Fritz Haber: The Ironic Legacy

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Historical Paper
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Wilfred Owen was a soldier and one of the leading poets during the first world war. He describes a gas attack he survived in a poem called Dulce et Decorum Est. The poem reads as follows:

Bent double, like old beggars under sacks,  
Knock-kneed, coughing like hags, we cursed through sludge,  
Till on the haunting flares we turned our backs,  
And towards our distant rest began to trudge.  
Men marched asleep. Many had lost their boots,  
But limped on, blood-shod. All went lame; all blind;  
Drunk with fatigue; deaf even to the hoots  
Of gas-shells dropping softly behind.

Gas! GAS! Quick, boys!—An ecstasy of fumbling  
Fitting the clumsy helmets just in time,  
But someone still was yelling out and stumbling  
And flound’ring like a man in fire or lime.—  
Dim through the misty panes and thick green light,  
As under a green sea, I saw him drowning.

In all my dreams before my helpless sight,  
He plunges at me, guttering, choking, drowning.

If in some smothering dreams, you too could pace  
Behind the wagon that we flung him in,  
And watch the white eyes writhing in his face,  
His hanging face, like a devil’s sick of sin;  
If you could hear, at every jolt, the blood  
Come gargling from the froth-corrupted lungs,  
Obscene as cancer, bitter as the cud  
Of vile, incurable sores on innocent tongues,—  
My friend, you would not tell with such high zest  
To children ardent for some desperate glory,  
The old Lie: Dulce et decorum est  
Pro patria mori.† (It is sweet and noble to die for one’s country)

Fritz Haber loved his country and made many advancements that greatly benefited it. The most notable advancement being that he created the Haber Process. Wilfred, in his poem, narrates the diabolical side of the Haber Process. The Haber Process triumphantly created fertilizers that are, still today, responsible for feeding over half of the world's population. However, Fritz Haber tragically contributed to chemical warfare in WWI and his process was instrumental for the gas chambers and Zyklon B in WWII. Fritz Haber’s legacy is as complicated as his process. Fritz Haber’s early life as a Jewish German chemist eventually led to turmoil when Hitler came to power. In spite of that, Haber still industrialized science, that affected food production not only back then, but today as well. Haber practically played god, having dictatorship over supporting life or ending it.

Fritz Haber was born December 6th, 1868 in Breslau, Germany. Haber grew up in a well-to-do German Jewish household. Haber attended several German universities to study Organic Chemistry. Fritz Haber married Clara Immerwahr, a fellow chemist, in 1901. Clara was greatly opposed to Fritz’s work on poison gas and, tragically, committed suicide in 1915. Clara left behind her husband and their son Herman. Fritz remarried in 1917 to Charlotte Nathan and they had two children.

For years Haber could not find a place in the world until he stumbled upon the Department of Chemical and Fuel Technology. “After a few years of moving from job to job, he settled into the Department of Chemical and Fuel Technology at the Polytechnic in Karlsruhe, Germany, where he mastered the new subject of physical chemistry. In 1911, Haber was invited to become Director of the Institute for Physical Chemistry and Electrochemistry at the new Kaiser Wilhelm Gesellschaft in Berlin. It was at this institute that academic scientists,
government, and industry cooperated to promote original research.”

After Haber became director, Germany started to fall to Nazi Regime. New Nazi Race Laws pushed Haber and most of his workers out of business. Hitler was the turning point in Haber’s life. He was the reason that Haber had to, not only abandon his work, but to abandon the thing he loved the most; his country.

Haber is responsible for interweaving science and military power. Military commanders were happy to take advantage of scientific advancements; however, they never actually worked hand and hand with the people responsible for those advancements. The military did not have science labs, and scientists were not carrying around guns and rushing into battle. As Fritz Haber put it, “In the house of the German Empire, the general, the scholar, and the technologist all lived under the same roof. They greeted each other on the stairs. But there was never a fruitful exchange of ideas.”

Fritz Haber changed all of that. He had scientists working with the military to create new, better weapons. He was able to create chemical warfare and extensively supply his country with the means to defend themselves.

