the typical praise of modern technology, Carson got people in the general public to wonder about DDT. *Silent Spring*'s message of caution about technology deliberately differed from postwar America's views on scientific developments.

Silent Spring preached a startlingly different message than any previous publication about DDT that had been released to the public. In many ways, *Silent Spring* was a direct attack on the modernity of America; however, not everyone responded negatively to Carson's pro-environmental message. Frits Went, the director of the Missouri Botanical Garden and the spokesperson for a large number of biologists, wrote a review of *Silent Spring* in the Oxford Journals in 1963. He considers both the positive and the negative aspects of Carson's book, explaining that the book, "if properly heeded may do good" (Went). As a scientist, Went respectfully disagrees with some points that Carson makes, indicating that although her claims of biological control's necessity have elements of truth, they are unrealistic and unfounded (Went). Unfortunately, not all responses were so polite. Frederick Sperling of the Department of Pharmacology at Howard University published a response in the Oxford Journals to Went's review just a few months afterwards. He claims that Went's review "damns the book with faint praise," and proceeds to scathingly denounce Carson's scientific integrity, even going so far as to

call her work “deplorable” (Sperling). The small flurry of disagreement — about the scientific accuracy of the book, about the truth in its thesis, and about the applicability of its thesis — soon ballooned into a raging debate that found itself widely discussed in newspapers, scientific journals, and television.

Three major groups opposed *Silent Spring*: the chemical industry, entomologists, and a portion of the general public that was professionally and economically independent of pesticides. The chemical industry, in trying to protect their profits, struggled to remind people of all the benefits that DDT provided and portrayed DDT as necessary in a war against insects. They also resorted to criticizing the field of ecology, in order to create a distinct separation between the hard and soft sciences, knowing that they already had a superior reputation. The entomologists, in an effort to protect scientific integrity, criticized Carson for skewing the facts and using scientific reports in a biased manner. It is important to note that the chemical industry worked closely with many entomologists, as they were economically and professionally linked. The profitability of chemical pesticides and their use in the agricultural industry caused many entomologists to shift their focus from the study of insects to the study of their eradication. While the first two groups were the major force protesting against *Silent Spring* – for economic and professional reasons – they greatly influenced the wider public opinion of chemical pesticides. More importantly, they represented people who would otherwise no stake in the argument; they were the people who believed in the war against insects and in the holy protection of science and technology, invested solely because they believed that this chemical was beneficial. Before *Silent Spring*, “while entomologists, insecticide manufacturers and government officials lobbied vigorously for their points of view, the public took little interest in

the matter" (Dunlap 74). But as the issue became a public issue, the nature of the information that was released by the professionals and the manner in which the public received that information, will reveal that the motive of the public's protest lay in their reverence of the technology that represented the American Century.

Protesters from the chemical industries and the ranks of scientists, began to paint DDT, along with other pesticides, as society's last defense against what was perceived as a necessary war against insects. *Silent Spring* suggested that instead of trying to dominate over nature, America should be looking for ways to harmonize with it, with methods of biological control. The methods of biological control she presented were perfectly legitimate, but were hardly considered. Even though DDT was not scientifically necessary for protection against insects, scientific journals at the time exaggerated the issue in favor of chemical insecticides, stating that it was the only available option. Frits Went, mentioned earlier, recognized the benefits of the biological control that Carson promoted, but argued that "in many cases there is no alternate road" (Went). Another science report read by the general public, the Science News-Letter, argued fiercely for not only the right, but the need for the continued use of pesticides, publishing articles and bringing in experts to perpetuate the view. In the magazine's interview with Dr. A. M. Boyce, dean of the College of Agriculture, University of California, Riverside, Dr. Boyce testifies that "A million species of insects and mites have competed with man for his food and fiber since he first emerged as an intelligent being," as if humankind were at war with insects (Bountiful Thanksgiving). They argue that "without these compounds many crops could not be produced economically" (Bountiful Thanksgiving). The Monsanto Chemical Company even

went so far as to prepare a free pamphlet entitled "The Desolate Year," that described a world without chemicals as a chaotic and desperate existence with vivid imagery:

> The Medfly produced and reproduced and spread, bent on making every orange and lemon and grapefruit over millions of acres so massively infected with maggots that humans would not ship or can or freeze or eat them (Bountiful Thanksgiving).

