BOUNDless

Front cover:

Inspired by the Traub-McCorduck Enigma machines, IDeATe students in the Spring 2018 Rapid Prototype Design Class built cipher machines to encrypt communication. Pictured is a plugboard created by students in that course. View images of other projects from the course that were showcased at the Spring Meeting of the Minds event. Visit 🔗 **tinyurl.com/ideate-enigma**

Back cover:

A three-rotor Enigma machine is one of two WWII Enigma machines recently gifted to the Libraries by author Pamela McCorduck. Thanks to the generosity of McCorduck, wife of the late Computer Science Department Head Joseph Traub, more than 50 calculating machines, letters, and other important items in the history of computing have found a home in the Libraries' Fine and Rare Books Room.

Keith G. Webster, *Dean of University Libraries*
Erika Linke, *Associate Dean*

Contact the Dean's Office
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Julia Parsons

Julia Parsons is a 1942 general studies graduate of Margaret Morrison Carnegie College who went on to work as a WWII codebreaker. We recently sat down to record her oral history.

Julia Parsons remembers exactly where she was on Sunday, Dec. 7, 1941. The Carnegie Institute of Technology (now Carnegie Mellon University) student was driving along Ardmore Boulevard, near her parents' Forest Hills home, on her way to deliver a birthday present to a friend when she heard the news on the car radio.

"And I thought, 'Where the heck is Pearl Harbor?'" said Parsons. "I had never even heard of Pearl Harbor. And it never dawned on me how it would change our lives so completely, but, of course, it did."

The surprise attack on the Hawaiian naval base drove the United States into World War II. It also propelled Parsons into a job with the U.S. Navy as a codebreaker, which she recently discussed with Assistant Archivist Kate Barbera for the University Archives' Oral History Program.

Even her April 1942 graduation from Carnegie Tech was impacted.

"They pushed us ahead a month because the Army wanted our ROTC men," Parsons said. "And so they eliminated our final exams that year."

The ceremony was notable not just for its early date, it also was a family affair. Her sister, Louise Potter, received her master's degree in social work from Margaret Morrison. It also marked the final Carnegie Tech commencement

for their father, Howard G. Potter, who retired from his position as an instructor in the Machine Shop.

After graduation, Parsons trained at Smith College for the Naval Reserve program for women, also known as WAVES (Women Accepted for Volunteer Emergency Service), studying ships, naval history, physics and teletype training before receiving her assignment in Washington, D.C.
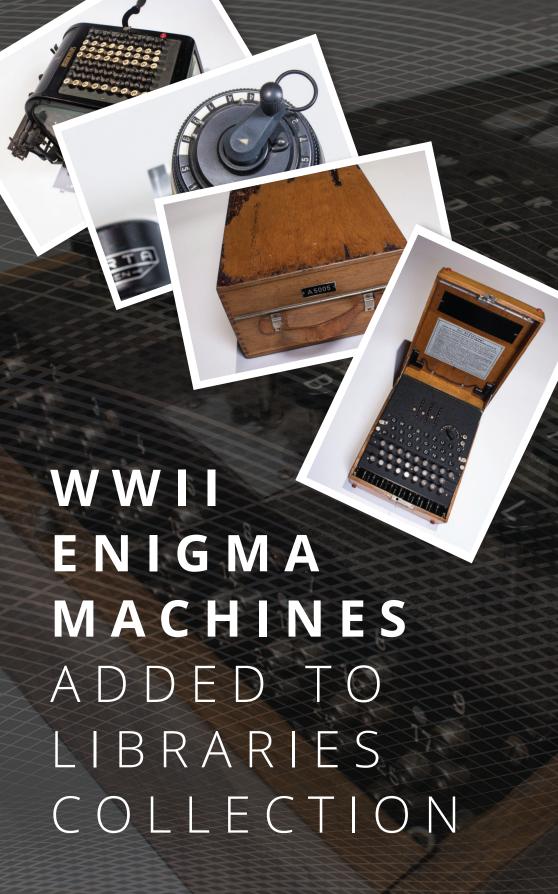
In D.C., Parsons worked with other WAVES to track, transcribe and attempt to solve coded messages sent to and from German submarines. During the war, the Germans used Enigma machines to encrypt their communications, allowing them to relay messages that couldn't be deciphered by Allied Forces. The work was often frustrating and the codes changed frequently. A routine weather report offered the biggest break.

