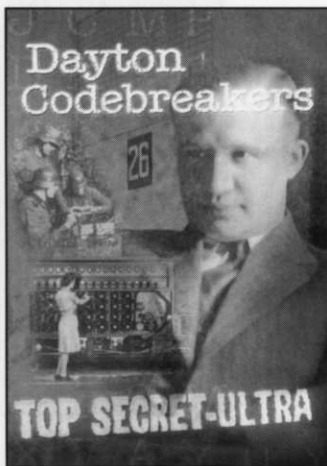


# Can Dayton replicate its historic code-breaking machine?



At the Oct. 28 Barn Gang program, Debbie Anderson gave out complimentary copies of the DVD, *Dayton Codebreakers*, the documentary, produced and directed by Aileen LeBlanc, with Debbie Anderson as Associate Producer/Research.

Miranker offered an analysis of the algorithms the Poles, Brits and Americans used to tackle the problems, especially those used in the Navy Bombe, as Desch's machine was called.

Out of this visit, maybe Dayton can get its own Navy Bombe again – not the real NCR machines that are said to have

Dayton, in this decade, has gotten a lot clearer picture of the top-secret code-breaking work by NCR, its chief engineer Joseph Desch, the WAVES and others sworn to silence at risk of death as they turned the tide of naval war against the Nazi U-boats in 1942.

To fill in more of the story, computer scientist Glen Miranker, a former Vice President of Systems Development and later Chief Technology Officer for Apple Corp., flew from his San Francisco home to Dayton to show a packed audience at the Oct. 28 Barn Gang luncheon the astronomic number of cryptologic possibilities presented by the 4-rotor German Enigma.

been crushed and buried near the now-destroyed Building 26, but with a replica.

Debbie Desch Anderson met Glen Miranker at a symposium sponsored by the National Security Administration's Cryptologic Museum Foundation a year ago in Ft. Meade, MD. "He had had an interest in cryptography since grad school and recently collected an actual Enigma machine," Debbie said. "He and I soon struck up an acquaintance based on our mutual interests. He visited Dayton last November and met some of our members, including John Bosch, here at the Club.

"Glen has an interest in tackling a rebuild – likely beginning as a simulation in software – of the Dayton machine," Debbie said, "and he gave us encouragement to consider seriously such a project."



Ben Graham discusses code-breaking history with Glen Miranker. Ben, a former President of the Engineers Club, worked – he won't say doing what – in the National Security Administration from 1952-54.

## Debbie Desch Anderson recollects father's two sides



Joe Desch. Photo courtesy of Dayton History – NCR Collection

From her remarks at the *Engineering and Science Hall of Fame enshrinement of her father, Joseph Desch.*

I have tried to keep in mind not what I wanted to say but what my father might have said. That is far more difficult than you would imagine, because I realized today that, in the years I knew him, he didn't receive any formal recognition. We know of his Medal for Merit, but that was awarded in secret, in Washington, before I was born.

In addition, I could never predict which Joseph Desch I'd meet on any given day.

Let me explain: Perhaps because of his origins or maybe his upbringing, he was genuinely a humble man. Humility is today an overlooked virtue but he stressed it in rearing me and, at his best, he demonstrated it.

But the very man who taught me this was also justifiably proud of what he knew he had accomplished in his life. Once in a while, this pride would manifest itself as boastfulness and take those around him by surprise.

Once in the mid-1980s Dad was invited to NCR World Headquarters for lunch and took me along. We waited briefly in the lobby. Dad, I could tell, was ill at ease. Suddenly a young man interrupted and introduced himself. He said he had just wanted to meet the man whom, he had learned, had developed the NCR 304. I was happy at this, for I thought Dad would enjoy a bit of flattery. However, Dad, using his best baritone voice, pronounced for the whole lobby to hear "Heck, I not only did that, I designed the first digital calculator, and the first digital computer." The poor young man literally jumped back, worried he had insulted this old man. I was mortified. There was a glimpse of the braggadocio that could surface when Dad was defensive.

As the young man slunk away I turned to him and asked "Well, where did that come from?" He replied, "Honey, they're going to forget about me, about my department. They won't have any idea what we went through." I argued, "No they won't." But he said, as he always did, "You're being naive. That's the way business is. Out with the old, in with the new."