The continuously perceived danger of insect warfare further cemented the idea that DDT was the sole line of defense to a deadly, outward menace, which contributed to the continued reliance and trust in chemical pesticides. The chemical industry hoped to solidify the American public's faith in technology through the spread of the idea of insect warfare.

In order to contradict *Silent Spring*, the chemical industry first tried to emphasize the accomplishments of DDT. The glory of technology seemed to be best represented by all of its good deeds. The chemical industry was quick to point out DDT's successes in combating malaria in the United States and in Europe, as well as DDT's widespread use in World War II. They lauded its safety record; compared to the arsenicals — the first kind of pesticide used, that was equally toxic for insects and humans — DDT was miraculously harmless to mammals. Any notion that the chemical that had been declared patently safe could be carcinogenic or harmful to inhale was, at first, declared preposterous. After all, the sight of a truck spraying DDT around small towns was common and completely normal. People had seen their children play in the fumes of DDT, under the general presumption that "the chemical was not dangerous. No one died from DDT poisoning; no one even got sick" (Dunlap 74). Protesters against *Silent Spring* fell back onto that perfect safety record when the time came to defend the pesticide's continued use relying on the fact that people were unwilling to believe that they had been putting their children in harm's way; it made much more sense to them that Carson could be wrong.

The greatest accomplishment of DDT, among other pesticides, was to better the overall health of the nation — an accomplishment that separated the United States from the rest of the world, thus providing a great source of pride for the American people. Historian David Kinkela described the United States at the time as "an Island in a Sea of Disease" (Kinkela 12). From 1900 to 1941, life expectancy went from 49 to 64 (12). During that time, the techniques and technologies behind agricultural practices and medicine greatly improved. The monoculture that characterized big business agriculture was plagued by pests and many farmers believed — not necessarily with scientific basis or correctness — that pesticides were their only effective method of keeping the pests at bay (Dunlap 74). Many people believed that modern progress benefited from technology, creating the general perception of the United States as a beacon of salubrious light. In general, there was an idea of a foreign other that required help from the United States because they were helpless to stamp out pests. The Science News-Letter, a publication written for the general audience, published in its November 3rd, 1962 edition that "chemicals have provided us with the world's safest, most nutritious and best food at reasonable prices" (More Chemicals Needed). So when Rachel Carson wrote *Silent Spring* and challenged that science and technology was actually detrimental to the health of the nation, people were alarmed (Kinkela 118). The Science News-Letter even goes so far as to explain that "if we want to maintain our present standard of living we must continue and increase the use of chemicals in agriculture" (More Chemicals Needed). Historian Thomas Dunlap describes a publication by Robert Rudd, *Pesticides and the Living Landscape,* which emphasizes the health of the nation in its criticism of *Silent Spring*:

> Acceptance of Carson's ideas, one critic wrote, would mean 'the end of all human progress, reversion to a passive social state devoid of technology, scientific

> medicine, agriculture, sanitation. It means disease, epidemics, starvation, misery, and suffering. (Dunlap 112)

Rudd's connection of "the end of all human progress" to "disease, epidemics, starvation, misery, and suffering," makes it clear that a connection exists between the two ideas in the minds of the American people. In many ways, America's pride of their health and living standards reflected their fear of the insect menace, making them feel further reliant on the technologies that kept pests at bay. Critics of *Silent Spring* made it evident that if Carson eliminated pesticides, then the elevated position of America in the world, in terms of health, progress, and modernity, would disappear along with them.

Critics treated *Silent Spring* as if it was a scientific report; they harshly criticized Carson's scientific practices, many scientists claiming that *Silent Spring* was exaggerated, biased and unscientific. Of course, Carson's goal was not to create an evenly balance report of all the available evidence; rather it sought to stir up the public to her cause. They presented scientific practices and objective studies in protest. Entomologists, companies that produced pesticides and others (some scientists, some not), all tried to "condemn Carson as a crank" (Dunlap 4). They protested that her book was inaccurate. In *Silent Spring*, Carson wrote, "In the less than two decades of their use, the synthetic pesticides have been so thoroughly distributed throughout the animate and inanimate world that they occur virtually everywhere" (Carson 15), to which the Science News-Letter quickly responded, "Entomologists generally feel that the dangers of insecticides have been overplayed. A report by the Entomological Society of America shows that 75 per cent of the total area of the continental United States has never had any insecticide applied on it" (Bountiful Thanksgiving).

