“World War I Chemical Gas”

By:

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The Raging War Against Nature

Both warfare and the chemical industry have changed our environmental history in powerful and noticeable ways. The application of poison gas during war is another damaging effect on the environment that is generally dismissed. In World War I, gases spread across the trenches in order to kill soldiers on the opposite side. Battlefields were polluted with pounds of chemicals and most of the gas was assumed to evaporate into the atmosphere. These gases did not just disappear; instead they became part of the environment. The use of these chemicals on the environment directly effects the environment for future generations especially the mass quantities that were used during this war. Unexploded gas explosives continue to cause major problems. Bombshells are discovered when farmers work in fields and during construction. Estimations from the Stockholm International Research Institute claims that there are over three large cargo ships of unexploded bombs from World War I still left in the fields of Belgium and France. Left over chemical bombs from WWI are just as deadly today as when they were used at the time of war. In
Germany, The Belgian Bomb Disposal Team finds and safely destroys unexploded bombs everyday. However the disposal of chemical shells is difficult and dangerous because due to current environmental legislation.

Recycled Technology

Out of all the new technology used during World War I, none was more hated than chemical poison gases. The use of chemicals in wartime was not a new idea and the use of chemicals dates back to the fifth century B.C.E. Spartan forces that attacked an Athenian city placed burning wood and sulfur under the walls of the city. The Spartans hoped that the fumes from the chemicals would knock out the Athenians to prevent a retaliatory attack. Throughout the centuries of history afterward, military personnel often used many forms of chemical warfare on the battlefield. However, towards the end of the eighteenth century poison gas was considered the exception to war and not the rule.

Chemicals and The Great War

Leaders on both sides of the war did not want to use chemical warfare unless otherwise necessary, but because the option was available, both the Axis and the Allies experimented with poison gas. These gases became regularly used weapons in 1916. The British developed an enormous research facility at Porton Down for development of different chemical weapons. The Allied powers had a large disadvantage in chemical development and warfare. Germany’s chemical fields were the biggest in the world, with eight famous chemical firms called the Interessen Gemeinschaft. The Interessen Gemeinschaft had the availability of making massive amounts of chemical weapons and had the reputation of using them at almost any time.

Pain and Suffering: The Ban on Chemical Weapons

Due to the suffering and pain caused by poisonous gases, the International Committee of Red Cross took control to ban chemical weapons on February 6, 1918. The Red Cross was not immediately successful, because important war heroes and politicians argued for the continued use of chemical weapons. This prolonged the ban until after World War I. Alfred Mahan, a Naval Captain who believed that not using gas “was illogical because many of the people who voted for the ban would admit that blowing out the bottom of a naval ship killing hundreds without a chance to escape was humane.”

The goal of the Red Cross was to gain support from the military as well as the academic world. The International Committee of Red Cross finally helped contribute to the acceptance of Geneva Convention, which was signed on June 17th, 1925. It called for the ban of asphyxiating, chemical and poisonous gases in the use of war. This ban helped to bring the dangers of chemical weapons on humans, which acted as a stepping-stone towards the awareness of their impact on the environment.
There are not many environmental historians that have focused research on warfare. Even fewer have focused on environmental change due to chemicals; the most common relation of these is normally looked at from an ecological standpoint. Both warfare and the chemical industry have changed our environmental history in powerful and noticeable ways. The application of weapons, the destruction of structures, fires, and chemical spraying are all examples of the destroying impact war may have on the environment. Air, water and soil are polluted, man and animal are killed, and numerous health effects occur among those still living. Military combat has distorted ecosystems, with political, social, and economic consequences. I will argue that chemical introductions and manipulations to ecosystems have adjusted the natural environment in unbelievable ways and they leave behind the environmental problems for today’s generation to deal with. Humans tend to not worry about consequences of technology until it directly affects them and when enough people are directly affected the world soon learns that humans could be in great danger of self destruction. Chemical introduction into the ecosystem was the stepping stone of the environmental movement.