"The Germans had gotten careless," Parsons said. "They didn't bother to recode like they should have done and they worded the message every night the same way, 'The weather in the Bay of Biscay until Sunday, Monday, Tuesday, whatever day, will be...' And that was enough to break the traffic."

After the war, Parsons travelled with her husband, spending time in London, eastern Europe, Japan and Pittsburgh, where she was a high school English teacher. None of her family members, including her husband, knew the details of her work with the Enigma machines until she told them in the 1990s, 30 years after her work was declassified.

"I had a really fascinating life. I really had no regrets," she said.

Listen to highlights from the interview at
tinyurl.com/juliaparsonscmu

WWII ENIGMA MACHINES

ADDED TO LIBRARIES COLLECTION

Crucial World War II encryption devices have found a home at the Carnegie Mellon University Libraries thanks to the generosity of author Pamela McCorduck, wife of the late Computer Science Department Head Joseph Traub.

Totaling more than 50 calculating machines, letters and books, the Traub-McCorduck Collection contains important items in the history of computing. Included are two Enigma machines, electro-mechanical rotor cipher machines used to encrypt communication. Most notably, they were used by Nazi Germany to protect military communication during World War II. With this gift, which includes one 4-rotor machine and one 3-rotor machine, CMU becomes one of a handful of American institutions to own an Enigma machine.

The items from the Traub-McCorduck Collection will be added to the University Libraries Special Collections. The University Archives, also housed in the Libraries, contains the papers of Traub and McCorduck, as well as noted computer science pioneers Allen Newell and Herb Simon, who worked alongside Traub in the department.

A pioneering computer scientist who led Carnegie Mellon's Computer Science Department during a crucial period in its history, Traub, who died in 2015, went on to found the computer science department at Columbia University. McCorduck is an author of influential books on artificial intelligence.

At the April 19th panel discussion, "From Enigma to AI: The Legacy of Pamela McCorduck and Joseph Traub at CMU," university leaders and special guests joined McCorduck to recount the academic achievements and philanthropic highlights of her extraordinary life with her late husband.

Panelists (pictured above) included Philip L. Lehman (CS 1978, CS 1984), Associate Dean for Advancement, School of Computer Science, who provided opening remarks; Keith Webster, Dean, University Libraries and Director of Emerging and Integrative Media Initiatives; Julia Parsons, WWII Codebreaker (MM 1942)

(read more about Parsons on page 2); Andrew Moore (P:CS 2021), Dean, School of Computer Science; Pamela McCorduck; and Mary Shaw (CS 1972), A.J. Perlis University Professor, School of Computer Science.

At the end of the event, Webster announced that this summer the Libraries would welcome Andrew McGee to begin a two-year CLIR Postdoctoral Fellowship in the History of Science and Computing. McGee, who completed his doctoral work at the University of Virginia, comes to the Libraries from the Library of Congress, before which he was a visiting professor in the History department at CMU. McGee will bring his focus on the history of science and technology to work to popularize the components of the McCorduck gift and related materials in the archives.

After the "Enigma to AI" panel discussion, Libraries supporters attended a small reception in the Fine and Rare Books Room at Hunt Library to view the collection and hear remarks from McCorduck, Webster, and Carnegie Mellon University President Farnam Jahanian.

View an online gallery of additional highlights from the collection at
🔗 **tinyurl.com/traub-mccorduck**

Watch a recording of the panel discussion and view photos from the panel and reception at 🔗 **tinyurl.com/enigma-to-ai**

Archives Acquire William H. Putch Materials

The William H. Putch Collection, recently donated to the University Archives, includes items from the alumnus' work as a theater professional.

A collection of materials from Carnegie Mellon University alumnus William H. Putch documenting his career as the artistic director of the Totem Pole Playhouse has been gifted to the Carnegie Mellon University Archives by his daughter, Pamela Putch, and son, John Putch.

Under his 30 years of leadership, the Playhouse, in central Pennsylvania, developed a large subscriber base that was hungry for professional quality theater. Putch, who graduated from CMU's College of Fine Arts in 1949, ran the Playhouse from 1954 to 1983, directing over 300 productions, many starring his wife, Emmy Award-winning actress Jean Stapleton from the classic TV series "All in the Family." It was during his tenure that the Playhouse came to national prominence.

