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**The Theranos Whistleblower
An Interview with Tyler Shultz**

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Introduction

In this [video case](#), Tyler Shultz recounts his experience as a recent college graduate in 2014, at Theranos, a medical technology start-up. After starting his job as a research engineer on the assay validation team, which was responsible for verifying the blood tests run on Theranos' Edison machine, Tyler noticed significant quality control failures. In the video, Tyler explains the issues he encountered and how he decided to blow the whistle on the company. He first expressed his concerns internally, but faced such hostility that he resigned from the company after eight months of employment. After Tyler left Theranos, a *Wall Street Journal* reporter, John Carreyrou, reached out to him and asked him about his time at Theranos. Initially, Tyler did not want to share his story, as his grandfather, George Shultz, was a board member of Theranos and did not support Tyler's claims. Ultimately, Tyler became an anonymous source for Carreyrou, despite hefty personal and financial costs.

The Medical Device Industry in California

The biomedical device industry was a key component of California's economy in 2014. Employment in California's pharmaceutical and medical device industry in 2014 totaled 270,000 workers; 5,000 jobs had been added between 2009 and 2013. Moreover, California led the nation in small business grants from the National Institutes of Health in 2014 (teamca.org). The state's medtech businesses attracted an estimated \$1.2 billion from venture capitalists in 2014 alone, more than the combined total received by the next nine highest states (Buntz and Newmarker).

A Brief History of Theranos

At the age of nineteen, Elizabeth Holmes dropped out of Stanford to start Theranos. The business model of the start-up was to create blood-testing technology that only required very small amounts of blood. Holmes first sought out investors who were connected to her family, and she hired Channing Robertson, a chemical engineering professor from Stanford, as an advisor and her first board member. By 2004, Holmes had raised \$6 million. The first prototype of the

Edison, a blood testing device the size of a desktop printer, debuted in 2007. In 2009, Holmes recruited Sunny Balwani, who had a background in software engineering and business, to be the president and chief operating officer of Theranos. A year later, after multiple rounds of funding, Theranos was valued at one billion dollars. (Theranos SEC filings can be found at this link: <https://sec.report/CIK/0001313697>.)

George Shultz, who served as secretary of state for President Ronald Reagan, served on the board from 2011-2015. Holmes was a close family friend of the Shultz family, and George Shultz helped Holmes attract board members with military and congressional backgrounds. In 2015, the Theranos board members in addition to Elizabeth Holmes, Sunny Balwani, and George Shultz were:

1. Bill Perry, former Secretary of Defense,
2. Henry Kissinger, former Secretary of State,
3. Sam Nunn, former U.S. Senator, who served as the chairman of the Senate Armed Services Committee and the Permanent Subcommittee on Investigations
4. Bill Frist, former U.S. Senator, heart and lung transplant surgeon
5. Adm. Gary Roughead, retired U.S. Navy Admiral,
6. Gen. James Mattis, retired U.S. Marine Corp General,
7. William Foege, former director of the Centers for Disease Control and Prevention
8. Dick Kovacevich, former Wells Fargo CEO and chairman, and
9. Riley Bechtel, former Bechtel Group CEO and Chairman of the board.

Holmes, and Theranos raised more than \$700 million from late 2013 to 2015, and the company was valued at \$9 billion, but Holmes had yet to explain in detail how the blood-testing technology worked. Notably, this level of investment was both more than similar technology startups and included many atypical investors. A November 2016 article in the *Wall Street Journal* identified Rupert Murdoch, then executive chairman of News Corp and 21st Century Fox Inc. and Riley Bechtel, then chairman of the giant construction firm the Bechtel Group among the investors. The article noted that it was unusual for such powerful men to make direct investments in startup companies (Weaver et al). Holmes also received significant media attention as a female CEO of a unicorn company, a start-up valued at more than a billion dollars. Also, women in Silicon Valley were hoping for a female unicorn company to succeed, given the lack of them. In 2017, only two of the 84 unicorn companies in the United States had female CEOs (Guzman).

