



## “Bad Blood” - The Theranos Scandal – John Carreyrou

[00:00:06] Welcome back to the podcast, Bribe, Swindle or Steal. I'm Alexandra Wrage, and I am delighted to be speaking today with John Carreyrou. John is a two-time Pulitzer Prize-winning investigative journalist for The Wall Street Journal and, for our purposes today, he is the author of the excellent book on the Theranos Scandal, "Bad Blood: Secrets and Lies in a Silicon Valley Startup." The book is fascinating. John tells the slightly horrifying story of Elizabeth Holmes' manipulation of just about everyone as she perpetrated a massive fraud. Many of us cheered on this 19-year-old as she seemed ready to transform the way blood diagnostic work was done, building a company ultimately valued at US\$9 billion, but the extent of the deception is difficult to understand without reading John's book, based on more than three years of tenacious research. John, thanks so much for joining me.

[00:00:57] Thanks very much for inviting me.

[00:00:59] Why don't you start by describing the fraud that's right at the heart of this story?

[00:01:03] To understand the fraud, you need to know the basics of the story, and those are that Elizabeth Holmes dropped out of Stanford into her sophomore year when she was 19 years old in 2003 and founded a diagnostic startup that she called Theranos. The name of the company was a combination of the words "therapy" and "diagnosis." The reason was that her original vision was for a little wrist band that would have micro-needles that would prick your wrists and draw tiny quantities of blood and diagnose you with whatever ailed you and inject the appropriate drug to cure you. Of course, that was more science fiction than reality. She eventually pivoted to just the diagnostic part of the vision, which was to have a portable device that could do the full range of lab tests off a tiny pin prick of blood from your finger. She worked on that technology and built up this company over the ensuing ten years and, by 2014, became a star in Silicon Valley. Her company became valued at US\$10 billion. For a period of a couple of months, it was the most valuable private startup in Silicon Valley — more valuable than Uber or Airbnb or Spotify — and she had kept half the shares, so she was worth US\$5 billion at that point. She became known as the world's youngest self-made female billionaire. Where the fraud comes in is that, unfortunately, the technology that she and her company had worked on did not work. She had basically worked on three different iterations of the technology, the last iteration being what you called a "mini-lab device." When she went live with her finger stick blood tests in the fall of 2013, the mini-lab was just a prototype that didn't work at all. What she did at that point is that she dusted off the second generation of her technology, which was a device called the Edison, and she used that for a few of the blood tests on Theranos' menu. She did most of the blood tests — really, 240-some blood tests out of 250 — on the Theranos menu with commercial analyzers bought from other companies. One analyzer in particular she had Theranos employees hack and modify to try to adapt it to a tiny finger stick samples, which caused all sorts of problems with the reliability and accuracy of the tests. This great medical breakthrough that she had claimed she had achieved was actually smoke and mirrors, and behind the scenes, Theranos was doing most of the tests with regular equipment.

[00:03:37] Why do you think people were so eager to believe her? She had no science or very little science in her background. She had dropped out of Stanford, as you say. There were no peer-reviewed articles. No one was allowed to get a look at the technology, and yet, people bought in.

[00:03:54] Several things account for it. One is that she was incredibly charismatic and intelligent and also passionate, I think, in a way that was partly honest about wanting to get this technology working. I think this intelligence and passion and charisma helped her essentially hoodwink all these older men, who championed her and supported her. By the time she became famous, her board was stocked with these aging ex-statesmen, such as the former Secretary of State, George Shultz, who crafted the Reagan administration's foreign policy during the Cold War; Henry Kissinger, who had been the Secretary of State under Nixon; William Perry, former Secretary of Defense under Clinton; Jim Mattis, our current Secretary of Defense; Sam Nunn, and on and on. I think people saw this board, and they saw these larger-than-life figures with wonderful resumes, and they thought, "This must be real, otherwise they wouldn't be risking their reputations." The other thing that was going on is that she portrayed herself as following in the footsteps of Silicon Valley entrepreneurs, such as mainly Steve Jobs, Larry Ellison, Bill Gates, etc. These were all people who had been pioneers in the realm of computers, but her device was not a computer. It wasn't computer hardware or software. It was a medical device, a blood-testing machine that was going to be relied upon by doctors and patients for important health decisions. People, when she rose to fame in 2014, really allowed her to portray herself as a traditional Silicon Valley tech founder instead of reminding themselves that, actually, her product was a medical product and that she shouldn't be considered and looked at in the framework of the traditional Silicon Valley, but more in the framework of medicine and of, perhaps, biotechnology and diagnostics. People were just content to forget about that or to ignore it, and I think that contributed to what happened.