This episode occurred to me when I opened the letter from the Hall of Fame. Tonight is a great honor, I think the greatest he has received, for in it he has achieved "honor in his own country," his home town. If he were here tonight, I could not guarantee which Joe Desch would show up, but I suspect the humble, slightly embarrassed Joe would be here, truly touched by this recognition of his peers. For him, I thank you.

## Jim DeBrosse, on discovering the Joe Desch story

---

*'I believe in heroes, and when they don't seek out the acclaim they deserve, I believe in them even more.'*

---

*From Jim DeBrosse's introduction of Debbie Desch Anderson at the Engineering and Science Hall of Fame ceremony*

Sometime in the fall of 2000, my editor, John Erickson, called me into his office. He'd just gotten a tip from Brian Hackett, then head of the Montgomery County Historical Society, who told him a woman from Kettering had been digging through the NCR archives for days, researching her father's career.

She believed he had played a key role in a top-secret project here in Dayton—to break the Nazi Enigma codes.

All right, here were four words I never imagined I'd hear in the same sentence—top-secret, codebreaking, Nazis... Dayton.

"She's probably just a nut case," my editor told me. "But maybe you should check it out."

I did, and came back to my editor and said, "Yes, she is a nut case... But I believe her, so I guess I'm a nut case, too."

The eventual outcome of that first meeting with Debbie Anderson was an eight-part series in the Dayton Daily News in early 2001 -- about her father, Joe Desch, the struggle to break the Enigma codes and the top-secret work inside NCR's Building 26. Three years later, there was a book on the topic and, thanks to Debbie and Aileen LeBlanc, a documentary film.

Last year, of course, we lost Building 26. Don't worry—I won't go there.

Considering all that has happened in the last eight years—the agonies and the ecstasies—Deb and I have indeed proven ourselves nut cases—but in service to a worthy cause.

I believe in heroes, and when they don't seek out the acclaim they deserve, I believe in them even more. Joe Desch, winner of the presidential Medal of Merit for his contributions during World War II, lived up to his oath of secrecy, and took his achievement to the grave.

His invention, the NCR Bombe, helped break the Nazi codes and hasten an end to history's most devastating conflict. The documents to prove it weren't declassified until 50 years later—nearly a decade after his death.

Like many engineers locked in the mental combat of codebreaking, Joe Desch suffered a breakdown from which he never fully recovered.

Once asked a psychiatrist who specializes in personality assessments why this seemed to be an occupational hazard. He told me it was simple—engineers are imbued with a



*Joseph Martino (left) poses with Debbie Desch Anderson and Jim DeBrosse and certificate of Joseph Desch's enshrinement in the Engineering and Science Hall of Fame. (Photo by Dick Palmer.)*

strong sense of duty. And when much is expected of them, they demand even more of themselves. In Desch's case, perhaps too much.

But Joe Desch was far from a melancholy man or even, God forbid, a nerd. He smoked two packs of Chesterfields a day, swore like a sailor, enjoyed his martinis when the long working day was done, and still managed to go to church every Sunday morning.

And Joe was a superb ballroom dancer.

Can I call him Joe? Of course I can. He would have insisted on it. As chief of electrical research at NCR and, later, as one of its executives, he was still the son of a hardworking wagon maker—just "Joe."

Even if his war-time achievements had never been discovered, Joe Desch would have earned the honor being bestowed upon him here tonight.

- As the inventor of the first miniature gas tubes able to count a million pulses per second.
- As the chief designer of the world's first electronic calculator.
- As a visionary who foresaw the Computer Age when it was still deep in its infancy.

Joe was an engineer's engineer. He wasn't satisfied just to conceptualize and design a thing and let others build it. He had to get his hands on it, take it apart, tweak it, and put it back together again. Like the Wright brothers before him, he was a master tinkerer. Each of his delicate miniature tubes he hand-crafted himself—blowing the glass, looping the tiny filaments, injecting the gases.

I believe if Joe were here today he would be both humbled and grateful—as a man who held his Dayton colleagues in high esteem. He would have accepted this award with grace, and brevity, but then loosened his tie and said, "All right, guys. Let's go have a drink."

We hear you, Joe. So let's get on with it. And may God himself toast you for all that you've done.