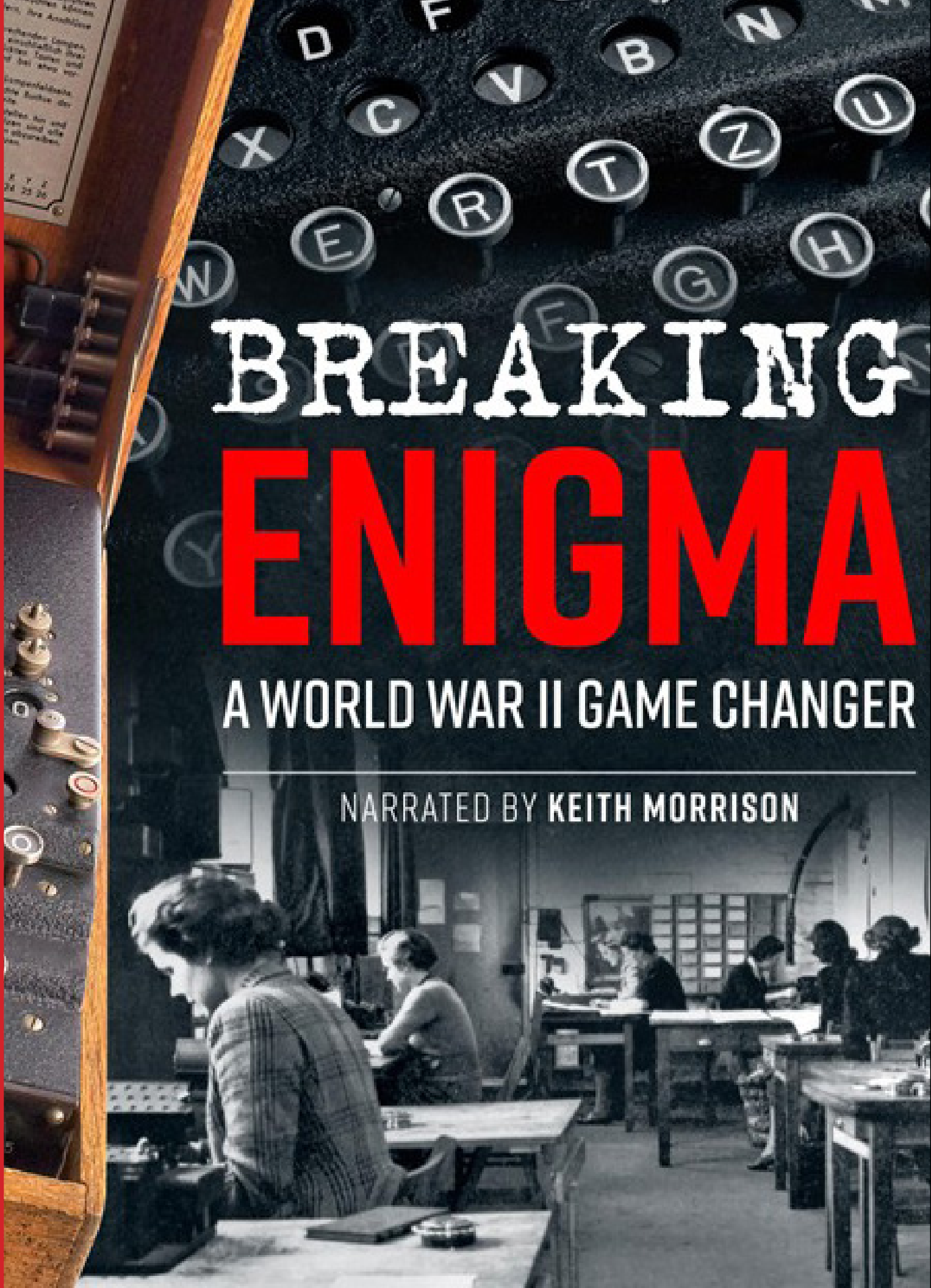
Discussion Guide



BREAKING ENIGMA

A WORLD WAR II GAME CHANGER

NARRATED BY **KEITH MORRISON**

JOURNEYS IN FILM™
educating for global understanding

BREAKING ENIGMA: A WORLD WAR II GAME CHANGER

Discussion Guide

For community screenings, panels, and workshops, and for college courses and seminars