_Silent Spring_, written by Rachel Carson in 1962 and when it was published the word "environment" would not have been found in a public policy notes or any political speeches. At the time a big environmental concern was smog mainly because of its appearance instead of its contribution to the destroying of the environment. Conservation is known as the original “environmentalism” because the word was used during the 1960 Democratic and Republican conventions. Conservation in this context was mainly used when talking about natural resources and the passing of national park legislations. This was ten years before the first Earth Day took
place, just proving how fast the importance of conservation and environmentalism grew in that
time. Conservation of the environment soon brought on the word environmentalism and changed
the way people looked at the environment. At this time very few entries have been made about
conservation in scientific journals and there basically had been no public speeches about the
issues such as the invisible dangers of pesticides and chemicals such as DDT and other deadly
chemicals.

The ban of the pesticide DDT started in 1972 in the United States because of Silent
Spring. It documented the destructive effects of pesticides on the environment. Carson focused a
lot on birds stating that the pesticide DDT causes the thinning of egg shells and can also result in
death and problems with reproduction. The reason Carson wrote this book was because her
friend, Olga Huckins, noticed numerous dead birds around her property which was due to the use
of DDT to kill pests like mosquitoes. After Carson heard this news she began focusing on
conservation and the environmental problems caused by different pesticides.¹ Silent Spring
explained that the use of uncontrolled pesticides not only caused many deaths of animals, but it
also greatly harmed humans. Many of these same chemicals and pesticides were used in times of
war, directly affecting humans and the nature around them.

Carson wanted her title to really have a meaning, and since this book talked mostly about
the death of birds from these pesticides she felt it necessary to name the book “Silent Spring”
because of the silence of the birds during the spring time.² The use of these chemicals can alter
nature severely and instantly and continue to harm it for generations to come. Not only does
using chemicals harm the environment, but when it is used in bombs during war it causes even
more harm to the environment and some of these chemical bombs are not even used, instead

disposed of in the oceans.

*Silent Spring* was researched thoroughly and had an outstanding written argument that people could feel for and it even happened to change the course of history. The environmental movement might have never developed or would have at least been delayed without the help of this book. Rachel Carson’s battle can be compared to the attacks Charles Darwin faced when *The Origin of Species* became published. Most of the criticism Carson faced were on stereotypes of her sex because she was female. Because of this she made sure to check and recheck every word in *Silent Spring* making sure it was scholarly and correct. Not only was her research correct, but the years after the book was published proved that her warnings were understated if anything. Sadly, two years after the book became published Rachel Carson died of breast cancer. New research ironically shows a strong link between breast cancer, as well as other cancers, and the exposure to different toxic chemicals.3 So not only did Rachel Carson write to help all of humanity but she also wrote in defense for her own health. The publication of *Silent Spring* can be seen as the beginning of the modern environmental movement.

Rachel Carson's book *Silent Spring* caused concern about the environmental and health problems as a result of using pesticides. *Beyond Silent Spring*, written thirty years later shows current views on the issues Carson’s book mentioned. It provides an international concern for the environment, and an increased need for an approach to the control of chemicals. Even though Rachel Carson’s book caused such uproar, even thirty years later people are trying to control the use of chemicals and trying to find ways to take care of chemical dumps from factories and wartime experiments from the past. Ideas are used in this book for better control of dangerous

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The more the world becomes aware of the problems of our past the faster the world can begin to stop chemical use and make a better future for tomorrow’s generation. *Beyond Silent Spring* is extremely well referenced with help from scholars in a wide variety of educations. This book will be of interest to both academics and also to anyone with an interest in environmental issues. This book presents new information on the views of chemicals in our environment and since Rachel Carson’s ideas there has been recognition of chemical warfare’s impact on the ecology of the world, but not directly related to warfare.

Edmund Russell’s book *War and Nature* deepens the field of history and the environment and helps contribute to our better understanding of the relationships between humans and their environment. Edmund Russell believes the two coevolved, meaning there was a change of a biological object triggered by the change of a related object. He asserts: “The control of nature expanded the scale of war, and war expanded the scale on which people controlled nature.”

To test his hypothesis, Russell developed a case study of the histories of chemical warfare and of pest control during the period between World War I and 1962. Choosing to end his research in 1962 seemed appropriate because that was the year of the publication of *Silent Spring* and he most likely wanted his reader’s to read about a comparison no one has researched. Since environmentalism did not exist before 1962 it is important to understand what humans put themselves through without even realizing. Russell believed that the best way to show this was to compare extensive research about chemical warfare and pest control.


