

concept of how to remove the ills of depression by public works. (See Appendix D.) Do you remember what prompted that article?

A: Well, I think it was based on my experience there in the Chief's Office. Here we were on a vastly expanded public works program, and we saw how helpful its impact was. Now, I don't remember what my final conclusion was; I haven't seen that article for years. But generally I believe it said that major projects should be kept in cold storage during peak economic periods so that you could pull them out and do them during periods of depression. With that, I think, I would still agree. But if I was saying that every time you had a depression you reached in and you did all the public works you possibly could do as a corrective factor, why, I don't think that that is the basic thought that I would try to get across.

Scholarship and Advanced Engineering Studies in Germany _____

Q: How did you get the John R. Freeman scholarship, and what exactly was it?

A: Well, [Herbert D.] Vogel was over in Europe at the time on hydraulic laboratory research. Having been four years in the Chief's Office and also knowing about the hydraulic laboratory that we had down on the Mississippi River and sensing its importance, I thought it would be desirable to find out further and to do graduate work in that field and see what we could do in the hydraulic laboratory at Vicksburg in connection with solving many of our problems in river control. Such problems might embrace river regulation, control of excessive silting, and spillway control structures.

Europe had a number of hydraulic laboratories. I still have a large book by Dr. Freeman on hydraulic laboratory practice in Europe which covered a number of the laboratories there and the work they were doing. So I thought it would be desirable if I could research that field. So I applied for a Freeman fellowship. Three engineer societies were awarding them: the Boston Society of Civil Engineers, the American Society of Civil Engineers, and the American Society of Mechanical Engineers.

So I applied to all three. Two weren't giving them that year, but I was selected to receive the Mechanical Engineers' Society award. It was to be

for only one year. Unlike others, I had been sending monthly reports of my activities to both the ASME and the Chief of Engineers. In order to continue my research project, I requested an extension for a second year, which they granted. So I was over there for two years.

At that time, as far as the Chief's Office was concerned, it was contemplated that I was going to head up the hydraulic lab in Vicksburg. During that period I traveled all over Europe, visited all the principal hydraulic laboratories as well as the principal navigation works. In many of the areas I inspected their locks and dams. I also contacted the manufacturers of some of their very large roller-type movable dam equipment, their *Drei Guert Schutze* and others—MAN [*Maschinenfabrik Augsburg-Nurnburg*] and *Vereinigte Stahlwerke*. So I had an excellent opportunity to review both the river and harbor improvement practices in Europe, as well as the hydraulic laboratories. As I stated, I submitted frequent reports to the Chief's Office and to the ASME on these activities.

I was also taking courses at the *Technische Hochschule Charlottenburg* in connection with working for my degree as a doctor of engineering, and I was doing my research project at the *Prussische Versuchsanstalt fur Wasserbau und Schiffbau*. I finally submitted a dissertation on *Geschieb Bewegung*, which means bedload movement in streams. That was the primary subject on which I was preparing my doctoral thesis.

But it was a very interesting period. Incidentally, that was the period that Hitler had just taken over power. He was developing the Nazi organization and the military buildup of Germany. I took every opportunity to observe those activities. For instance, in our hydraulic laboratory we had two sections. One concerned studies for river development, lock and dam controls and structures, etcetera, and the other one was the *Schiffbau Abteilung*, which embraced the ship model basins. At that time Germany was restricted to a little 10,000-ton battleship as the maximum it could have. It wasn't supposed to have too many submarines, large cruisers and so on, and no air force. But in any case, they were conducting model experiments of different type hulls, particularly of larger ones with aircraft earner potential, large battleships, cruisers, and new submarines. Even though I wasn't supposed to go into that, I always took a detour route to observe as much of that activity as possible.

I was observing what they were doing in connection with model studies for the ships and craft that they were investigating in connection with their proposed naval construction program. In addition to reports that I was sending to the Chief of Engineers and so on, I was submitting reports to our military attache. I was attached to the office of the military attache in the American embassy in Berlin, and I submitted reports on things that I thought were of military intelligence value, including that as well as observations on other matters.

At that time Germany was not authorized to have an air force—in fact, it was committed by the Versailles Treaty not to. Well, that was an impossible thing to do—to keep a major country, such as Germany, quiet not for 5 years, 10 years, 15 years, but from here on out. So naturally Germany was planning to do something about it, and Hitler was getting Germany aroused. On occasion we saw mass movements, sometimes of a million people, gathered in connection with these various celebrations. One thing they were doing was to carve out massive caves in some of the mountains. They then built aircraft assembly shops in these caves where they were not subject to observation. However, we knew an American girl who was married to a German. We were quite friendly with her then. We learned through her that he was engaged in this activity of building these aircraft even though, as I said, it was in violation of the Versailles Treaty. They were preparing this air force, which then consisted of their *Luftsport Flieger* (glider pilots), for ultimate service in avenging the Treaty of Versailles and getting Germany back to its proper state as a leading power.

Q: What were the conditions like in Germany at that time as far as the average person?

A: Conditions were quite different from what we had experienced in Koblenz at the end of World War I. Then we had seen a Germany that was down, and now we saw a Germany that was on the rise. Germany was restricted in many things, and they were then most active in the field of synthetics. They had to develop synthetic fuel because they had limited exports and there were critical foreign exchange problems, so it was required that anybody who used gasoline use this synthetic sort of gasohol-like fuel, and little of that for recreational use.