Professional scientists felt like Carson's appealing prose undermined the objectivity and professional methodology that they took much pride in. As Professor J. Gordon Edwards, a professor of entomology who was said to have eaten a spoonful of DDT every lecture he gave (Driessen), indignantly countered, "She was carefully omitting everything that failed to support her thesis that pesticides were *bad*, that industry was *bad*, and that any scientists who did not support her views were bad" (Murray 34). Frederick Sperling and Professor E.M.K. Geiling jointly wrote a protest in which they showed that in each of the first ten paragraphs, Carson portrayed either a misstatement, a half-truth, or a misinterpretation as the truth. Sperling published a critical review of *Silent Spring* in the Oxford Journals in 1963, criticizing the book for not telling the story objectively and admonishing Carson for misusing her "gifts" (Sperling). The general feeling was that *Silent Spring* was "sensationalized, overwrought, with science seriously misrepresented and conclusions unsustainable" (Murray 39).

Beyond disputing Carson's scientific integrity, supporters of DDT also went so far as to criticize the integrity of ecology itself, the field which Carson stood her ground to argue from. They rejected ecology as a 'soft science' as compared to a 'hard science.' Hard sciences were fields of scientific research which a majority perceived to have more rigorous methodology and objectivity. They included the fields of physics and chemistry, which had garnered respect during the wartime years; the American attitude towards these fields were particularly positive and hopeful. As a woman and an advocate of a soft science, Carson was often portrayed as a hysterical environmentalist, contrasted to the respected and objective scientist, in order to make her conclusions appear less sustainable. Soon after the publication of *Silent Spring*, CBS did a news report, inviting people from both sides of the debate to join. One such participant was

American Cyanamid chemist and industry spokesman Dr. Robert White-Stevens. David Kinkela, a historian, wrote about the industry spokesman in an analysis of DDT's role in the American Century, explaining how he distinctly separated Carson's ecological position and his own, supposedly more objective position. The chemical industry was quite happy to separate itself from the ecological soft sciences. Even though Carson was willing to concede "in perhaps the most overlooked passage of *Silent Spring* … that chemical pesticides, if applied judiciously and with great care, had enormous potential" (Kinkela 112), "the chemical industry quickly drew sharp distinctions between the use of chemical pesticides and Carson's ecological approach to chemical controls" (Kinkela 114). The response in distinguishing between soft and hard sciences shows how unwilling the American people were to release the benefits of modern 'hard' technology that these recent types of sciences had brought.

Carson's thesis in *Silent Spring* called attention to the flagrant misuse of chemical pesticides. It argued that the chemical industry failed to regulate it and that the agricultural industry failed to apply pesticides with care. The curbs that she asked to be placed on the rising technology of pesticides agitated scientists, industry, and the public alike, causing the noisy summer that followed the publication of *Silent Spring*. However, the fierceness of the controversy stemmed from the combination of Carson's argument with the postwar American belief in technological reliability and dependence. Many factors that contributed to the controversy that arose after *Silent Spring*; however, the idea of technology pervaded the public and caused the greatest opposition to its thesis. The postwar trust and belief in the boundless possibilities of technology defined the American view of the twentieth century, so *Silent Spring* met a profound resistance while attempting to change that view. The general ignorance of a large

portion of the public to Carson's ideas is largely due to a perpetuation of scientific studies in order to confuse the public. However, it is also part of a larger force that governs the relationship between governmental policy on scientific studies, particularly in its emphasis on economical profits. In the case of *Silent Spring*, scientific knowledge played a controversial role, in that it did nothing to alleviate the controversy, but rather expanded it by aggravating pre-existing notions of the American people.

A decade after *Silent Spring,* Frank Graham Jr. published *Since Silent Spring,* which already triumphantly declares that "Rachel Carson has been proved right," but even today, people still argue over DDT. While the legacy of *Silent Spring* echoes through the modern environmental movement in the new grassroots movements and in the regulations of the EPA, the legacy of its opposition also exists. Iain Murray's book, *The Really Inconvenient Truths,* a response to Al Gore's *The Inconvenient Truth*, addresses Carson and DDT as if it were still a current issue. A documentary film made in 2010 called "3 Billion and Counting" accuses Carson to exaggerating the negative effects of DDT, causing millions of deaths by malaria in places where DDT could have been applied — just as it had saved millions of lives in World War II (Genzlinger). The controversy surrounding DDT in the 1960s reflected Carson's concern over the dependence on technology in the United States, and it was echoed in her abundance of followers throughout the United States. However, the continued existence of this debate also indicates that the same reverence and faith in technology that characterized postwar America and caused the controversy still pervades in society today. The premise of "3 Billion and Counting" of America as a global beacon of health exhibits parallel notes of condescension to the

arguments of the chemical companies. The postwar era occurred a half-century ago; however, its impacts are still shaking the debates of modern times.