Russell’s quality of research comes from a large range of archival material. Russell’s historical view allows him to write a history that challenges the reader to reflect on the tightly connected relationships between the ways that societies treat human beings and nature. It is clear that humans will conquer nature any way they can as long as it benefits humanity. The only problem is that once humanity realizes their lives are in danger, drastic changes will take place in order to survive, and technology will not always fix the situation, this is why the environmental movement took place. This movement was necessary because obviously humans have the power to control nature, but until humans realize they are a part of nature themselves, no one will take the time to help out. That is why this book shows this comparison, because if we treat nature the same way we treat humanity, it can either be a worldwide utopia, or a devastating ending to life on earth. Life should not be so much a battle against nature, but instead a mutual battle for survival. Constantly neglecting the environment especially when substances like chemicals are involved will always be devastating to life until humans control their behavior and do something to stop it from getting worse. Today many people would agree that when humans are harming nature they are only harming themselves.

When reading this book I found that the reader really needs to search to tell the difference between the story and the detail. It seems that a lot of the clarity in this book has been replaced with complexity. Sometimes it seems impossible to be able to get through the detail to distinguish Russell's message. But for the most part he uses detail accurately to help the reader understand the subject matter of the book.

Even with the idea of chemicals and environment still no one seems to show direct connection between chemical warfare and its affect on the environment. Rachel Carson first came up with her views because of the way the chemicals affected animals and humans. Humans
tend to think it is more important to focus on how chemicals affect us rather than the
environment around us. Since the environment can not speak up about how the chemicals are
harming it, no one is concerned, but because humans have a voice it is just easier or may seem
more important to focus research on the affect chemicals have on them. The reason chemical
warfare has not been examined as a cause to environmental problems is because chemical
warfare has not been broken down into all its destructive consequences.

Immediately the chemicals get into the air and water harming or killing any living
creature that it contacts. Not much of an immediate impact on the environment will turn heads,
but long term effects on the environment due to long term use of chemical weapons directly
relate to life on earth. Water becomes polluted from these chemicals and down the cycle it goes,
fish will become contaminated and anything that drinks the water directly will get contaminated
and then from the animals it can get into humans. There is no doubt that almost all humans and
animals have a certain amount of detectable chemicals in their blood that should not normally be
there.\(^6\)

Also, all sorts of chemical containers were dropped into the ocean from World War I. At
the time it was believable that since the ocean was so big it would be able to absorb whatever
damage the chemicals did. Around 1970, people began to change their minds and
environmentalists and public health associates agree that contaminated water helps contribute to
the problems in health associated with aquatic life and life on the coast.

Chemicals dumped into the ocean use to be much more common also. There were just
over 70 cases during 1970 not to mention the many years before the environmentalist movement

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even started. The oceans movements have clearly spread the chemical disposals throughout the vast sea and it is difficult to find and clean up these sites.\(^7\)

Since the pesticides affected Carson’s friend because chemicals were being sprayed in a field over time it became a more important concern to her and she soon figured out for herself the long lasting and timely effects chemicals can have on the environment. Having young loved ones of her own Carson dedicated the rest of her life after this moment trying to make people aware of the chemicals effect on living beings. This relationship can be related to anyone you love such as kids or grand kids and worrying about the way our impact on the earth today will affect their world of tomorrow. Many people care about the here and now instead of the world as a whole and the future of the world. The closest relation to chemical warfare’s effect on the environment is Edmund Russell who compared the use of chemical bombings on humans with the use of pesticides on insects. Although this provided a clear examination of what we were doing to ourselves as a result of controlling nature with technology, it just does not seem to be the right direction when analyzing the result of chemical warfare on the environment. Again it more or less focuses on the affect of humans instead. The goal in mind is to focus on the destruction caused by chemical warfare and relate that to environmental change.