Haber once said, “No nation will renounce the use of deadly gas in warfare, because the possibility of further mechanical developments for making slaughter on a wholesale plan are almost exhausted while there are still many new chemical possibilities for creating widespread

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3 Charles, Daniel. Mastermind: The rise and fall of Fritz Haber, the Nobel laureate who launched the age of chemical warfare. PDF. (xiii)
In 1915, he created a weapon of mass destruction: poison gas. Poison gas was used for chemical warfare.

Creating a chemical weapon on a large scale isn't the only thing Haber did for his country. During WWI, while Haber was working at the Institute for Physical Chemistry and Electrochemistry, he was put in charge of increasing nitric acid production. “The scope of WWI's chemical weaponry was unlike anything seen on the battlefield before. Over the course of the war — which lasted from July 28, 1914, to Nov. 11, 1918 — about 3,000 chemicals were investigated for military use, and 50 toxic agents were deployed on battlefields across Europe, killing an estimated 90,000 to 100,000 people and leaving 1.3 million people injured”

Haber’s discovery made Germany independent of Chile’s source of fertilizers and explosives. The Allies ran short of nitrates and explosives while the Germans marched on to Paris. “The war was nearly lost and won through this single manoeuvre. Haber had to organize the production of synthetic ammonia by the hundred thousand tons. Thus, he added industrial organization to a technical feat of science.”

The Haber Process is generally credited for keeping Germany supplied with food and weapons throughout World War I. Fritz Haber was in charge of keeping the fertilizer production organized because he had to produce the fertilizers by the thousand tons.

Haber won the 1918 Nobel Prize in Chemistry for his invention of a process used to manufacture cheap fertilizer and helped feed billions. Fritz Haber received a lot of backlash in

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4 The Coshocton Tribune (Coshocton, Ohio). "Prof. Fritz Haber Says Britain Made Same Kind of Mistake Trying Out Land Tanks..." September 25, 1921, 1.


1919 when he received his Nobel Prize because of the hand he played in creating poison gas. However, Haber’s breakthrough enabled mass production of agricultural fertilizers and led to a massive increase in growth of crops for human consumption. “In fact, it’s estimated that nitrogen fertilizer now supports approximately half of the global population and it is estimated to have enabled the lives of several billion people, who otherwise would have died prematurely, or never been born at all.”\(^7\) The world’s population growth is only able to be supported because Fritz Haber’s accomplishments. Some of his more exotic ideas that people thought would never amount to anything have actually been turned into magnificent feats of science that benefit our world. “Haber's researches have led to a vast high pressure industry, and numerous catalyst applications. Likewise his search for gold in sea water stimulated the recent extraction of bromine from the ocean.”\(^8\) Fritz Haber had some crazy ideas, but they were all ideas to better his country.

Haber served his country blindly, creating weapons, trying to pay of debts by pulling gold out of water, and trying to help bring his country to victory. Because of Hitler’s rise to power, Haber was cast out and seen as a lesser being. Adolf Hitler was a German Nazi Dictator during WWII. Hitler's political career began in Munich when he joined the German Workers' Party. “In July 1921, he took over the leadership of the party, by then renamed the National Socialist German Workers' Party (NSDAP), and, less than 12 years later, it had become the largest party


in Germany and Hitler was Reich Chancellor”

Hitler had power, money, and control. Bitter from Germany’s defeat left Hitler eager for a revolution and justice for the humiliation brought on by the Treaty of Versailles. “This culminated in his experience of their pusillanimous behaviour during his Munich beer hall 'putsch' of 8-9 November 1923, when, as he saw it, they stabbed him in the back. It was only at this point that Hitler became convinced of his destiny to lead Germany, a conviction from which he then never wavered.”

From there, he molded a fragile Germany in his image and beliefs. At his core he was an extreme nationalist, believing the German ‘Aryan’ race should dominate. “Hitler had a racist world view. He believed that people could be separated into a hierarchy of different races, where some races were superior and others were inferior...Hitler and the Nazis considered Jews to be an inferior race of people, who set out to weaken other races and take over the world.”

All people who didn't fit into Hitler’s mold were killed or cast out; much like he did to Fritz Haber. Hitler ensured that Haber would become a tragic victim of the 1933 political upheaval.