His Totem Pole Playhouse production photo albums from 1954 to 1983 feature many CMU classmates and alumni. Along with press books, programs and posters, the donation includes journals on his approach to theater producing.

The years Putch spent at Carnegie Mellon are represented by scripts and sketchbooks for productions by CMU's Scotch and Soda theatre organization. Also included is a self-portrait that was painted in 1946 backstage at the Kresge Theater. In addition, his years at the Pittsburgh Playhouse as an actor and head of

the school are documented in clippings, photos and programs.

"We are thrilled to place these archives in the institution that was our father's inspiration and artistic beginnings," said Pamela Putch, a 1981 graduate of CMU's School of Drama.

Sixty-four years ago, in February 1954, Putch answered an ad in Theater Arts Magazine searching for a "high class theater director" to head the three-year-old Totem Pole Playhouse in south central Pennsylvania. He gathered a few of his college classmates and drove four hours east to meet with the Theater Board Chairman. This trip would begin a life's work in the theater for the Pittsburgh native. Over the next 30 years, he produced, directed, acted and guided this theater to great acclaim, earning it the nickname of the "Cadillac of Summer Theaters."

"The William H. Putch Collection will be an excellent resource for students and researchers interested in regional theater in Pennsylvania. It also helps document a unique time at Carnegie Tech, when a large group of veterans returned to campus after the war," said University Archivist Julia Corrin.

The items can be viewed by appointment in the University Archives Monday, Wednesday and Friday, 1 - 5 p.m., and Tuesday, Thursday 9 a.m. - 1 p.m.

Pamela Putch (A 1981) and John Putch review the materials of their father and former director of the Totem Pole Playhouse William H. Putch, with University Archivist Julia Corrin (center).

IT'S ALIVE!

Grad Students Revive Frankenstein

Three Posner Interns bring the monster, Mary Shelley's prose, and, most importantly, the ideas of "Frankenstein" to life for 21st Century audiences.

BY DANIEL HIRSCH

In 1818, Mary Shelley imagined a monster in her novel "Frankenstein" that has captivated readers and spawned countless cultural resurrections over its 200-year history. In 2018, Carnegie Mellon University graduate students in English Steven Gotzler, Jack Quirk, and Avery J. Wiscomb have imagined a way to mark the novel and monster's bicentennial.

In May, the efforts of their semester-long Posner Internship culminated in the opening of "The Frankenstein Complex," a gallery show highlighting "Frankenstein"-related items from the Posner Memorial Collection of rare books. Gotzler, Quirk, and Wiscomb—all students in the Dietrich College of Humanities and Social Science's Department of English—hope the exhibit will make attendees appreciate how questions of Shelley's novel relate to our own historical moment.

"We're interested in dealing with the legacy of the text broadly speaking and to join it up to the research happening at CMU," Gotzler said. "We want to tell a different story that isn't purely cautionary."

Towards this aim, the trio have curated the show with artifacts connected to Shelley's work— including the original 1818 edition of the novel— alongside items from the history of science, political thought, and literature that may have inspired Shelley as well as objects from the scientific and technological history of CMU.

"The idea here is to reframe the idea of a monster created by humans not as a menace but a solution," Wiscomb said. "We're exploring what ideas do we get from what we're calling 'the Frankenstein Complex'— a human-created force derived from nature?"

As the show's curators, Gotzler, Quirk, and Wiscomb have divided the Posner Center's gallery cases into six displays organized around the novel's most salient themes: creators, ethics, minds, bodies, nature, and revolutions. Each display contains historic and contemporary content.

With the supervision of the Posner Center's Special Collections Librarian Mary Catharine Johnsen, the team has united objects such as artist Barry Moser's large-scale woodcut prints from his 1994 edition of "Frankenstein" alongside elastic electronics, or "smart tattoos," engineered by CMU's Carmel Majidi, an associate professor of mechanical engineering, and transgenetic specimens from the Center for Post-Natural History, a public-arts initiative established by CMU School of Art Professor Richard Pell.

The exhibit coincides with several initiatives that examine the cultural legacy of "Frankenstein" on its 200th anniversary, including "Project Frankenstein," a VR experience from students at CMU's Entertainment Technology Center.