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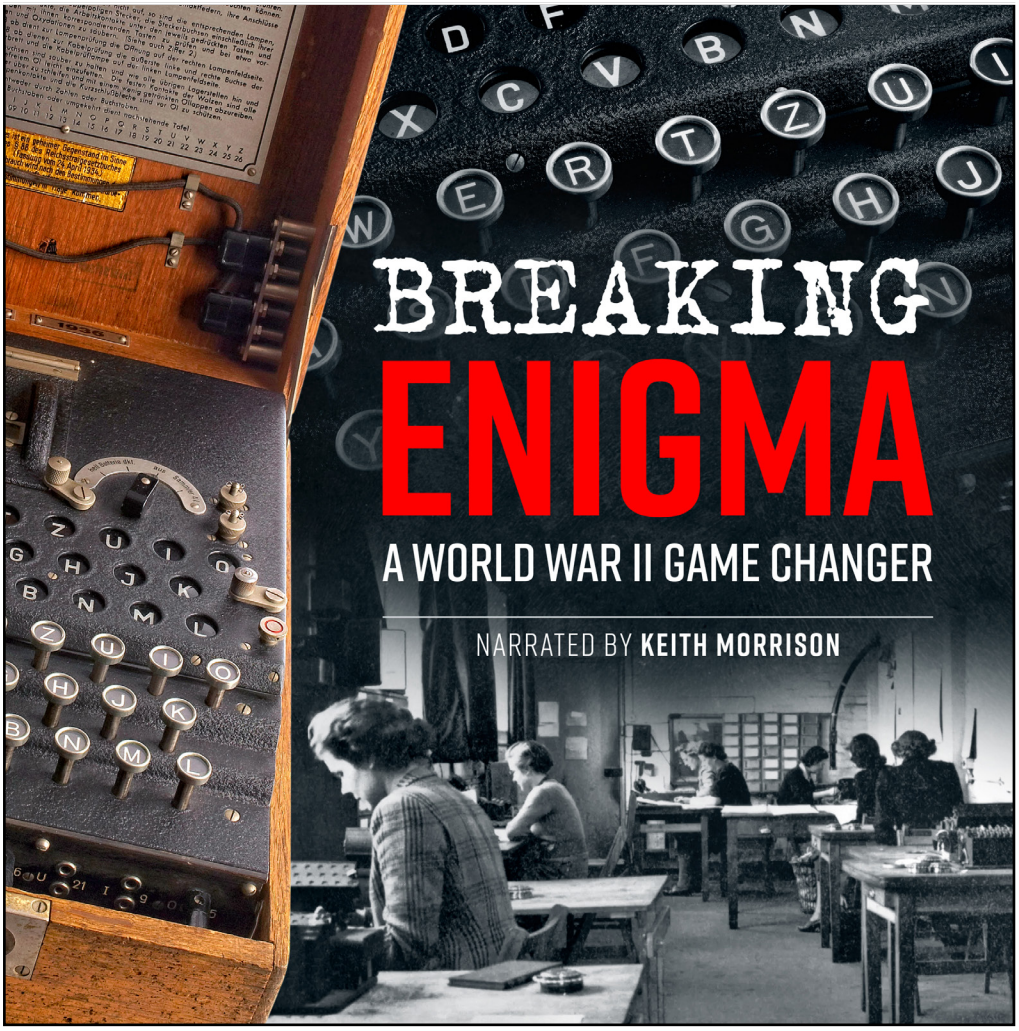
Facilitation Guidelines

Filmmakers use immersive storytelling to produce intense thoughts and emotions in the viewer. **Journeys in Film** uses this powerful medium as a springboard for meaningful dialogue around humanity's most pressing issues. In this guide, you will find suggestions for leading productive conversations that broaden perspectives, increase global competency, encourage empathy, and build new paradigms for education.

