Designers of Death: Nazi Engineers during the Holocaust

Joanne Tuck
Wentworth Institute of Technology

1. Introduction

I've been teaching the *Facing History and Ourselves: Holocaust and Human Behavior* course to juniors and seniors at the Wentworth Institute of Technology for twenty- five years. This humanities and social science elective is a unique course that deals with many social issues using the Holocaust as a case study. This is done through the explorations and analysis of a host of ethical and moral concerns relating to and continually challenging Wentworth students on an individual, societal and national level.

To fully engage the students in relevant material I focus on the role and exploits of the engineers and architects during that period.

I had a sabbatical in 1994 at the United States Holocaust Memorial Museum in Washington, DC where I did research on the engineers using primary source material. It was very exciting to use the original Topf and Sohnes ledger of their accounts for the crematoria at Auschwitz. In 2006, Eric Katz edited an excellent collection of articles on this subject in *Death By Design: Science, Technology, and Engineering in Nazi Germany.* This book has the best compilation on the subject to date.

2. Background of the Engineers During the Weimar Republic: 1919-1933

In 1918 German engineers formed an organization Reichbund Deutscher Tecknik which endorsed "a free democratic constitution to obtain the participation of technology in government on the basis of the number of our members." (Jarausch 34) Engineers were underrepresented in the Reischstag and generally were not good at organizing themselves within the political frame. Lacking leadership and influence as a group was unfortunate as the profession found itself at the indulgence and initiative of whatever government was in power.

The Weimar Republic (1919-1933) was fraught with problems of all kinds- economic, social, political and image. By the mid twenties, the government had stabilized somewhat and the economy was improving. Engineers were not committed to the Republic with great loyalty or passion but were focused on obtaining projects and improving economic life as their regular business.

All this changed with the stock market crash of 1929. Economic and political chaos precipitated a worldwide depression. With doom and gloom on the horizon, the engineers were faring poorly, with many of the younger ranks unemployed. There was no Ministry of Technology and frustrated professionals were disenfranchised from political leadership and decision making. "We engineers have to look the facts in the face" Conrad Matschob exhorted "the plight of our times is not primarily caused by the progress of technology , but rather by the frequent failure to make its results available to the economy in the right form." (Jarausch 80) Of course, the concept of 'right form' is an expansive, ideological one. This is not meant as an apologetic for the Nazification of the profession, but an insight into the passivity and reactive state of the engineers.

There were 111,085 engineers in 1925 and 203,647 in 1933. These 132,562 new engineers in eight years put an enormous strain on the technical market resulting in massive unemployment. In 1933 there were 59,325 unemployed engineers in Germany. Young people felt abandoned by the professional elite and inert government. It was not as if the engineers were among the first to embrace Hitler, but some were seduced early by the national (Volkish) missions, raciest manner, and general fear that the profession would collapse. Some saw Naziism as the bulwark against communism and failed liberalism worthy of hitching on its star. (Jarausch 111).

3. The Engineers During the Nazi Period: 1933-1945

In 1933, the German engineers craved business and professional status after having experienced a professional drought at the end of the Weimar Republic. The new Nazi regime enthusiastically promoted technology and dazzled the profession with promises of recognition and substantial projects. Amongst the most spectacular projects were the autobahn and volkswagen. Firms were competitive and grateful for the opportunity to do business and fulfill lucrative projects. Paul R. Josephson stated in *From Totalitarian Science and Technology*

"Many engineers welcomed the strong central government of the National Socialists for its ability to support modern technology more efficiently than the Weimar regime," (Katz 75)

Josephson claimed three essential characteristics of the Nazi totalitarian system. (1) the state is the prime mover in the creation of technology…large scale "big science" projects that only the government can fund (2) technological expertise is subjugated to the interests of the

state through overly centralized and bureaucratic control of research and development, and (3) emphasis is placed on massive projects, a gigantomania of scale designed for the display value of political ideals of the regime. (Katz 71) Nazi ideology was not the prime motivator for most engineers, although some embraced the party's vision. Nonetheless, the regime had a vision of technical expertise with a Nazi attitude- a goal of professional incorporation of architects and engineers into the coming corporate state. (Jarausch 138) Some engineers rationalized the Nazi excesses as over enthusiasm—"nothing is eaten as hot as it is cooked." (Jarausch 139) However, most engineers and architects struggled for professional recognition and competed for business wherever they could find it, even the design and construction of mass killing apparatus.