In March of 2018, the SEC charged Holmes and the Company's former president, Sunny Balwani, with "raising more than \$700 million from investors through an elaborate, years-long fraud in which they exaggerated or made false statements about the company's technology,

business, and financial performance” (SEC). Holmes paid a fine, gave back stock, and is barred from being an officer or director of any public company for ten years. Balwani did not settle with the SEC, and in June of 2018, the US District Attorney for Northern California announced an indictment of Holmes and Balwani on wire fraud and conspiracy charges. Theranos ceased operations on August 31, 2018, and the company was dissolved. Elizabeth Holmes and Sunny Balwani will stand trial on criminal charges that they lied to investors and doctors about the start-up’s product capabilities in late 2020. The pair allegedly duped investors into funneling more than \$700 million into the start-up.

Tyler Shultz’s Role at Theranos

Tyler Shultz, the grandson of George Shultz, started as an intern at Theranos in 2013, between his junior and senior years of college at Stanford. While interning at Theranos, Tyler decided to change his major from engineering to biology because he was so taken with the mission of the organization. After graduating with a degree in biology, he started work full-time at Theranos, as a research engineer, but he quickly figured out that something in the diagnostic numbers wasn’t adding up. When Tyler sent information to the statistics team, knowing that it did not meet the validation requirements, it would mysteriously come back as validated. The lab and the validation reports were using different numbers to describe the same tests. He also figured out that Theranos was inaccurately telling other companies and the public about what its machines could do. No one knew how the machines actually worked. When inspectors came, they were not allowed into the room where the Theranos machines were testing blood samples. This was because Theranos was using third party equipment, rather than Theranos products, to analyze the vast majority of patient tests. Instead of immediately blowing the whistle, Tyler decided to bring up his concerns internally. He talked to Elizabeth and others in senior leadership positions in the company, only to be met with hostility. When Tyler tried to meet with Elizabeth a second time, she said she was too busy and that Tyler should write her an email. His email was returned by Sunny, in which he insulted Tyler and threatened him. Tyler also tried to explain to his grandfather what was going on, but his grandfather didn’t believe him. His parents urged him to quit but to say the reason for quitting was to get his PhD, so as not to make waves. Ultimately, after only eight months of working at Theranos, Tyler resigned in 2015. He was 23 years old at the time.

Originally, Tyler did not consider talking with a reporter. As John Carreyrou, the *Wall Street Journal* reporter, explains in his book, Carreyrou sent Tyler a LinkedIn message and asked if he wanted to talk to him about Theranos. Tyler decided to reach out to Carreyrou via burner phone, and he eventually became a central anonymous source for Carreyrou’s articles on Theranos.

In the two years that followed, Tyler had to defend himself against various legal threats from Theranos. He even had private investigators following him. Theranos's legal team tried to get him to sign several affidavits saying he had been talking to the *Wall Street Journal*, and they employed a variety of bullying tactics to convince him to do so. They also tried to convince Tyler to out other whistleblowers.

Throughout this whole ordeal, Tyler remained steadfast in his commitment to doing the right thing while also having the added complexity of his family's involvement in the company. His grandfather didn't believe Tyler when he came to him with his concerns, and his grandfather tried to broker a deal between Tyler and Theranos. All the while, Elizabeth Holmes continued to attend Shultz family functions.

Eventually, Carreyrou's reporting exposed Theranos for what it was: an elaborate corporate fraud. Tyler's family had to spend \$400,000 on legal fees to defend against Theranos's threats.

After leaving Theranos, Tyler worked at Stanford's Center for Magnetic Nanotechnology. Currently, he is the CEO and Co-Founder of Flux Biosciences Inc., a start-up that aims to bring medical grade diagnostics into the homes of consumers.

Video of Interview with Tyler Shultz

<https://www.scu.edu/ethics/focus-areas/business-ethics/resources/teaching-note-interview-of-theranos-whistleblower-tyler-shultz/>

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