- When watching a film or having a powerful discussion, normalize taking breaks and exercising bodily autonomy. Acknowledge that conversations around complex topics can be vulnerable, complicated, and challenging. Encourage members to voice and do what is right for them without needing to explain or apologize.
- People do their best when they know what to expect. Start and end your meetings on time.
- Share or co-create your intentions for the meeting.
- Create your space. If possible, share snacks or find other ways to create an inviting, comfortable atmosphere.
- Create a trustworthy space. Maintain confidentiality and only speak to your own experience.
- Minimize distractions while you are together. Silence cell phones and devices so you can give your full attention to the conversation.
- Practice whole-body listening. Listen to words, tone, body language, and the feeling in the atmosphere.
- Acknowledge voices that may be absent. Is there a lived experience that isn't represented in your group? Who are the bridge people who might be able to connect you with other people in your community who might bring new perspectives to the table?
- Adopt an attitude of positive intent. If someone says something that bothers you, assume positive intent and ask for more information.
- Ignite your curiosity around other people's views and opinions. Listen to understand, not to respond. You don't need to agree with others in your group or make it known that you are "right" to have a worthwhile conversation.
- Words matter. Be open to learning and practicing new ways to communicate with others.
- Be clear, direct, and kind in your communication. Nobody benefits when you bottle your opinions.
- Everyone has blind spots and biases; cultivate a space of grace as you enter into new territory together.
- If a conversation gets heated, practice acknowledging the tension, pausing as a group, and taking a collective breath together before diving back in or taking a longer break to reset.
- Privilege your relationships with others over the content or agenda of the meeting. Show each other kindness.
- Create a closing ritual that celebrates the time you've spent together and either gives closure or gives members something to think about before your next meeting.

Introduction to the Film



"The pressure was intense, the stakes were high, and failure was not an option."
—Code Breaker of Bletchley Park

The documentary *Breaking Enigma: A World War II Game Changer* goes deep inside the top-secret, groundbreaking intelligence work that took place at Bletchley Park, outside London, during World War II. In a countryside manor house, ordinary men and women from all backgrounds came together to decipher secret military messages scrambled through Germany's complex Enigma machine. Through diligent work, collaboration, technological advances, and a diverse workforce, Allied powers were able to follow German war strategies and end the war earlier than if they had not had the intelligence.

The film highlights the innovative computing and technology of the counterintelligence effort started in Poland, headquartered in England, and eventually including the United States, as well as the emphasis on secrecy, teamwork, and cooperation. The film also draws connections to machine learning and artificial intelligence, and viewers track the long line of technological advancement brought about by war and applied in peacetime.

Letter from the WWII Foundation

Storytelling is at the core of the WWII Foundation, an organization founded in 2011 with a mission to raise awareness and appreciation, through film, of the many sacrifices made by American men and women in securing our basic freedoms. Humankind is hardwired to respond to "once upon a time," and the Foundation is singularly positioned to leaven the facts and statistics of history, bringing them to life through stories. Our goal is to instill the lessons the War taught us and make them accessible, relatable, and impactful at no cost to students, educators, veterans, or the public. We don't produce World War II films. We produce documentary films on individual personal stories from World War II. I think there's a significant difference.

We educate younger generations about the war. We do not approach this in the way WE think is best. We teach based on how students are learning and what tools they themselves are utilizing today to explore history, whether that be through strong visual storytelling in films that capture their attention and imagination or by utilizing new storytelling technologies such as Virtual Reality (VR).

We distribute much of this content through social media channels, as well as via traditional national and international television networks. We film all these documentaries, narrated by some of the biggest names in television, music, sports, and the movies, in the locations where the events unfolded during the war. Often, we bring back a veteran or survivor with us to where their own individual WWII story began and ended. Our studio is in Europe, the Pacific, and the Far East.

We hope these award-winning films, which rank among the top five most-requested programs nationally by PBS and its affiliates, will motivate not only students but also everyone to learn more about this critical period in world history. The lessons of which still strongly resonate today. We make all these resources available for free to anyone who wants to explore World War II's impact on the lives of those who lived through it.