Hitler not only used Haber’s invention of poison gas to kill people, but Hitler also used Haber’s invention of pesticide gas for Zyklon B. “Of Haber's legacies, this was the bitterest. For this research was later developed into the Zyklon process, used by the Nazis to murder millions in their death camps, including his own extended family.”


country, but then his intentions to protect his country, were turned against him and used to kill over a million of his Jewish brothers and sisters and even some of his extended family.

The words in Wilfred Owen’s poem could describe the tragedy of how the Fritz Haber’s intentions were manipulated, creating the unspeakable horrors of the first and second world war.

In all my dreams before my helpless sight,
He plunges at me, guttering, choking, drowning.13

Haber had so many dreams of helping his country, but the use of Zyklon B in WWII was an unforgivable tragedy his country would never forgive him for; even though he saved them from starvation and enabled the lives of billions. Albert Einstein described Fritz Haber’s relationship with Germany in a letter saying, “At the end, he was forced to experience all the bitterness of being abandoned by the people of his circle, a circle that mattered very much to him, even though he recognized its dubious acts of violence. . . . It was the tragedy of the German Jew: the tragedy of unrequited love.”14 Haber’s life and work is a metaphor for the best and worst that science can contribute to the world. Albert Einstein saw this metaphor, this tragedy. He saw the toll that it was taking on Fritz Haber and how Haber’s views began to change.

Haber, brooding over the effects of his gases, became a pacifist, and was exiled in 1933. Fritz Haber’s exile was short because he died in 1934 in Switzerland secluded from his friends, family, and colleagues. “He fits into no convenient category. Haber was both hero and villain; a Jew who was also a German Patriot; a victim of the Nazis who was accused of war crimes. Unwilling to admire him, unable to condemn him, most people found it easier to look away”15

13 Owen
14 Charles, Daniel (viv)
15 Charles, Daniel (xiii)
Fritz Haber was Jewish. He also hated war. In a Hitlerized Germany there was no place for him.

In the end Fritz Haber came to realize the lie, it is sweet and noble to die for one’s country.

Annotated Bibliography


This source is a website that I found that really dug into the irony that is Fritz Haber’s life. The quote I used described how the Nazis murdered millions of Jewish people with Zyklon B. This source really helped me to see the tragedy in Fritz Haber’s Life.

Charles, Daniel. Mastermind: The rise and fall of Fritz Haber, the Nobel laureate who launched the age of chemical warfare. PDF.

This is a book that I found online and checked out of the library at UW Eau Claire. I used it many times throughout the paper because it was such a good source. This source helped me understand the connection Fritz Haber made through science, technology, and the military, and this source also helped me to see how much of an outcast Haber really was in the end.

The Coshocton Tribune (Coshocton, Ohio). "Prof. Fritz Haber Says Britain Made Same Kind of Mistake Trying Out Land Tanks..." September 25, 1921, 1.

This source is a journal that discussed Fritz Haber’s viewpoint on poison gas and other deadly warfare inventions. This source helped me really get into Fritz Haber’s head and actually give me details as to what he was thinking at the time.


This is a newspaper article. It was used to explain some of his achievements. This source help me to see how much of an influence Fritz Haber really was in furthering the connection between science and industry on a large scale.
This source is a website that I used to describe Hitler’s world view. This source helped me to see what Hitler’s reasons were, and describe the inner workings of a mad man.

This is the poem that I used as the intro to the paper and I also used it almost as a theme throughout the paper. I connected with this poem because it a first hand account of the effects of poison gas that was put into poetically morbid words. This source helped me connect with the more cynical side of Fritz Haber’s work.

This is a web page that explained Fritz Haber’s career life and how he got promoted throughout his life. This source helped me to understand the fluctuation between college and career for Fritz Haber.

This source is an article that I used to explain some more of Fritz Haber’s accomplishments and how some of his research that everyone thought was pointless and stupid actually amounted to something. This source really helped me look at the better side of Haber’s legacy.

This source is a website that I used to describe Hitler’s rise to power. This source helped me understand how Hitler took over the German Workers party, and how he turned it into his own and shaped the party, and later the country into his image.

This is a website that I used to describe how much of an impact Fritz Haber really had with his invention of fertilizers. This source really helped me to understand what our world would have been like had Fritz Haber never invented synthetically processed fertilizers.

This source is a website I used to get information on soldiers and statistics on chemical warfare. This source expanded my view on how deadly chemical warfare really is and was.