"The Frankenstein Complex" is on display through November 30, 2018 in the Posner Center.

Insight

This issue of "Boundless" celebrates a number of exciting events in the University Libraries during the first months of 2018. In these pages, you'll learn more about a wonderful gift of rare books, pre-digital calculators and computing machines, including two Enigma machines, that track the development of computers from the 19th century writings of Charles Babbage to the Power Mac G4 Cube. Read about our celebrations of the 200th anniversary of Frankenstein, and how its themes are reflected in 21st century scholarship at CMU. And find out how we help highlight the best of CMU faculty research by supporting open access publishing.

Showcasing the history of computing. Discussing themes from a 200-year-old work that remain relevant today. Ensuring the continued accessibility of CMU scholarship. All of these activities coincided with the 60th anniversary celebrations of National Library Week. This year's theme, "Libraries Lead," reminds us of our duty to Carnegie Mellon. It's our responsibility to lead students and faculty to the best possible information resources, whether in print or online, in our Archives or in our classrooms.

It's a mission one could imagine that Andrew Carnegie would appreciate. As the de facto architect of the American public library system, he donated over $40 million to fund more than 1,600 libraries across the country. While the libraries of Carnegie's era featured different research tools (fewer touch screen devices, I presume) than our locations in Pittsburgh and Qatar, the goal remains the same: lead our users to information. In an age of information overload, our specialist faculty train students to evaluate and use information effectively, supplying them with the skills to succeed as students and prepare for their future careers. Transforming lives every day, the University Libraries provide access to the resources and services our community requires to thrive. Doing so is made possible by your encouragement and support, for which we are truly grateful.

Keith G. Webster
Dean of University Libraries

Library Fund Enables Open Access Publishing

The Libraries' Article Processing Charge (APC) Fund supports the open access publication of a new volume from Dietrich College professor Jay Aronson.

A new book, "New Technologies for Human Rights Law and Practice," from Dietrich College faculty member Jay Aronson will be published open access, thanks to support from the University Libraries' Article Processing Charge (APC) Fund.

Aronson, Associate Professor of Science, Technology, and Society in the History Department, co-edited the volume with Molly Land of the University of Connecticut School of Law. The University Libraries hosted a book launch event with remarks from Aronson and Dean of University Libraries Keith Webster on April 26th in the Posner Center.

Open Access (OA) is a publishing model that facilitates discovery, broadens access, and increases use, citation, and impact of scholarly work by making research literature freely available online. OA publishing was also a personal priority for Aronson and Land, who approached their respective institutions for funding for the publication fees associated with OA, also known as an Article Processing Charge (APC).

"Supporting faculty and graduate student researchers to make their research widely accessible is the goal of the APC Fund," said David Scherer, Scholarly Communications and Curation Consultant with the University Libraries. "By tearing down those traditional paywalls, we can ensure that the work is available to anyone with access to the Internet."

Aronson's book has OA gold status, which means that the final published version of the work is freely available on the publisher's website immediately upon publication. It is also available for free download and online reading on Carnegie Mellon's institutional repository, KiltHub.

"The fields of human rights, anthropology, and development studies have often been extractive industries in which academics have taken the stories of marginalized peoples and turned them into inaccessible publications that remain locked up in academic libraries or behind unaffordable internet paywalls," Aronson said. "We did not want to reproduce that situation with this edited volume. It would have been highly ironic to publish a book with this message that was inaccessible to the vast majority of the world."

Open Access publishing is a strategic priority for Carnegie Mellon. In 2007, the CMU Faculty Senate passed an Open Access Resolution strongly encouraging the faculty to provide open access to their work. The University Libraries has offered the APC Fund since 2013, during which time it has supported 106 publications.

"University Libraries has been at the forefront of the OA movement and I knew that they offered some funding for the payment of publication fees associated with articles in OA journals," Aronson said. "I only had to make the case once—the Library was amazing about agreeing to support this project. My co-editor's inquiry at the University of Connecticut was received equally well, suggesting that universities see this as a winning proposition in the long-term."

"New Technologies for Human Rights Law and Practice" is available for free download and online reading on KiltHub

🔗 tinyurl.com/aronsoncmu

Snoozefest Creators Dream Up Musical Experience

Carnegie Mellon University students and faculty recently hosted an overnight musical experience that put many to sleep.

