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Theranos Whistleblower Shook the Company—And His Family

Tyler Shultz says he wanted to shield reputation of former Secretary of State George Shultz, a Theranos director and his grandfather; \$400,000 in legal fees

By John Carreyrou

After working at Theranos Inc. for eight months, Tyler Shultz decided he had seen enough. On April 11, 2014, he emailed company founder Elizabeth Holmes to complain that Theranos had doctored research and ignored failed quality-control checks.

The reply was withering. Ms. Holmes forwarded the email to Theranos President Sunny Balwani, who belittled Mr. Shultz's grasp of basic mathematics and his knowledge of laboratory science, and then took a swipe at his relationship with George Shultz, the former secretary of state and a Theranos director.

“The only reason I have taken so much time away from work to address this personally is because you are Mr. Shultz’s grandson,” wrote Mr. Balwani to his employee in an email, a copy of which was reviewed by The Wall Street Journal.

Mr. Shultz quit the same day. As he was leaving Theranos’s headquarters in Palo Alto, Calif., he says he got a frantic cellphone call from his mother, who told him Ms. Holmes had just called the elder Mr. Shultz to warn that his grandson would “lose” if he launched a vendetta against the blood-testing startup.

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—Theranos President Sunny Balwani to Tyler Shultz in a 2014 email

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Tyler Shultz, now 26 years old, was among several Theranos employees who tried to voice concerns inside the company about what they saw as troubling practices, and Mr. Shultz was the first to blow the whistle to a state regulator. He says he wanted to expose the problems to protect the health of patients and his grandfather’s reputation.

The elder Mr. Shultz, 95, was President Richard Nixon’s Treasury and labor secretary, the first Office of Management and Budget director, and secretary of state for President Ronald Reagan, with whom he had a close relationship. In 1989, Mr. Reagan awarded Mr. Shultz the Medal of Freedom, the U.S.’s highest civilian honor.

Using an alias, Tyler Shultz contacted New York state’s public-health lab and alleged Theranos had manipulated a process known as proficiency testing, relied on by federal and state regulators to monitor the accuracy of lab tests. That was

the first known regulatory complaint about Theranos's lab practices. In early 2015, Mr. Shultz began speaking to a Journal reporter as a confidential source.



Elizabeth Holmes, Theranos's founder and chief executive, in September 2015. PHOTO: DAVID ORRELL/GETTY IMAGES

Theranos accused him of leaking trade secrets and violating an agreement to not disclose confidential information. Mr. Shultz says lawyers from the law firm founded by David Boies, one of the country's best-known litigators and who later became a Theranos director, surprised him during a visit to his grandfather's house.

They unsuccessfully pressured the younger Mr. Shultz to say he had talked to the reporter and to reveal who the Journal's other sources might be. He says he also was followed by private investigators hired by Theranos.

The tension opened a rift in the Shultz family. While growing up, Tyler played in the pool at his grandfather's house, and he often dropped by the elder Mr. Shultz's home or his office at the Hoover Institution think tank while attending Stanford University.

In the past year and a half, the grandson and grandfather have rarely spoken or seen one another, communicating mainly through lawyers, says Tyler Shultz. He and his parents have spent more than \$400,000 on legal fees, he says. He didn't attend his grandfather's 95th birthday celebration in December. Ms. Holmes did.

“Fraud is not a trade secret,” says Mr. Shultz, who hoped his grandfather would cut ties with Theranos once the company's practices became known. “I refuse to allow bullying, intimidation and threat of legal action to take away my First Amendment right to speak out against wrongdoing.”

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Theranos and Ms. Holmes declined to comment for this article, and Mr. Balwani couldn't be reached. He left the company earlier this year.

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—Tyler Shultz about his ordeal after quitting his job at Theranos



The elder Mr. Shultz joined Theranos's board of directors in 2011. Former Secretary of State Henry Kissinger, former Secretary of Defense William Perry, and former Sen. Sam Nunn, all fellows with Mr. Shultz at the Hoover Institution, joined the Theranos board around the same time. They couldn't be reached for comment.