Word Count: 4045

Bibliography

"Bountiful Thanksgiving." *The Science News-Letter* 82.18 (1962): 290-91. *JSTOR*. Web. 20 Dec. 2014.

This article was an interesting primary source from a general science report. It had very vivid imagery for a science article, unlike what I would read typically today, and evidently had some very strong, if biased opinions.

C., F. L. "DDT, A New Insecticide." *The Scientific Monthly* 58.2 (1944): 154-56. *JSTOR*. Web. 28 Jan. 2015.

This source provided a good perspective on what the general opinion of DDT was before *Silent Spring*, published in 1962, entered the picture. It demonstrated the positive first reception that DDT received.

Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 2002. Print.

This book was extremely useful as a primary source. For a paper on the impacts of *Silent Spring*, it was helpful to examine Carson's prose as well as the technical studies that she references, especially to obtain a perspective as to whether the criticisms and praises of the books were accurate. Her writing was clearly very beautiful. The introduction, by her biographer, Linda Lear, was also very helpful in providing an overview of the book's impact and understanding its role in the environmental movements it helped to fuel.

"DDT." *EPA*. Environmental Protection Agency, 18 Apr. 2011. Web. 22 Dec. 2014.

This short article was an official source on some basic background of DDT, It was most helpful in obtaining some technical knowledge about DDT, as well as seeing what the current EPA had to say about the topic.

Driessen, Paul K. "DDT Is the Best Way to Control Malaria." *Resurgent Diseases.* Ed. Karen Miller. Detroit: Greenhaven Press, 2009. Opposing Viewpoints. Rpt. from "The Truth About Malaria and DDT." *Eco-Imperialism.* 2006. *Opposing Viewpoints in Context.* Web. 3 Nov. 2014.

This was a good pro-DDT source, but it was too modern to represent the views of the time when *Silent Spring* was published. It was used for a small tidbit of information but was overall not an incredibly important source in the argument of this paper.

Dunlap, Thomas R. *DDT: Scientists, Citizens, and Public Policy*. Princeton, NJ: Princeton UP, 1981. Print.

This book contained a lot of diverse information. It was especially helpful with the policy part of the response against DDT, and even though a lot of it did not end up in the thesis, it was helpful to a clear understanding of the topic.

Genzlinger, Neil. "Using DDT to Fight Malaria." *The New York Times*. The New York Times, 16 Sept. 2010. Web. 01 Mar. 2015.

The interpretation that this source took on the DDT issue was very interesting and far too modern to use significantly in my paper. However, it is difficult to find such a pro-DDT spokesperson in more recent times.

Graham, Frank. *Since Silent Spring*. Boston: Houghton-Mifflin, 1970. Print.

An odd mixture of a primary and secondary source. On one hand, this is a historical book, yet it is close enough in time to represent the American view of *Silent Spring* and DDT only a decade after the publication.

Kinkela, David. *DDT and the American Century: Global Health, Environmental Politics, and the Pesticide That Changed the World*. Chapel Hill: U of North Carolina, 2011. Print.

A very comprehensive source that is notable for having been published fairly recently. It had some very interesting views on the American views of public health, especially in international relations.

"More Chemicals Needed." *The Science News-Letter* 82.18 (1962): 291. *JSTOR*. Web. 20 Dec. 2014.

This source was an interesting primary source. It was a fairly short piece but clearly represented a publication that was sponsored by the chemical industry to persuade others that chemicals were necessary to use in agricultural. It also contained some other themes that I discussed, such as global health and technology.

Murray, Iain. *The Really Inconvenient Truths: Seven Environmental Catastrophes Liberals Don't Want You to Know about Because They Helped Cause Them*. Washington, D.C.: Regnery Pub., 2008. Print.

This was an oddly recent book for the topics that were contained in it. It was for most purposes a response to Al Gore's book, *The Inconvenient Truths*, but it discussed things like Rachel Carson, using what I presumed to be rather outdated arguments. However, it shows that the arguments of DDT's lack of acute toxicity to be not an outdated argument, as well as that the debate about DDT is still recent.