4. Design of Auschwitz-Birkenau

In Katz's outstanding anthology are two readings that stand out for this study: *Gas Chambers and Crematoria in Auschwitz* written by Franciszek Piper, head of the Department of Historical Research at the Auschwitz-Birkenau State Museum and *Engineering Mass Murder at Auschwitz* by historian Jean-Claude Pressac and professor of architecture Robert Jan van Pelt. Piper's work details the transformation of Auschwitz from a Polish prison camp into a killing center to annihilate Europe's Jews and the exact process used to accomplish this goal. *Engineering Mass Murder at Auschwitz* tells the story of the invention, design, and modification made by engineers and architects of the various crematoria furnaces and gas chamber installations at Auschwitz-Birkenau. (Katz 35) Here we see the problems and challenges faced by the engineers and architects in creating the most efficient, cost effective killing center possible. Barracks had to be redesigned to hold more prisoners, railroad lines needed extension to be closer to the gas chambers, ventilation problems in the gas chambers had to be solved, staircases had to be added in the gas chamber buildings for direct access by victims, transport of bodies needed simplification to the crematoria and furnaces needed better design to dispose of as many bodies as possible.

In addition to the Pressac/van Pelt reading all of these issues are detailed in the Nova film *Nazi Designers of Death*. It is a remarkable film featuring Robert Jan von Pelt explaining the architectural changes to expand the camps and engineering problems of ventilation in the gas chambers and problems facing the engineers. He used the architectural drawings the Nazis accidentally left behind in their haste to abandon Auschwitz before the advancing Russians.

Professor von Pelt had the expertise to read the plans and decipher the progression of the designs. It is an extraordinary film that truly captivates the students even more than the readings do. In the film the historian Gerald Fleming revealed his findings in the Russian Central State archive in file 17/9. None of this information was available to anyone from 1945 to the fall of the Soviet Union. Fleming wrote

"In May 1993, I discovered documents detailing both the fate of these engineers and the full extent of their knowing, sober participation in the Holocaust." (Fleming 1)

He uncovered interviews of the engineers of Topf and Sohne of Erfurt, Germany, who had been interrogated by the Russians shortly after the war. In his *Engineers of Death* published in The New York Times July 18,1993 Fleming shared the actual transcripts of two of the engineers, Kurt Prufer and Karl Schultze. These interviews reveal in stunning detail their willingness to go to any lengths in the service of the Reich.

An interesting addendum to Fleming's piece in the Times is a letter To the Editor written by Eli M. Rosenbaum, Director of Special Investigations, U.S. Department of Justice on July 19, 1993 and published in the newspaper on August 27, 1993. In it, Rosenbaum stated

" I was particularly struck by the quoted statement of the senior engineer Fritz Sander that the company's diabolical design innovation- a crematorium that used the fat of the burning corpses as fuel to operate the furnaces- "could not yet be approved" for a patent because it was classified by the Third Reich as a state secret.

Topf did eventually receive the patent it coveted for the crematoriums the company had supplied to the Nazis. The patent (No. 861,731) was issued by the (West) German Patent Office to "J.A.Topf & Sohne , Wiesbaden" on Jan.3, 1953- eight years after the war's end. The official document's title is "Process and Apparatus for Incineration of Carcasses, Cadavers and Parts Thereof." "

5. The Engineers and Architects after the War

The engineers and architects were generally given light sentences for their crimes. At most some of them were sentenced to twenty years in prison. SS officer Karl Bischoff, chief architect of Auschwitz lived a quiet life until he died in 1950. Walter Dejacko and Fritz Ertl, the two architects of the crematoria, were put on trial in Vienna in 1972. They were released because no one in the court could read the blueprints and they went on to have successful careers in Austria.

The Topf engineers had mixed fates. Ludwig Topf committed suicide and ironically a few weeks later Kurt Prufer, the engineer who received a large bonus from the firm for solving the crematoria problem was set free by the Americans. Ernst-Wolfgang Topf moved west with the Americans and was never charged. Shortly thereafter, the Russians captured four Topf engineers, Braun, Prufer, Sander and Schultze. They were given prison sentences by the Russians and probably ended up in the Gulog. Braun was freed in 1955 and Prufer's fate is unknown. (Katz 65).

6. Two Individuals of Note: Engineer Otto Ambros and Architect Albert Speer

In 1926, Otto Ambros, a brilliant young chemist was sent to Burma by I.G. Farben, the huge petrochemical and pharmaceutical conglomeration, to master all the specifics in the manufacture of rubber. By 1935, he was creating synthetic rubber. When the war started it became clear there would be a shortage of many necessary materials including rubber and oil. This became most crucial upon the invasion of Russia in June 1941. Ambros was given the charge of manufacturing synthetic rubber and synthetic oil at a new facility to be built in Poland, a mere five miles from Auschwitz.