The unusually high-profile board gave Theranos an aura of power, connections and gravitas as it raised money from investors and developed the blood-testing devices Ms. Holmes touted as revolutionary.

After the Journal [published in October 2015](#) its first article detailing problems at Theranos, the company announced that all four men had been moved from the board of directors to a newly formed [board of counselors](#).

Tyler Shultz is cooperating with an investigation of Theranos by federal prosecutors, according to people familiar with the matter. Theranos is the subject of [criminal and civil investigations](#) by the U.S. attorney's office in San Francisco and the Securities and Exchange Commission, which are trying to determine if the company misled investors and regulators about its technology and operations. Theranos has said it is cooperating.

Mr. Shultz's allegations that Theranos's proprietary Edison machines frequently failed quality-control checks and produced widely varying results were corroborated in inspection results [released in March](#) by the federal Centers for Medicare and Medicaid Services. In April, Theranos told regulators it had [voided all test results](#) from Edison machines for 2014 and 2015, as well as some other tests it ran on conventional machines.

Theranos is appealing sanctions proposed by regulators, including a ban on Ms. Holmes from the blood-testing industry for at least two years. Last month, the company [shut down all its blood-testing facilities](#) and said it would focus on developing products that could be sold to outside labs, hospitals and doctors'

offices.

The younger Mr. Shultz and Ms. Holmes met in late 2011 while he was visiting his grandfather's house next to the Stanford campus. Tyler Shultz was a junior at Stanford majoring in mechanical engineering.



Former Secretary of State George Shultz at a Senate committee hearing in January 2015. *PHOTO: ANDREW HARRER/BLOOMBERG NEWS*

He says he “fell in love with her vision” of instant and painless blood tests run on tiny samples of blood collected from fingertips. “I knew I had to be part of this,” he recalls thinking.

Mr. Shultz interned at Theranos that summer and went to work there full-time in September 2013. He had just graduated after changing his major to biology to better prepare for a career at the startup, he says.

Theranos began [offering blood tests](#) to the public in late 2013. The company soon achieved [a valuation of \\$9 billion](#) from investors, with Ms. Holmes owning a majority stake. She also is chief executive of Theranos.

The new employee was assigned to the assay validation team, which was responsible for verifying and documenting the accuracy of blood tests run on Edison machines before they were deployed in the lab for use with patients.

Mr. Shultz says he found that results varied widely when tests were rerun with the same blood samples. To reduce that variability, Theranos routinely discarded outlying values from validation reports it compiled, he says.

One validation report about an Edison test to detect a sexually-transmitted infectious disease said the test was sensitive enough to detect the disease 95% of the time. But when Mr. Shultz looked at the two sets of experiments from which the report was compiled, they showed sensitivities of 65% and 80%.

That meant that if 100 people infected with the disease were tested only with the Edison device, as many as 35 of them would likely incorrectly conclude they were disease-free.

A few months later, Mr. Shultz moved to Theranos's production team, where he quantified by how much patient tests should be allowed to vary during daily quality-control checks. Under federal rules, labs are allowed to set those parameters on their own within the bounds of accepted industry guidelines.

He says he noticed Edison machines often flunked Theranos's quality-control standards. He says Mr. Balwani, the No. 2 executive at the company, pressured lab employees to ignore the failures and run blood tests on the machines anyway, contrary to accepted lab practices.

Mr. Shultz says he took his concerns directly to Ms. Holmes. When they met in early 2014, she encouraged him to talk to Daniel Young, a Theranos vice president in charge of biostatistics.

According to Mr. Shultz, Mr. Young said the differences with the sexually-transmitted infectious disease test occurred because some results fell inside an "equivocal zone," meaning they were unclear at first but clarified later through

other methods.

Theranos wouldn't make Mr. Young available for comment, and he couldn't be independently reached.

Mr. Shultz wasn't satisfied. In March 2014, he anonymously emailed his complaint to New York officials who administered a proficiency-testing program in which Theranos was enrolled.

The director of the lab's clinical-lab evaluation program replied that the practices sounded like "a form of PT cheating," using an abbreviation for proficiency testing. New York officials decline to comment.