"Pest Control Handicapped." *The Science News-Letter* 82.21 (1962): 335. *JSTOR*. Web. 20 Dec. 2014.

This article sounded very much like a response piece to *Silent Spring*, however it only ended up briefly mentioning it. It was still relevant and responsive to the thesis of *Silent Spring*, in that it worried about the fate of chemical insecticides with all the bad reputation that *Silent Spring* was giving to it, but the source did not contain anything particularly remarkable.

Sperling, Frederick. "Silent Spring." *AIBS Bulletin* 13.2 (1963): 17. *JSTOR*. Web. 20 Dec. 2015.

Sperling provided a rather scathing take on *Silent Spring,* a couple months after it was published. I found it particularly relevant because it responded directly to the Went article, even referencing Frits Went. It was not a long article, but it was concise and contained many negative opinions on Rachel Carson's book from the perspective of an insulted scientist, which made it particularly valuable in this paper.

Went, Frits. "Silent Spring by Rachel Carson." *AIBS Bulletin* 13.1 (1963): 41-42. *JSTOR*. Web. 20 Dec. 2015.

This book review was very helpful. It provides a fairly balanced and non-biased view towards *Silent Spring,* addressing its pros and cons, and eventually making an argument of its own that was not simply whether or not Carson was justified or correct in what she said.

Whorton, James C. *Before Silent Spring; Pesticides and Public Health in Pre-DDT America*. Princeton, NJ: Princeton UP, 1975. Print.

This was a good secondary source about American history around the time of when DDT was discovered and when *Silent Spring* was published, but not specifically about DDT. It also discussed earlier pesticides, such as the arsenicals and a lot of the background for the scene that DDT was introduced in.

Bibliographic Reflection

Overall, I did not find this process particularly enjoyable. My favorite part was likely the research part, which quickly became soured by the realization that I was researching in the wrong direction. The least favorite part is a toss up between figuring out the formatting that the paper was required to be in and wording my sentences. Somewhere between those two extremes is structuring and the actual writing of the paper. The rest of the experience — choosing topics, thinking about the topic, forming a thesis statement, finding and utilizing sources — was all fairly neutral and similar to what I had done previously.

I did not have any trouble picking topics. I picked this topic with the hopes that I would end up enjoying the research that I was doing. Initially, I did enjoy the research. I found the properties of DDT fascinating and the reasons for the increased use of chemical pesticides — the increasing monoculture of agriculture — fascinating. However, I soon realized I had not been researching for a history paper; I had been on track to writing a scientific report. It was a struggle to not focus on the part that I really wanted to delve into and instead seek some obscure historical argument. I also kept running into the same controversy, again and again: DDT was good? DDT was bad? Scientists seemed to agree with both. Initially, this just made me more frustrated, because I was looking for a scientific explanation, but eventually I figured out that I could make a history paper out of this so long as I stopped focusing on the mechanics of the problem and instead of the people surrounding it. After all, history is not about the things that are used; it is about how people use them.

Actually writing the thesis was a strange, strange process. First of all, I abhor when people snipe that I should avoid passive voice. I understand that active writing is stronger writing

but honestly, no one has ever explained why. I agree, my use of commas and passive voice is a little excessive. It could use some toning down. However, I do not think that there's something inherently wrong with writing in passives; the Romans loved it. And don't we all love the Romans?

The other factor that made the writing process very strange was the delay between writing the first draft and the final draft. I spent a solid two or three weeks where I never completely read through my rough draft. Not a good idea, I understand, but my life was occupied with more urgent things, and especially as snows days continued to push back the due date of the final draft of the thesis, I began to lose track of the connections between my argument. The delay made it much harder to go back and edit my thesis for coherency. The whole thing just ended up terribly messy.

Also, I believe that the junior thesis should really be in the most updated MLA format, in order to keep it consistent with all the other papers that we turn in. It seemed very silly to me that for some reason, the history department decided that the largest assignment of the year simply should not be in standardized format. Why not? I know MLA format. I know that the block quotes are supposed to be doubled spaced, that the name and page number goes on the top right, and exactly how to do any type of parenthetical citations. If I had wanted exposure to different formatting styles, I would have rather experimented with that on a smaller assignment.

To be fair, I enjoyed reading many of the sources I found. The entire experience was great exposure to a type of research that I will probably never do again in my life. However, while I'm glad I was able to have this experience, I will never voluntarily write a historical paper of this kind again.