- Tim Gray, Writer, Producer, and Director, The World War II Foundation and Tim Gray Media

To learn more about the WWII Foundation visit https://wwiifoundation.org/about/

Code Breaking in War

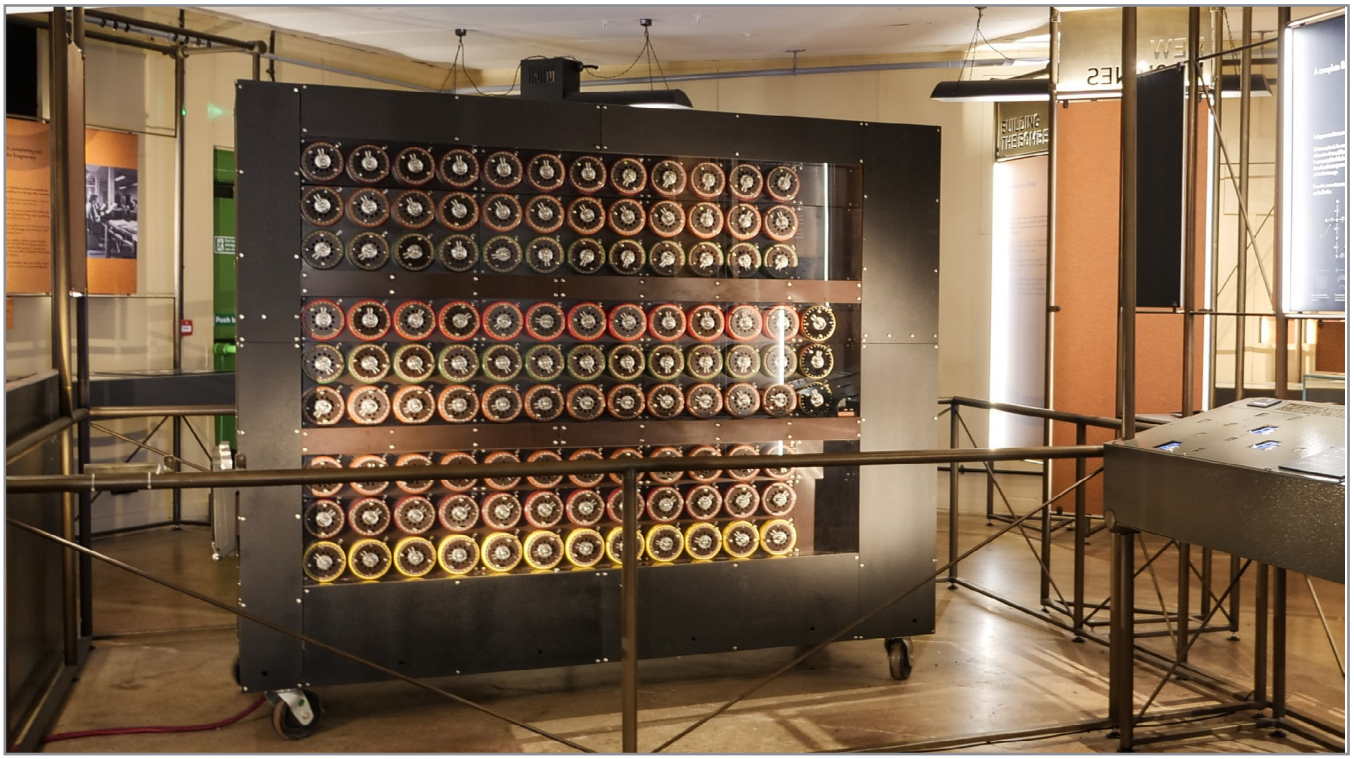


Image from Bletchley Park Trust via
https://newseu.cgtn.com/news/2020-05-09/Bletchley-Park-The-nerve-center-of-British-World-War-II-code-breaking-QiYr8qumHe/index.html

The history of cryptology and code breaking in war is long and rich. In the modern era, machines made encrypting and decoding astronomically more complex.

The German Enigma machine, developed at the end of World War I for commercial applications, was used by the Nazis extensively in World War II. Enigma had mechanical rotors and plugboard settings that created an estimated 150 trillion possible combinations daily, making manual decryption virtually impossible. Polish mathematicians were the first to break the Enigma code and share their knowledge with the British.