After emailing Ms. Holmes in April 2014 about the allegedly doctored research and quality-control failures, Mr. Shultz heard nothing for several days.

Then Mr. Balwani's response arrived. It began: "We saw your email to Elizabeth. Before I get into specifics, let me share with you that had this email come from anyone else in the company, I would have already held them accountable for the arrogant and patronizing tone and reckless comments."

Ms. Holmes never replied, says Mr. Shultz, who decided it was time to quit his job. He says his mom called while he was on his way out and implored: "Stop whatever you're about to do!"

Mr. Shultz says he was startled. He went directly to his grandfather's office. George Shultz had his assistant photocopy the email from Mr. Balwani and put it in an office safe but seemed skeptical of his grandson's story, says Tyler Shultz.

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I am sorry if this email seems attacking in any way, I do not intend it to be, I just feel a responsibility to you to tell you what I see so

we can work towards solutions.

—Tyler Shultz in an April 11, 2014, email to Theranos founder Elizabeth Holmes

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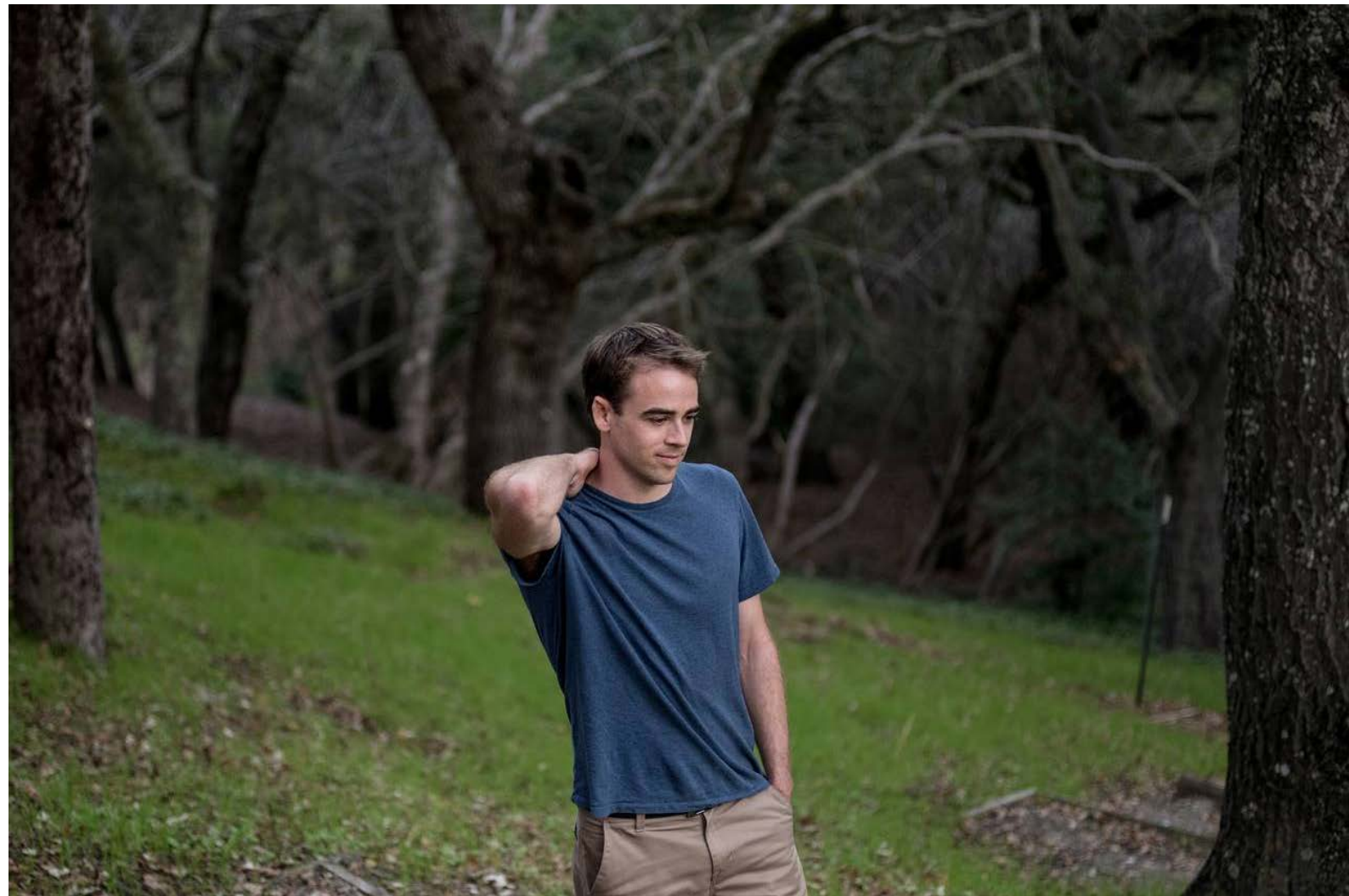
They agreed to talk again at Mr. Shultz’s house that evening. Tyler Shultz brought along a Theranos colleague who shared his misgivings, he says, but it felt to him like his grandfather’s allegiance to the company had grown.