In terms of the environment World War I clearly was most damaging mainly because of the changes in the geography due to trench warfare. Digging trenches and trampling from soldiers and equipment destroyed plants and animals and the land itself. Erosion of the land due to forest removal helped pave the way so trenches could be stretched. Many of the soil structures were dramatically changed, and the land in Europe would look very different today if the war

had never been fought.⁸

The application of poison gas during war is another damaging effect on the environment that is usually dismissed. In World War I gases spread across the trenches in order to kill soldiers on the opposite side. The gases caused death and asphyxiation which directly related to carbonyl chloride otherwise known as phosgene. Battlefields were polluted with pounds of chemicals and most of the gas was assumed to evaporate into the atmosphere. These gases did not just disappear; instead they became part of the environment. The use of these chemicals on the environment directly effects the environment for future generations especially the mass quantities that were used during this war. One example is the unexploded gas explosives that caused major problems after the war. Bomb shells became discovered when farmers worked in fields, they are also discovered when construction takes place in areas where bombings have occurred.

Estimations from the Stockholm International Research Institute claims there are over three large cargo ships of unexploded bombs from World War I still left in the fields of Belgium and France. Left over chemical bombs from World War I are just as deadly today as when they were used at the time of war. In Germany, The Belgian Bomb Disposal Team finds and safely destroys loads of these unexploded bombs everyday. Regular bomb shells are dangerous but getting rid of them safely is done pretty easily by bomb professionals. But with chemical shells it is more difficult and dangerous because of current environmental legislation.⁹

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The most chemical development occurred during World War I when trying to create the perfect chemical weapon. Trench warfare had made the war basically a stalemate and both sides wanted to develop a weapon that would secure a victory. Pounds and pounds of gases were released into the environment throughout many battles during World War I such as the example of the Battle of Loos will show; disregarding what it would do to the environment and instead focusing on what it would do to the enemy. This battle is significant due to the fact that it is the first time the Allies used chemical weapons during World War I.

Out of all the new technology of weapons used during World War I, none was more hated then the use of chemical poison gases. The use of chemicals in wartime goes way back to the earliest recorded use which happened in the fifth century B.C. during one of many wars between Athens and Sparta.\textsuperscript{10} Although the use of chemical warfare in World War I is historical and important, it is not the first time chemical warfare had been used. Spartan forces that were attacking an Athenian city placed burning wood and sulfur under the walls of the city. The Spartans were hoping the fumes from the chemicals would knock out the Athenians so that they would not be able to prevent the attack that occurred afterward.\textsuperscript{11} Throughout the centuries of history afterward, military personnel often times used many forms of chemical warfare on the battlefield.

However, towards the end of the eighteenth century poison gas was considered the exception to war and not the rule. There were a number of important men who saw the massive use of chemical weapons if Europe had ever been taken over by enemies.\textsuperscript{12} Leaders on both sides of the war did not want to use chemical warfare unless it came down to it. But because the option

\textsuperscript{11} Ibid., 4.
\textsuperscript{12} Alden H. Waitt, Gas Warfare, the Chemical Weapon, Its Use and Protection Against it (New York: Duell, Sloan, and Pearce, 1942), 7-11.
was available, by 1915 both the Axis and the Allies had been experimenting with poison gas. It became a regularly used weapon in 1916.

Although the use of chemical warfare was banned both sides of the war were developing chemical weapons. The British developed an enormous research facility at Porton Down for development of different chemical weapons. The Allied powers had a large disadvantage in chemical development and warfare. Germany's chemical fields were the biggest in the world. Germany had eight famous chemical firms that came together and called themselves Interessen Gemeinschaft. The Interessen Gemeinschaft had the availability of making massive amounts of chemical weapons and had the reputation of using them at almost any time.¹³

Soldiers despised poison gas even more than all other weapons during World War I. The trench war was bad enough; gas made it much more dreadful, since digging in provided no defense against it. Soldiers were almost as scared of their own gas as they were of the enemy's, since blunders were common, and shifting winds made gas releases potentially dangerous to everyone. Wearing gas masks did help for a certain time limit but they were extremely hard to breathe through and see through so many soldiers decided to take them off, it was a matter of being suffocated or not. According to twenty eighth Division infantry unit Tracey R. Thorpe, who encountered the chemicals first hand at the Battle of Loos, the gas masks “provided a much more inconvenience then help.”¹⁴ The first time the British had used chemicals in fighting was in 1915 during that battle on the Western front of Europe. Lieutenant General Ferguson, the

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¹³ Carl Duisberg, *Memorandum About the Union of the German Color Factories 1882-1921*, U.S. Army Military History Institute, Carlisle Barracks, PA.

commander of British Corps stated that the gas was “not a brave way to deal with war... it is cowardly, but since we will not win unless we defeat the enemy, we must copy their use of this weapon to do so.”