Alan Turing's Bombe machine, developed at Bletchley Park, was an electromechanical device that could systematically test thousands of Enigma settings per hour, far more than humanly possible. By exploiting German operational weaknesses and "cribs" (stock phrases that the Germans frequently used in their transmissions), the Bombe was a powerful tool for cracking Enigma codes. The faster code breaking, combined with human brain talent—primarily women—helped the Allies track German movements.

The Bombe, along with the Colossus, the first programmable computing machine, contributed significantly to D-Day's success and hastened the end of the war. Despite the decisive successes of these machines, the secrecy surrounding the project lasted for decades after the war. These wartime innovations laid the foundation for modern computing and cybersecurity.

Discussion Questions

1. How did the development of machines like the Enigma, the Bombe, and the Colossus transform encryption and code breaking from a manual process to one requiring advanced mechanical and electronic solutions? How might rapidly advancing technology alter a country's ability to attack or defend itself? What is the relationship of innovation to success in war?

2. How did Germany's overconfidence in the infallibility of Enigma, combined with repeated use of cribs (predictable phrases), and lack of collaboration across military branches, create vulnerabilities that Allied code breakers exploited? Why did the Germans believe the Enigma machine was unbreakable?

3. Turing's Bombe machine relied on human brain power for its analytical ability, conversational language skills, and linguistic analysis to create an effective code-breaking system. Why was human intelligence still essential even with advanced machines doing the computational work? Can you think of comparisons to today's tech landscape?

4. Why do you think secrecy about the work at Bletchley Park was maintained after the war? Do you believe that earlier disclosure would have advanced technology and computing at a more rapid rate?

Bletchley Park: An Ecosystem of Success

Bletchley Park, located 50 miles from London in the town of Bletchley in Buckinghamshire, became the British code-breaking headquarters when the agency relocated from London as the war began. The Victorian manor house employed a few hundred people from all backgrounds to do a variety of jobs, like mathematicians, support staff, and recruits who trained as code breakers. Because many men had been conscripted to the battlefield, 75% of the staff were women who held roles in all positions, from the top leadership to support.

Betty Webb, a code breaker whose knowledge of German was especially useful, described the "universal atmosphere" as everyone worked together for a common cause. Between 1939 and 1940, Germany invaded Poland, Denmark, Norway, Belgium, the Netherlands, France, and was looking to take England next. An urgency and commitment to the work were evident across rank and gender. Remarkably, the military leaders knew that the intense cognitive work being done by the staff needed sufficient recreation time. Bletchley hosted many clubs for sports, arts, and nature to allow the code breakers to restore themselves and build community.

In contrast, the film notes that the authoritarian Nazi regime took a different approach. Knowing that knowledge was power, competition between agencies flourished, and teamwork and cooperation were not encouraged. Plainly, innovation was seen as a threat to the regime.

Discussion Questions

1. How did the diverse backgrounds and the significant representation of women in intellectual work contribute to the success of code-breaking efforts? What advantages does diversity provide in approaching complex challenges?

2. How did the collaborative "universal atmosphere" described by Betty Webb differ from typical military hierarchies? Why might this approach have helped solve the challenges that were addressed at Bletchley Park during the war?

3. How did the Nazi authoritarian regime's emphasis on competition and suspicion of collaboration undermine their security and innovation? What does this reveal about the relationship between political approaches and innovation?

4. How does Bletchley Park's leadership approach of managing intense intellectual work by offering recreation activities compare to the modern understanding of productivity and mental health?

5. Which lessons from Bletchley Park—including diversity, collaboration, work-life balance, and shared purpose—could be applied to modern workplaces to enhance innovation, problem-solving, and community?

Historical Spaces as Primary Sources

From the archives of the National Cryptologic Museum

When we think of visiting sites significant to major wars, we might think of battlefields or places of attack and devastation. However, many sites critical to World War II in terms of intelligence work and home front support have been preserved as museum spaces that enrich our understanding of the war effort.

For instance, at Bletchley Park, visitors can view the machines used in code breaking, explore recreated workspaces, and study exhibits that contextualize the history, including interviews and oral histories with veterans. These sites employ cultural management strategies that rely on storytelling and spatial recreation, attempting to allow visitors to "time travel," even momentarily, into the past, creating powerful opportunities to make history both accessible and relevant to contemporary audiences.

