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UW-Eau Claire student helps preserve supercomputing history

**Story by UW-Eau Claire**

Inspiration comes in surprising places sometimes, and for Dylan Helwig, a senior history major at the University of Wisconsin-Eau Claire, the inspiration to pursue a college degree as a 23-year-old came in part from his grandfather.

Helwig, who went straight into the workforce and then the Army after high school, had a conversation with his grandfather before his death that really stuck with him. He says it’s a big reason he enrolled as a history major.

“I said, ‘Hey, Grandpa, is there anything you really wish you had done in your life that you didn’t get to do,'” says the Chippewa Falls native. “He said he wished he had learned to fly an airplane.”

At that time, Helwig was weighing his options for higher education, thinking perhaps trade school to be a machinist or draftsman was the best choice given his experiences. However, when he remembered his grandfather’s one regret, he changed his mind.

“My grandpa never did learn to fly, which was a shame, but I could make the choice to pursue my passion for history,” Helwig says. “I enrolled at UWEC with a major in history and a minor in Native American studies. With my credits through the Army, I’ll be graduating in December after 3 1/2 years.”

**A research project that pays respect to his co-workers**

In addition to his student status, Helwig works full time for Hewlett Packard Enterprise (HPE) in Chippewa Falls. In 2019, HPE acquired longtime supercomputing leader Cray Inc., founded by Seymour Cray in 1972. Cray is credited with building the first true supercomputer, Cray1, in 1976.

In his time with HPE, Helwig says he has enjoyed reviewing historic company documents about Cray history, and hearing the personal stories of his coworkers, some of whom worked on those early breakthrough Cray models. Helwig says he began to see major gaps in the history, which prompted him to act.

“In reading the impressive history of the company and the creation of the first supercomputers, what was missing was the workers — there were few if any references to the plant workers who created these machines, most of whom were women. I decided to seek out, document and share their stories,” Helwig says.

Helwig had not previously done an in-depth research project, and he turned to Dr. Joanne Jahnke-Wegner, assistant professor of history. Helwig’s project idea was to conduct interviews and create an oral history archive of these workers’ experiences.

“I enthusiastically agreed to mentor Dylan on this,” Jahnke-Wegner says. “Dylan's project is an important one because very little is known about the experiences of women in industrial computer manufacturing. Much recent historical scholarship features women on the software end of things, including coding, but historians have yet to understand the work that women performed on the factory floor.”

With Jahnke-Wegner’s guidance, Helwig has set out to answer questions like why women were chosen for certain types of work and not others, and what were the experiences of women working in what was fast becoming a male-dominated profession.

"The feedback I've gotten so far from the interview process has been really positive," Helwig says. "These women are excited to share their stories. They're proud of the work they did and I'm very proud to be able to shine a light on their contributions to major breakthroughs in computer technology."

As his summer project reached the halfway point earlier this month, Helwig took some time to share a few specifics of his research, his methodology and his goals in completing these oral histories. Learn more about the project in his responses to our questions below.

**Research Q&A with Dylan Helwig**

**How many of the nine scheduled interviews have you been able to complete so far?**

I've completed four interviews so far, with five narrators. Each interview was different, based on the work that person did, though the questions followed some general themes.

**How are you defining “oral histories” for the purpose of this project?**

For this project, oral histories are defined as the collection of workers’ personal experiences with Cray computing — all interviews are being recorded, and I will be creating a transcript for each. Most of their experiences are missing in the historical record, and I think they deserve to be remembered.

**Can you share any overall summary experiences that you’ve seen so far?**

The first major recurring theme that pops out is that women predominated manufacturing, and this was largely justified through beliefs that they had greater hand dexterity than men. Another topic that comes up frequently is that women liked working for Cray; they were paid well, and even other businesses recognized the reliability of Cray employees to make payments on financing things like car loans.

On the downside, I am seeing a bit of a divide between workers. White collar workers were held at a higher status and got more recognition, but the women in the wiring room were considered lower in status and weren't invited to events like shipping parties when the finished supercomputers were sent off to the customers. There were certainly inequities.

**How has what you’ve learned in this project made you feel, both as a historian and as a person currently working in this field, who cares about workplace equity and fair representation?**

So far, it's left me feeling conflicted. On the one hand I can see continuity between the old days of Cray and today. The manufacturing staff are still considered lower status in general, and women still compose the majority on the manufacturing side. When I first started years ago at HPE, I was one of only three men in the build division. Women also dominated cabling, but over the past few years, we have seen a lot more men join each area.

**Though you have more interviews to complete, what would you say are the most important lessons for businesses/employers to take from Cray history?**

I think one of the most important lessons for businesses to take away is to listen to *all*employees and cultivate internal talent. Cray had projects where you could advance into engineering without a degree; they were called “Cray engineers.” One of the narrators I interviewed had a similar experience. She started in machine wiring and later moved up to prototype work on the Cray YMP supercomputer. Another story came from the Cray history archives, with a woman named Sonja Gardner who recommended that they hang the wiring tools from the ceiling to prevent damage — a practice still utilized today (pictured at the top of the story).

**What are your plans after graduation in December?**

Nothing is concrete at this point, but I'd like to find work in an archive or museum, at least something involved in history.