The British introduced its chemical weaponry on September 25, 1915 during the Battle of Loos. Approximately 150 tons of chlorine gas in over five thousand steel containers was spread throughout the frontline trenches the night before the attack. That amount of gas in tons is the same as the weigh of a blue whale. Remember too, that this chemical attack began a whole series of more chemical attacks which add up to more tons of gas released into the environment over a few years then ever before. At Loos, lead gas officer named Commander in Chief Sit John French waited for General Haig to give the order to begin use of the gas. Haig was unsure because of the wind not being in his favor. But nevertheless at around 5:50am the gas was ordered to be released and the attack commence. “The wind proved unlikely to help until Haig believed it would help around 5am when he ordered the gas to start.”

Unfortunately, the gas was largely ineffective because most of it stayed in no man’s land or even ended up blowing in the faces of the British. The gas officer in the northern part of the battle was afraid the wind conditions were not ideal and refused to release the gas. When the gas did finally get released the wind was unfavorable and many of the British troops had just gassed themselves. Also in the northern sector there were places where the British and Germans were dealt the gas equally.

Twenty eighth Division infantry unit Tracey R. Thorpe explained his experience as he ran across no man’s during the Battle of Loos land after the gas was released into the air. His

commanding officer told the whole division that this was the first time gas was to be used by the British and told them to keep the masks on at all times. Thorpe explained that once he was out there and his comrades were dying all around him survival mode kicked in and since he was unable to breathe he took his gas mask off noticing he did not smell anything in the air. “After running about thrity yards I could barely see where I was going nor could I breathe because of that awful gas mask. Because I had much further of a distance to run I decided I couldn’t run without this mask off.”19 Many others did the same thing but some were not so lucky. Pictures of the gas being released from an aerial view help show how affected the gas was by the wind and other environmental factors. Just from the pictures it was noticeable that most of the gas floated up into the atmosphere because of wind, it seemed very uncontrollable due to environmental factors.20 Commanders might have wanted it to go certain places but they could not always count on the weather to be on their side.

For the southern part of the battle the gas had been more effective, Haig was told at 6:00pm that the gas was rolling onto enemy territory and over the trenches. “The weather began to turn cold and lots of rain was falling later that night. There was an intense smell of poisonous gas in the air.”21 The lasting smell of gas after a whole day of fighting had ceased shows the strength of 150 tons of toxic gas in such a vast atmosphere. Many would think the gas would dissipate much faster into the air, but it did not. Because of the gas and smoke the British were able to disorientate a lot of the enemy Germans but not kill them.

The effectiveness of gas warfare proves fickle in this battle. Compared to the casualties dealt to the British at around 40,000, only seven were gas related deaths. As for the Germans,

21 Willard Newton, *Over There for Uncle Sam: A Daily Diary of World War One, 1915-1917*, World War I project, U.S. Army Military History Institute, Carlisle Barracks, PA
they lost around 20,000 men with only about 600 dead from being gassed. Clearly with this example chemical warfare proves that the release of the most deadly toxins known to mankind into the environment is ineffective. With the total amount of troops dead from gunfire compared to gas, gunfire deaths tower gas related deaths. But because of the neglect to see the harm done to the environment, tons of poisonous toxins poured into our ecosystem over many years. Not many were killed from gas initially but more would be killed in later generations because of the mass use of chemicals during World War I.22

Because of all the suffering and pain rather than death caused by poisonous gases, the International Committee of Red Cross wanted to ban the use of poisonous gases and decided to take control on February 6, 1918. The Red Cross was somewhat successful but not immediately because important war heroes and politicians made arguments for the use of chemical weapons which prolonged the ban until long after World War I. Alfred Mahan, a Naval Captain who believed that not using gas "was illogical because many of the people who voted for the ban would admit that blowing out the bottom of a naval ship killing hundreds without a chance to escape was humane."23 Also Secretary of State John Hay, in his instructions to Captain Mahan about the ban of chemical weapons argued that “the inventiveness of Americans should not be restricted in the development of new weapons.” The goal of the Red Cross was to try to get support from the military as well as the academic world. The International Committee of Red Cross finally helped contribute to the acceptance of Geneva which was signed on June 17th, 1925. It called for the ban of asphyxiating, chemical and poisonous gases in the use of war. This ban did help enlighten the dangers of chemical weapons to humans which is the stepping stone towards the awareness of its impact on the environment.