[00:05:53] I've written a little bit about what I call "cumulative confidence" — that is, burnishing a reputation with big names who then draw in more big names, and you've listed Secretaries of State and Secretaries of Defense who served on her board. How much do you think that was a strategy, and how much did it get its own momentum? And then a related question: Rupert Murdoch, the owner of your paper, was also heavily invested. To the extent it was a strategy — it may not have been — did it include media moguls?

[00:06:25] I believe it was a strategy and a premeditated strategy. If you look at the facts over 15 years, from the moment she dropped out of college, Elizabeth cultivated these older men who had real credentials and reputations and then leveraged that association. I've heard people refer to this as "reputational laundering." She was definitely guilty of doing this over and over again, that the first older man with credentials that she charmed and whose reputation she leveraged was Channing Robertson, who was her Stanford engineering school professor. He was something of a star on the Stanford engineering school faculty. He joined her board when she dropped out, accompanied her to meetings with VCs when she was just a teenager, giving her credibility. The second older man, I would say, that she charmed was Don Lucas, who is an aging venture capitalist who is famous for having groomed Larry Ellison and after helping take Oracle public in the mid-80s. Then after Don Lucas developed Alzheimer's in the 2010-2011 period, her next mark became George Schultz. She met him at Stanford, through a Stanford Medical School professor. George Schultz lives right near to the Stanford campus and has always been passionate about science, and when he heard her describe her technology, believed her and became excited about it, joined her board and then subsequently introduced her to all his buddies at the Hoover Institution, the think tank on the Stanford campus. That's how she met Kissinger and Perry and Nunn and Frist and all these guys. Yeah, I would very much say that was at the heart of her game as

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a con-woman — to leverage the credentials of these people who were older, more experienced and had achieved a lot in their walks of life. This was a similar strategy in terms of who she went to pitch among the investors. She studiously avoided, in the latter years of the company — and one of the things to bear in mind is that, out of the nearly billion dollars that Theranos raised over 15 years, most of it, more than US\$700 million was raised after 2013 and after she went live with finger stick tests in Walgreens stores. Why is that important? It's important because she effectively used the fact that she had gone commercial with a test to say at these investors, "Look. Obviously, my product is real. We're in Walgreens store. The product is being offered and used as we speak." So they thought, "This isn't even really a startup anymore. This is a company with proven technology that has commercialized this technology." In courting these investors, she really scrupulously avoided sophisticated venture capitalists with experience in medical technology or diagnostics. She targeted family offices of billionaires who were unsophisticated — the likes of the Waltons, the heirs to Sam Walton who founded Wal-Mart; Rupert Murdoch, who is a media mogul, controls the company that owns my newspaper; the Coxes, who were based in Atlanta and control Cox Enterprises; the DeVos family, our current Secretary of Education; the Mexican tycoon, Carlos Slim, and on and on. None of these people have any experience in medicine or any knowledge about lab diagnostics, and that's how Elizabeth wanted it.

[00:09:56] You tell an interesting story in the book about her leaning on Rupert Murdoch to try to shut down your story.

[00:10:04] The thing to bear in mind is that I didn't know at all that Rupert was an investor when I started digging into Theranos. The first rumors I heard that he might be an investor were a few days before we went to press, nine months after I'd started digging into the company. We were finally published in October 2015, and I only started hearing rumors about it a few days before that. Then sporadically, over the ensuing year, I kept hearing rumors that he might be an investor. It wasn't for another year, until October of 2016, that I confirmed that, not only was he an investor, he was the single largest investor, and he had put in US\$125 million into the company. At that point, my jaw dropped. I was totally surprised — astonished, really. When I then went on book leave to write the book, I did some more reporting, and I found out that she had met with him several times during my investigation leading up to the first story. In particular, one meeting had been just two weeks before we published my first story. She had come to the News Corporation building in midtown Manhattan and met with Rupert in his eighth floor office and brought up my story with insistence and told him that I had gathered inaccurate information and that I was essentially a rogue reporter and that this information was going to do a lot of harm to Theranos if it got published, basically hoping that he would offer to kill the piece, but he told her that he wouldn't intervene and that he would trust the Journal editors to do what they thought was right and fair. Amazingly, even though he had 125 million reasons to intervene, he did not, and her attempts to get him to quash my reporting failed.

