



Impact Statement

Rebecca Zhang, Grade 8

The Double Life of Hollywood's Star, 2026

Colored pencil, pen on paper, 14 x 11 inches

Luckie Art Studio, Lexington, MA

Unsung Hero: Hedy Lamarr

Hedy Lamarr is often remembered as a glamorous Hollywood star from the “Golden Age” of film, but her most remarkable legacy lies far beyond the screen. I chose her as an unsung hero because her scientific contributions were overlooked for decades, even though they helped shape the technologies that we rely on and use every day. During World War II, she co-invented a communication system based on frequency-hopping spread spectrum, a method designed to prevent enemy forces from jamming radio-guided torpedoes. At the time, her idea was dismissed by the U.S Navy, and she received no credit or compensation for it. Years later, however, her innovation became foundational to modern wireless communication systems, including Wi-Fi, Bluetooth, and GPS - technologies that connect billions of people, enable global communication, and support everything from emergency services to navigation apps.

Biographies such as *Hedy's Folly* explain how she collaborated with George Anthiel to design the system. Records also document their invention in the form of figures, titled “Secret Communication Systems.” What I find most inspirational about Hedy Lamarr is her intellectual curiosity and determination to break stereotypes. She refused to be defined solely by her appearance or her career in film. Her story highlights the importance of recognizing talent in all its forms, and the dangers of dismissing people based on surface level assumptions. I also admire her persistence and creativity because even without formal engineering training, she still collaborated with others to develop a sophisticated system, which shows a willingness to cross disciplines and think differently, which is an important trait in any kind of innovation. As a role model, Lamarr represent resilience, hidden brilliance, and the courage to challenge expectations. Her legacy reminds us that impactful contributions don't always receive immediate recognition, but that doesn't make them any less important.

My vision for this piece is to show the hidden identity of Hedy Lamarr by contrasting how the world saw her with who she truly was. I wanted to challenge the idea that she was only a glamorous film star and instead highlight her as an intelligent inventor whose work had a lasting impact on modern technology. This drawing was to show a figure who exists in two worlds at once; Hollywood glamour and groundbreaking science, and to reveal the hidden brilliance behind the image people usually see. The foreground figure is grounded, focused, and active, where she's not just being admired, she's working, which shifts her from a passive Hollywood icon to an inventor and problem solver, which directly reflects her real-life character. In the artwork, the upper portion, where she reclines on the crescent moon, references her

public image—elegant, graceful, almost mythologized, but placing it above and slightly faded suggests that this version of her is more of a projection or black and white illusion. Meanwhile, the grounded figure below shows the other side of Lamarr: the inventive side engaged in innovation. That contrast communicates the message about hidden brilliance and breaking stereotypes, also showing that her true strength was her mind rather than her appearance. Her heroic actions are represented through the detailed background of patent-style diagrams inspired by her invention of frequency-hopping spread spectrum. These technical elements visually surround her, symbolizing how deeply connected she was to her work and how her ideas extended beyond her time. The music box-like mechanism, along with her in the foreground, represents both innovation and collaboration, connecting music and engineering, symbolizing creativity across disciplines and reinforcing the originality of her invention.

In terms of materials and techniques, I used colored pencils to create smooth blending and realistic skin tones, giving the portrait a lifelike quality. Fine line work was also used for the diagrams to imitate real patent drawings, adding authenticity. I also used layering and soft gradients in the background to unify the composition and transition between the two sides of her identity. The balance between detailed realism and technical illustration helps communicate both the human and intellectual sides of her story. My artwork is meant to show that Hedy Lamarr's true legacy lies not just in fame, but in her innovation and lasting impact on modern communication, encouraging viewers to look beyond appearances and recognize overlooked contributions. The story of Hedy Lamarr has shifted how I think about both creativity and recognition. One of the biggest takeaways for me is that meaningful contributions don't always get immediate credit, but that shouldn't stop someone from pursuing their ideas.

Going forward, I want to be more willing to explore different interests, even if they don't seem to "fit" together, the way Lamarr combined art and engineering. Her example also encourages me to question assumptions about people, and to look more carefully at what others might be capable of beyond first impressions. Her work with frequency-hopping spread spectrums also reinforces the idea that small or overlooked ideas can grow into something that impacts millions. That makes me more mindful about persistence and about valuing innovation, even at an early stage. In terms of sharing my artwork, I plan to present it in settings where it can both educate and start conversations. Even if these are small steps, the goal is to make more people aware of Lamarr's impacts and to highlight how creativity and intelligence can exist in unexpected places.