It is good that work is being done to help clean this mistake up, but it is clear that it will not be easy and it will not be fast. This poisonous material will harm many generations and those generations will most likely wonder why anyone would disregard the environment, such a crucial element to life on earth. Leaving behind seemingly endless shells with chemical compounds that are still active shows our previous neglect to how precious our planet is. People are still dying today because of events that took place almost a century ago now. Also chemical dumps into the ocean just adds on to mankind’s ignorance which brought humans to believe if you hide something good enough it will just be forgotten. These events are not forgotten, these events can be compared to the dirt under the carpet that no one can see but will have to someday be cleaned up. Depletion of the ozone layer and toxins in our water and food are very real and life threatening and until humans begin to understand this, generation after generation will have to deal with the ignorance of the past. With the development of chemical weapons during World War I we were well on our way to discovering how powerful our impact on the environment really is.
Bibliography


This is an explanation of what gas warfare is as well as some accounts of people who are for and against it and why. This shows points as to why it is used and why it should not be used.


This book explains the different battles in which chemical warfare was used and how it was used. This shows the history of chemical warfare, major development occurred during World War I but it was not the beginning.


A response to Rachel Carson’s *Silent Spring* this book stretches further the ideas of Rachel Carson in hope to shed even more light of the destruction of the environment from chemicals.


This book shows the relations between the way humans treat humans and the way humans treat insects with chemicals. It helps show the ignorance of chemical use and how it relates humans with insects. It is used to show the comparison between war and nature as well as the consequences it could bring.


Written to help show the cases during World War I where chemical weapons were disposed of and the areas they tested these weapons. Gave specific numbers as to how many chemical dumps took place over the years.


This is an account of Captain Mahan and his experience as a captain during World War I. He was involved in the Geneva event which helped develop the ban of using chemical weapons during war.

This gives detailed information about everything that occurred during the Battle of Loos. It shows the important people involved and gave the important structural points it needed.


This book is the first book to truly go in depth with the use of chemicals on the environment. It is mainly focused on birds but goes through a whole series of examples and information that relate to maintaining healthy life on the planet.


This encyclopedia explains different aspects of environmental history including different warfare’s such as chemical warfare. Gives general information about World War I chemical warfare.


Research conducted to develop all the problems that chemical and biological warfare create. Shows examples and provides great information about the history of the problems with chemical warfare.
Carl Duisberg, *Memorandum About the Union of the German Color Factories 1882-1921*, U.S. Army Military History Institute, Carlisle Barracks, PA.

This is a German account from the Interessen Gemeinschaft explaining the formation of the group and its development. Used in order to show the strength of German chemical advances.


This medical journal from the Battle of Loos explains the reaction to gases that people had as well as the casualties and deaths of the battle. This shows the effectiveness of gas weapons compared to other weapons and sheds light on why chemical warfare is only hurting the environment we live in.


This is a letter and a poem written by a survivor of the Battle of Loss. It is full detail of a soldiers experience in a time of treachery.


A 1973 interview with a survivor from the Battle of Loos. He explains what he saw as he crossed no man’s land as well as the orders he was given from his commanding officer. This shows how the gas was affecting not only the Germans but the British as well.


The same 1973 interview which explains the distribution and instruction of the gas masks before the Battle of Loos. These sources came from an online Imperial War Museum Archive from London.

Willard Newton, *Over There for Uncle Sam: A Daily Diary of World War One, 1915-1917*, World War I project, U.S. Army Military History Institute, Carlisle Barracks, PA.

This is an in depth journal following important battles through the life of Willard Newton. He experienced Loos and give detailed information of the beginning and end of the battle.
Final Project

History will attract the interest of many people because of its broad scale and interesting stories of the past. Many people studying history find their passion in a certain time period or area of the world learning as much as possible about it. Education allows students to become scholarly historians by combining historical knowledge with a variety of analytical and presentational skills. Learning to use a wide range of historical skills helps young historians develop a knack for creating something people want to read. During a history students college career they will learn to find a thesis and create one in almost anything they read or write. Also historians develop research skills and gain extensive knowledge in primary and secondary sources as well as practicing the ability to cite them correctly in a piece. Throughout my college career at Shippensburg University my historical knowledge has expanded immensely as well as my writing and research skills.