As household staff served them dinner in the formal dining room, the elder Mr. Shultz said Ms. Holmes had told him Theranos’s blood-testing devices worked so well that they were being used in medevac helicopters and hospital operating rooms, Tyler Shultz recalls. He and his colleague knew that wasn’t true.

His grandfather urged them to move on with their lives. So Mr. Shultz did.

Seven months later, he and his parents showed up for Thanksgiving dinner at his grandfather’s house. Ms. Holmes was there with her parents. Over turkey and stuffing, they discussed California’s drought and the bulletproof windows on Theranos’s new headquarters as if nothing had happened.

Mr. Shultz listened awkwardly as Ms. Holmes stood up and gave a toast expressing her appreciation for every member of the Shultz family, he says.



Tyler Shultz near his home in Los Altos Hills, Calif., earlier this month. *PHOTO: JASON HENRY FOR THE WALL STREET JOURNAL*

In March 2015, Tyler Shultz was contacted by a Journal reporter through the professional network LinkedIn. He called the reporter several weeks later with a prepaid phone, reasoning it would be harder to track than a conventional mobile phone. They met at a Mountain View, Calif., beer garden in May 2015.

A few weeks later, Mr. Shultz was confronted by his father after arriving for dinner with his parents at their home in Los Gatos, Calif. His grandfather had called to say Theranos suspected he had talked to the Journal reporter. Theranos’s lawyers wanted to meet with him the next day.

He says he called his grandfather and asked if they could meet without lawyers. The elder Mr. Shultz agreed and invited his grandson to his house. The mood was tense but cordial, Tyler Shultz recalls, and he denied talking to any reporters. He says his step-grandmother was present during the conversation.

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We saw your email to Elizabeth. Before I get into specifics, let me share with you that had this email come from anyone else in the company, I would have already held them accountable for the arrogant and patronizing tone and reckless comments.

—Theranos President Sunny Balwani to Tyler Shultz in a 2014 email

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His grandfather asked if he would sign a one-page confidentiality agreement to give Theranos peace of mind. According to Tyler Shultz, when he said yes, his grandfather revealed that two lawyers were waiting upstairs with the agreement.

Michael Brille and Meredith Dearborn, partners at the law firm Boies, Schiller & Flexner LLP, then came downstairs, says the younger Mr. Shultz. Mr. Brille said he was trying to identify the Journal's sources. He handed the young man a temporary restraining order, a notice to appear in court and a letter signed by Mr. Boies alleging the former employee had leaked Theranos trade secrets.

Tyler Shultz says his grandfather protested to the lawyers that this wasn't what he and Ms. Holmes had agreed to earlier, but that Mr. Brille kept pressing the younger Mr. Shultz to admit he had spoken to the Journal.

He wouldn't. "This conversation needs to end," the young man eventually declared. He says his grandparents ushered the two lawyers out of the house.

"My recollections of the events are very different than Tyler's," Mr. Brille says. "Our engagement with Tyler Shultz was at the invitation of his grandfather George. We engaged with Tyler in an effort to understand the extent to which he had disclosed trade secrets to third parties."