Many of the cars and trucks utilized charcoal for fuel, where they produced gas from the burning of charcoal in a contraption in the trunk. There was a tremendous amount of horse labor on the farms instead of the tractors that we used.

As I stated previously, they had the so-called *Luftsport Flieger*. The sons of some of the best families in Germany belonged to this. Germany had been restricted from having any air force, but what they did have was large numbers of gliders, and these young men, with beautiful uniforms the equivalent to what their air force would be, would be out and doing training exercises using these gliders. And that was sort of the basic development of their air force for as and when they later got planes.

It was interesting, too, to see the maneuvers that they were conducting. We lived in a beautiful little villa in Grunewald, Berlin, just across from that large forest. On Saturdays and Sundays the Nazi groups, which were organized similar to the divisions and corps that they had had in World War I—they had the same names and numbers—would conduct maneuvers. Here there were personnel without arms, with limited transportation, but you'd see them come up with a truck, and on that truck they had a papier mache or some other form simulating a tank, simulating guns on it, and they were conducting tactical exercises in the Grunewald with signal troops, going through a simulated military exercise.

Hitler also put through a blackout requirement, so that on certain occasions, when they said it was a blackout, each house could not have a light in the house that was visible from outside, so you had to provide a black shade to put over each window. You could have a light inside but have it not showing from the outside.

Germanywide, they had a restriction on cars that you had to blacken out the front headlights, except for a strip of let's say 4 or 5 millimeters wide and 6 or 7 centimeters long—they prescribed specifically what the size of these two slots were—letting out a slight glimmer of light, so in that way they could still carry on movement at night without being visible from the air.

This was, as I say, in 1933-35, four to six years before their World War II war broke out. They also required specified fire protection from air raids. For instance, in our villa we had an attic of so many square meters. We were required that, if there were so many square meters, you had to have a

shovel or two, you had to have two or more buckets of sand, you had to have a bucket or more water. It depended on what the size was, and they would have inspections to see that you had your house so equipped against a potential air raid in order to control the fires. But when you think of the measures and preparations that they were taking then compared to the lack of preparation elsewhere, it was really remarkable to observe.

France, in the meantime, depending on the “impregnable” Maginot Line, knew that nothing could ever happen to them.

Q: What were your views of the effect of the Nazis and their ideology on the people of Berlin?

A: Hitler had started with a tiny minority, but they were a very disciplined group and they grew in extent and power, particularly down in Bavaria and in South Germany, but then they gradually expanded and ultimately became the dominant power throughout Germany, particularly after Hitler became chancellor. It was the practice previously, for example, when two German men met in the street, the junior would doff his hat to pass on a greeting, and the other man would then take his hat off. Well, during the Nazi regime the prescribed salutation was to raise the right arm and with a sign say “*Heil Hitler*.” “If you had any correspondence, official correspondence, personal correspondence, or whatnot, you didn’t end up with “very respectfully,” “respectful y yours,” or “sincerely.” It was always “*Sieg heil*” or “*Heil Hitler*.” “If you were on the telephone, instead of saying “hello,” you said “*Heil Hitler*.” “At the end of the conversation, it was “*Heil Hitler*.” “*Heil Hitler*” - It was generated throughout the country.

Now, that didn’t mean that 100 percent were all for it, because you could sense opposition among some of those whom we knew intimately, particularly those in the upper classes. But the man on the street was adopting this thing. Hitler would frequently get on the radio—he was a terrific orator—and he would speak to the masses, inspiring them and saying that with his Nazi movement and program they could accomplish all these objectives. They could get food, they could correct the injustices over in Poland, where part of Germany had been taken. They wanted to get back to the Rhineland, which they had been prevented to arm. He was really a very dramatic orator. Some of the mass meetings they had were really spectacular, with the drums, banners, and the lighted torches they had. It

was really a marvelous job of public relations where he was getting the whole country to go madly behind him.

As a matter of fact, when he first came into power he was doing an excellent job, because he cleaned up the streets. He eliminated a lot of the begging, except for those who had been badly disabled from wounds in World War I. He did much to improve Germany. Later on he got drunk with power and obsessed with his own personal power, and he went far and beyond where he should have gone. But in the initial phase he was doing very much good until he started persecution of the Jews, and that was just beginning when we left in 1935.

Q: Did you have a chance to talk to any German Army engineers while you were there?

A: No, not particularly German Army engineers. I met a number of the German officers in relatively high command at receptions that they had at the embassy. My contact, as I say, was with the German civilian engineering group, and particularly at the universities, the schools, those in hydraulic laboratories, and those concerned with civil works in Germany. I had quite a few contacts with them, but not particularly with any of the German military engineers.

Q: American engineers were heavily influenced by German engineering development. Why do you think this was so? Was it because they were so much more advanced?

A: Yes. Hydraulic laboratories, they were in the forefront, not just in Germany, but in Europe in general, but I think particularly in Germany. And they were also quite advanced, let's say, in theory. But I thought that the United States could adapt theory to practical application and construction to a better degree than they could, certainly as of that time. I don't recall, though, anything special in the way of German development. As I say, in the field of navigation structures they were well advanced in these major roller-dam units for a movable dam in place of the wicket type and bear traps and so on that we had been using. But I don't think that of itself would indicate in the whole field that they were superior.