Exploring my past college career has really proven how much experience I have gained over the years studying history. One of the first pieces I turned in here was a review of Boyer and Nissenbaums *Salem Possessed*. My research on this is weak and I did not fully understand the author’s argument and method. Also my grammar and punctuation needs improvement and I did not even know how to cite correctly. At this point putting together good points seemed to get the job done but I did not know how much further it could go. This being one of the first writings I turned in I had no idea where my historical career would take me from here. Little did I know that just putting together good points in a paper was not nearly all the skills I would need over
time. Clearly my historical skills needed improvement at this time and since it was the beginning
time would develop my skills.

As I furthered my knowledge in the field of history I had yet to really understand what
the point was. Not until I took Theory and Practice did I realize what historians do when writing.
Writing essays does not only include historical facts but analyzing and comparing them and
developing an argument which can be backed up by scholarly primary and secondary sources.
Researching for a final essay can be a long process and when first starting to do these types of
work writers tend to get frustrated. Researching sources and developing an argument and an idea
by yourself can feel rewarding and spending an entire semester on one topic really makes you
want to get as much information as possible even though sometimes more time would be ideal.
Re-reading my essay from Theory and Practice, *A Sporting Depression* has many good qualities
and is filled with in-depth primary and secondary source research. When developing this essay I
focused mainly on research of the game of baseball during the depression and after the
depression. Research seemed most important to me but lack of backing up my thesis with these
sources and making historiographical connections was still a writing quality that needed work.
The essays structure, organization, and use of quotations with footnotes and endnotes show
improvement but it seems like I have trouble citing everything I need to. The information that I
learned in this class helped me write so much better the rest of my college career. Reading many
different reviews and articles helped me develop a strong ability to find a thesis and the facts that
back it up. Also because of the article and review work I grew knowledge in a way an essay
should be written. Keeping focus on the argument and backing it up with facts and citations
while comparing the research with other scholarly researchers related to the topic. As a historian
figuring out how to research and develop a strong essay helps with writing papers and reading other researchers work. Not until this last year did writing a meaningful essay truly fulfill everything I had learned but perhaps not fully exercised.

Some classes do not always connect material related to other parts of the semester which can get confusing. The classes that helped me the most were the ones where everything we read connected to something else we had read which overall related to the topic the class was researching. When you find all these connections in a similar field and you find that they relate to your specific research topic it makes it easy to pick and choose exactly what fits best. My Theory and Practice class focused on the years during the depression and we read and analyzed articles from the time period through the present. Learning so much about a topic while learning how to write a good essay can be overwhelming but in the long run it helps because of the connections which are made that can help a writer’s essay. The Seminar in Comparative History class focused on environmental history and every book and article we read could relate to something we had read previously. Developing the skills previously learned and getting the extra help and advice improved my writing immensely. My final paper *A Chemical Environment* shows my best writing and research skills that my college education provided me with. This essay shows the way chemicals used during World War I affect our future environment. It explores extensive research of chemicals used during the war and has accounts of people affected along with the effects of the chemicals on the environment. Working hard on a piece like this and researching documents from away places for evidence from primary sources is a long process which requires full dedication. But getting involved in the topic and enjoying it makes researching not so difficult. My strongest point during my work was the ability to make
historiographical connections with secondary sources and backing them up and comparing them with my argument and other arguments by using primary sources. The biggest problem that exists is my narrative because even though the essay is well thought out and researched sometimes the chronology is unclear. Putting time into an essay is truly what matters most in the end.

My overall experience as a history major over the years greatly improved and developed my research and writing skills. I have become good at researching and realized it can be a long process and not always be successful. But once the research finishes and the essay comes together the finished product is a reward within itself. Perfecting it is the next step, making sure every piece is in its correct place. I grew as a historian and never even considered myself a historian until I actually understood what they went through. Now that I experience it I call myself a historian and feel as if I could do this research on many topics I am interested in.