An assistant to George Shultz said he “does not agree with Mr. Brille’s recollection.”

Tyler Shultz says his grandfather called Ms. Holmes to complain about how his grandson was treated, and they reached a compromise. It called for Theranos to deliver the one-page confidentiality agreement the next morning so he could sign it. Ms. Holmes was asked to send a different lawyer.

The next day, though, Mr. Brille returned with a new document that contained another surprise, says the younger Mr. Shultz. The document was an affidavit stating that he had never spoken to the Journal or any third party about Theranos. It also said he would pledge to name every current and former employee he suspected of having done so.

His grandfather told his grandson to sign it if it was true he hadn’t spoken to a reporter. The young man says he declined unless Theranos promised not to sue him.

With a pencil, the elder Mr. Shultz jotted a sentence at the bottom stating that Theranos wouldn’t sue his grandson for two years. Tyler Shultz says he told his grandfather that he wanted the company to promise it would never sue him.

After the elder Mr. Shultz and Mr. Brille conferred in another room, the lawyer agreed to the grandson’s condition, the younger Mr. Shultz says. By then, though, he had second thoughts and said he wanted his own lawyer.

His grandmother fished out a phone number for the elder Mr. Shultz’s longtime lawyer and gave it to her grandson. That afternoon, Tyler Shultz met with his grandfather’s lawyer and a partner at the same law firm and decided not to sign anything.

Mr. Brille warned that Theranos would have no choice but to sue Mr. Shultz, he recalls. He went home expecting to be summoned to court the next day. That

night, though, Mr. Brille sent an email to the elder Mr. Shultz's lawyer saying the company was holding off to give both sides more time to negotiate.

With advice from a new lawyer, Tyler Shultz began settlement talks with Theranos but couldn't persuade himself to accept the conditions sought by the company.

He says he was told by his parents that Ms. Holmes called the elder Mr. Shultz in the summer of 2015 to complain that their son was being unreasonable. Tyler Shultz says he also got a tip that private investigators were watching him.

In a conversation in his parents' kitchen, they pleaded with him to agree to whatever Theranos wanted, he says. Even though his heart sank when they discussed selling their house to cover the costs of defending him against a potential Theranos lawsuit, Mr. Shultz didn't make a deal with the company.

His parents said in a statement: "Tyler has acted exactly like the man we raised him to be, and we are extraordinarily proud of him."



Tyler Shultz says he hasn't seen his grandfather since July. PHOTO: JASON HENRY FOR THE WALL STREET JOURNAL

The younger Mr. Shultz says he stopped hearing from Mr. Brille and Theranos after [the Journal's first article](#) was published in October 2015. The article included a description of the regulatory complaint Mr. Shultz had filed under the alias Colin Ramirez but didn't identify him by his real name.

An assistant to George Shultz said he was unavailable to comment but “wishes you to know that he deeply loves and respects his grandson Tyler, is very proud of Tyler and all he has accomplished and will accomplish, and knows Tyler to be a man of great integrity. Mr. Shultz is deeply sorry that Tyler's experience at Theranos was so unsatisfactory for Tyler.”

After leaving Theranos, Tyler Shultz worked briefly for a biotechnology company and now is collaborating with [a team of researchers](#) to try to build a portable device capable of diagnosing a dozen diseases from a person's blood,

saliva and vital signs. The team is vying for a multimillion-dollar cash prize in the prestigious [Qualcomm](#) Tricorder XPrize competition.

Mr. Shultz visited his grandfather in July. They hadn’t spoken for seven months. He says he told his grandfather he was disappointed about not getting more support from him throughout the ordeal. He asked the elder Mr. Shultz to publicly distance himself from Theranos.

“I am pleading with you as your grandson,” Tyler Shultz recalls saying, “please do the right thing.” His grandfather, still on Theranos’s board of counselors, remained noncommittal. They haven’t seen each other since.

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By [JOHN CARREYROU](#)

Nov. 16, 2016 5:39 p.m. ET



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