This new I.G. Farben facility was very important for the war effort in the East. I.G., as the firm is informally called, partnered with the SS because it could provide an endless supply of slave labor to build the enormous complex and man the factories. The five-mile trek from Auschwitz interfered with the work detail, as the prisoners were usually exhausted upon arrival. I.G. decided to build its own concentration camp (Monowitz) on the factory site. Over 25,000 prisoners of the 300,000 who worked there were worked to death where conditions were even harsher than at the main camp of Auschwitz.(Katz 285) The Nuremberg Indictment of the I.G.Farben Defendants states:

"Farben …abused its slave workers by subjecting them, … to excessively long, arduous, and exhausting work, utterly disregarding their health or physical condition. The sole criterion of the right to live or die was the production efficiency …first signs of a decline in production although caused by illness or exhaustion...meant "Selektion."

In addition, a subsidiary of I.G., Degesch (German Corporation for Pest Control) manufactured Zyclon B that was used in the gas chambers between 1942-1944.

As reported by Rubenstein and Roth in *Approaches to Auschwitz*

"Ambros oversaw I.G. Auschwitz in all its horror. He and twenty-three other I.G. principals were tried in Nuremberg Trial # 6 where they were accused of wholesale enslavement, plunder, and murder. They represented a combination of scientific genius and commercial acumen that distinguished I.G. as the preeminent private industrial enterprise." (Katz 276)

The trial was more like an antitrust suit than a trial of mass murder and slavery. Because of the climate of the Iron Curtain and the building of the new Germany, Ambros only served three years of his sentence.

"Ambros became "a high-level advisor to a major American corporation, W.R. Grace and Company, and a consultant to the United States Department of Energy. When queried about Ambros in 1982, a representative of W.R. Grace Company was quoted as follows: "We do not feel there was anything wrong in employing this man in a technical position years after whatever he did." The spokesperson added that the chairman of the board J. Peter Grace "is extremely proud" of his relationship to Ambros and did not find the appointment "embarrassing in any sense." A White House spokesperson declared that Ambros…"had paid his debt to society." If nothing else, Ambros' welcome in the highest levels of American business and government after conviction for Holocaust-related crimes demonstrates the degree to which technical and administrative competence have been divorced form moral values in contemporary society."

According to Raul Hilberg "To Hitler, architecture is everything." To achieve this mission, Hitler selected Albert Speer to be his architect to design new buildings for the Reich and for the new German empire envisioned by the Fuhrer. He served in this role and in January 1942 became Armaments Minister of the Reich, in charge of all military production; by the end of the war (1944-45) he oversaw all industrial output in the German empire. (Katz 147)

Speer embraced his role as Hitler's architect and concurred with the Fuhrer's vision of monumental structures with huge dimensions known as gigantomania. He was totally impressed by Delphi and used it as a model for his work for Hitler. He saw all his work through Hitler's eyes and hence abandoned the principles of architecture based on reality. Speer saw himself as an architect first and foremost and played down his other roles. He claimed that politics didn't concern him and he was merely a technician as Armaments Minister. He traded his integrity as an architect for the power of the Reich. He was involved with anti-Semitism at a high level by destroying much of Jewish neighborhoods in Berlin to build Hitler's headquarters and used slave laborers in armament factories. He was put on trial at Nuremberg and was one of the top Nazis to

escape life imprisonment or death; he received a twenty-year sentence. He cleverly defended himself as an architect and downplayed his other positions in the regime. He had divorced himself of all the moral lessons of architecture and was devoid of all professional ethics and connections to the well being of society. After serving his sentence in Spandau prison, Speer wrote an autobiography entitled *Inside the Third Reich* published in 1969. His book has insight into the relationships and maneuvering of high Nazi officials but is a rationalization for his leadership and complicity in horrific Nazi deeds.

7. Student Response

This material captivates the students. It touches them deeply as they contemplate their futures in professional careers. They are fascinated not only with the architectural and engineering challenges faced by the perpetrators, but also many of them are deeply concerned with the ethical implications of fulfilling such contracts. They write about this work in their journals and are given an essay question on this subject on their final exam.

At the Commencement on May 21, 2001, Carl Evans III an electromechanical engineering graduate delivered the Student Address and to my surprise said the following.

"The humanities and social sciences …were a part of our education and we are better people because of them. Professor Tuck's Facing History and Ourselves class was one the most important I have ever taken. From this class, which focused primarily on the Holocaust, we learned a number of lessons that are important to us as civilized people, and also as engineers and architects. What was so relevant to us as professionals were the furnaces used within the death camps. These were not simply thrown together; they were conceived, engineered, and built to be efficient killing machines…As engineers and architects, we have the potential to do some very ugly things. So, as we start our careers we should…endeavor to meet and surpass the ethical standards set by our professional organizations…We are the leaders of tomorrow. Let us never forget to use wisely the awesome power and responsibility entrusted to us."

If most of my students responded to this history with the same conviction as Carl Evans III, I would be truly blessed as an educator.

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