Snoozefest, the first overnight musical performance at CMU and in the Pittsburgh area, took place in the College of Fine Arts' Alumni Concert Hall, filled with sleeping bags, blankets and pillows. About 50 attendees had reserved sleeping spaces for the performance at 11:59 p.m., and about a hundred more spectators filled up the standing room to get in on the experience.

Snoozefest was the brainchild of Golan Levin, associate professor of Art and director of the Frank-Ratchye Studio for Creative Inquiry, who approached Lance LaDuke and Jesse Stiles, directors of the Exploded Ensemble course, with the idea of hosting an overnight concert that embraced the idea of the audience falling asleep. In collaboration with Olivia Robinson, instructor of CMU's Inflatables & Soft Sculptures course, they embarked on Snoozefest and the creation of a three-dimensional experience. Both the Exploded Ensemble and Inflatables courses are part of CMU's Integrative Design, Arts and Technology network, also known as IDeATe.

Stiles, an assistant professor of music, recalls studying classical music in India and listening to performances in temple courtyards at night, where it would be commonplace to bring pillows and relax.

"It was a dreamlike and immersive experience," Stiles said, "where people would wake up intermittently and see the stars."

The event kicked off with hour-long sets by guest artists Lesley Flanigan and R. Luke DuBois, after which 11 student musicians and composers from CMU's Exploded Ensemble, a hybrid group that fuses traditional orchestral music with experimental, electronic, multimedia and non-Western approaches to live music took the stage. Each set transitioned slowly into the next, ensuring the continuous experience of sound throughout the night.

The visual counterpart to this dreamlike experience was the inflatable structure made by Robinson and her students.

"We wanted it to be a spatial experience that would be other-worldly and pique curiosity," Robinson said.

The inflatable, shaped out of a 150-yard-long and 5-feet-wide tube, was conceptualized jointly by the students and took a month to construct.

David Perry, a first-year physics major, said the class took into consideration how the musicians would be playing within the space and how the audience would interact with the space.

"The inflatable form matched with the goal of the project to explore sleep and dreams, and we were able to create a surreal unique space that really matched with the event," Perry said.

As the event drew to a close, the skylight in the concert venue began to fill the room with light, and a brass ensemble outside played with increasing intensity, rousing the participants out of their slumber and signaling the concert's end.

Lecture explores Blockchain in the Library

Speaking at the Gloriana St. Clair Distinguished Lecture in 21st Century Librarianship at CMU-Q, Jason Griffey makes the case for Blockchain in libraries.

Speaking at Carnegie Mellon University in Qatar on February 21, 2018, Jason Griffey discussed how Blockchain, the much-hyped technology behind the cryptocurrency Bitcoin, can be adapted to improve the way libraries store information. Griffey is an affiliate fellow at the Berkman Klein Center for Internet and Society at Harvard University, and the creator of The LibraryBox Project, an open source portable digital file distribution system.

Griffey opened his lecture by describing that new technologies like Blockchain can suffer from excessive hype that leads to inflated expectations. Once the hype calms down and researchers and developers see the technology in a more realistic light, they can find sustainable and productive applications. Griffey argues that Blockchain is moving into this stage of productivity.

John O'Brien, associate dean of CMU-Q, said, "Blockchain is a fascinating topic, and Jason Griffey has a very interesting perspective as a librarian who works on technologies that provide open and robust access to information. Decentralization technologies can influence many parts of society, well beyond cryptocurrencies that make the news."

Looking forward, Griffey commented that there are many areas where Blockchain technology can change the way libraries store information. Griffey is the founder and principal at Evenly Distributed, a technology consulting and creation firm for libraries, museums, education, and other non-profits. One area of potential growth, he said, is digital provenance, with Blockchain allowing for an unalterable history of the possession or ownership of an object.

Griffey was speaking as part of the Gloriana St. Clair Distinguished Lectures in 21st Century Librarianship at CMU-Q. This series is named in honor of the dean of libraries emerita, who served as dean of Carnegie Mellon University Libraries from 1998 to 2013. Gloriana St. Clair dedicated her career to building the digital library of the future.

Watch the full lecture at
🔗 **tinyurl.com/griffeylecture**

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CARNEGIE MELLON UNIVERSITY LIBRARIES

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