Discussion Questions

1. What do you think the impact is of visiting a place like Bletchley Park, where visitors are invited to "step into history" through historically recreated spaces, compared to reading a text or watching a documentary? Have you been to other notable sites that conveyed history particularly effectively?

2. How might experiencing non-combat spaces, like an office or workroom, expand the idea of what a war hero is?

3. The artifacts, photos, diary entries, and letters of both leaders and ordinary people infuse history with humanity. What kind of emotional or relational connection might be felt with these types of artifacts compared to military weaponry? How can both be used to tell stories fully?

4. The Bombe machine at Bletchley is a working replica that took a team of builders twelve years to recreate. What impact do you think seeing the Bombe running has on visitors and historians?

5. Considering current issues around cybersecurity, surveillance, and information warfare, how might visiting these WWII intelligence sites shape our understanding and perspectives of contemporary issues?

The Legacy of Code Breaking in World War II

Source: National Archives and Records Administration

The documentary draws a compelling line from early 20th-century technological advancement to today's computing landscape. From the development of radar that allowed machines to talk to one another to Colossus, the first programmable computing machine, the DNA of artificial intelligence and quantum computing can be traced to the workshops and code-breaking offices at Bletchley Park in England and the U.S. Navy's cryptology department in Washington, D.C.

Wartime necessity drove innovation in computing, as well as the collaborative, interdisciplinary workshop environment that is still common in tech development hubs. As we move into an increasingly surveilled and digital world marked by rapid developments in artificial intelligence, questions around transparency and who controls information rise. It is worth considering the purpose-driven, collaborative workspaces of the code breakers for guidance as we continue to navigate fast-paced technological advancements.

Discussion Questions

1. Which specific innovations or concepts developed during wartime code breaking with machines like the Enigma, Bombe, and Colossus directly influence today's computing, AI, and cybersecurity systems? Why is it important to understand the full history of tech development rather than simply focusing on current applications? Can knowing the historical context of computing development change our perspective on contemporary digital issues?

2. Do you think artificial intelligence is more central to national security now than computing was during WWII? How do the global, interconnected digital lives of ordinary people complicate our ability to stay safe? How might we build guardrails for privacy and security when the private sector drives innovations?

3. How are the challenges faced by wartime cryptographers, like protecting sensitive information and detecting breaches, similar to current cybersecurity concerns? What lessons might we learn from the code breaking work of World War II that we can apply to today's problems, which are moving faster with machine learning and AI?

4. How can we connect wartime debates about secrecy, information sharing, and technological control to contemporary peacetime issues encompassing data privacy, surveillance, algorithms, and digital rights? What can we learn from how intelligence communities during World War II balanced security with collaboration?

5. How can we use the stories of wartime code breakers, like Alan Turing's mathematical applications or the many women who worked as code breakers, to support and encourage young analytical thinkers in computer science? What aspects of these historical narratives might resonate with students interested in technology?

Additional Resources

Timeline of WWII
https://wwiifoundation.org/timeline-of-wwii/

Visit Bletchley Park in Person
https://www.bletchleypark.org.uk/

Information about the rebuild of the Bombe machine
https://bombe.org.uk/top-secret-codebreaking-machine/

Fact check on the Oscar-winning film about Alan Turing and the Bombe Machine, *The Imitation Game*
https://time.com/3609585/the-true-story-of-the-imitation-game/

***Code Girls: The Untold Story of the American Women Code Breakers of World War II* by Liz Mundy**
https://www.hachettebookgroup.com/titles/liza-mundy/code-girls/9780316352550/

National Cryptologic Museum, United States
https://www.nsa.gov/museum/

Girls Who Code
Educational outreach to support girls in computer science
https://girlswhocode.com/

Crypto Club Project
Outreach program by the University of Chicago
https://cryptoclubproject.uchicago.edu/

Recent article about contemporary cryptology shifts in the Navy
https://www.usni.org/magazines/proceedings/2025/april/navy-cryptology-can-be-great-basics-again

Film Credits

DIRECTOR
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Jim Karpeichik

EDITOR, VIDEOGRAPHER
Jim Karpeichik

COMPOSER
Roger Cichy

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