[00:11:46] That's a credit to him, but it's much more telling about her and the lengths that she was willing to go to maintain the facade. There's a lot of talk — and surprising sympathy — still around this being you know just a whole lot of Silicon Valley puffery and, "We should be used to that. They roll out products before they're ready. That's how Silicon Valley works." You talk about Elizabeth Holmes not having a scientific background but also not wanting scientists on the board. I could read a quote from your book. It's a quote from her that you include in your book: "A chemistry is performed so that a chemical reaction occurs and generates a signal from the chemical interaction with a sample, which is translated into a result." That's a pretty baseline description of anything happening in the chemical

world. How do you respond to people that say, "She wasn't a scientist. This is Silicon Valley. She was a salesperson"? Some people seem to think we should be cutting her more slack because of that.

[00:12:43] I don't think so at all because I think most Silicon Valley founders do exaggerate, and they do over-promise, but they're usually doing it in the realm of software. When I think of Silicon Valley, the traditional Silicon Valley for me is the industry that started with microprocessors in the 50s and 60s and then became the personal computer industry in the 80s; later, the Internet industry in the 90s; and today, it's smartphone apps, and it's all based on smartphones. But this remains the realm of computers. An iPhone is basically a miniature computer, miniature hardware and software. To me, Silicon Valley does not mean medicine. She was, unfortunately, applying the Silicon Valley playbook to medicine. That's a very dangerous thing to do because the end user, when you're making a medical product or seeking to make a medical product, is a patient. It's a patient who is going to be relying on your product to make a very important medical decision, sometimes a medical decision that's going to mean the difference between life and death. I think a lot of people intuitively know from their sense of ethics and boundaries that you cannot fake it until you make it with medical devices, that you can't do this in medicine, and that you certainly can't do it to the extent that she did it, which is go live with faulty blood tests in two states. I think that was her fatal mistake: modeling herself after Silicon Valley and adopting its "fake it 'til you make it" vaporware ethos.

[00:14:17] You do a great job following some of the patients that rely on her results, one who ends up in the emergency room. Fortunately, she thought she was ill when she wasn't, rather than thinking she wasn't and not getting treatment when she was, but it was sort of a terrifying scenario as she ends up in the hospital thinking things are really fairly grim.

[00:14:36] This is the eve of Thanksgiving 2014. Her doctor gets back a lab report from Theranos, and about six or seven of her values are abnormal, most abnormally high. The patient's main symptom had been a ringing in her ear, so given these abnormal values, the doctor starts to worry that maybe the values put together with a symptom suggested that she might be on the cusp of a stroke. The doctor sends her to the emergency room, and she ends up spending four hours there and gets a battery of tests. Finally, they redraw her blood and test it at the hospital, and this time, the results come back normal. At that point, the doctor and patient are still worried. They don't know what to make of this, so she has two more series of tests and MRIs over the ensuing week, and again, everything comes back normal. She and the doctor finally come to this consensus that it was a false alarm and that the Theranos test results were off. This gives you an idea of how Elizabeth Holmes' cavalier attitude toward patients impacted people's lives.

[00:15:39] You tell several stories of doctors calling her on this on inaccurate results, and she really seems indifferent. You've had more experience of those who have interacted with her. I understand she has never agreed to meet with you but you've had more experience with the people around her. Do you have an explanation for that? Was it just greed? Was it the fame? Suddenly, she was on the cover of magazines.

[00:16:02] She was consumed with becoming the second coming of Steve Jobs, the female Steve Jobs, and everything that came with it — the wealth and the iconic status in Silicon Valley. She just would not listen to people who told her "no," who raised concerns, and she just papered over setbacks. She didn't want to hear it. The end result is that patients were impacted, and we still don't even know how many patients were impacted or to what extent. There are some patients who have sued Theranos in federal

court in Arizona. There was a punitive class action out there. One patient alleges that a Theranos lab report should have detected his heart disease and that he subsequently suffered a heart attack that would have been preventable. He'll have to try to prove that claim in court. It's really ironic because at the height of her fame, she liked to play on that empathy cord. She'd like to say that the Theranos finger stick tests, because they were so user-friendly and painless, would lead to people getting their blood tested more often and would lead to diseases being discovered and diagnosed earlier, and it would lead to fewer people having to say goodbye to loved ones too soon. She said it in this heartfelt, passionate manner, but the reality suggests that that was just a canned speech and that she didn't truly care about patients. She was so consumed with her own ambition and so narcissistic about achieving what she wanted for herself that it led her to be able to minimize and rationalize what impact this would have on patients.

[00:17:45] I've interviewed Bernie Madoff's lawyer, Ike Sorkin, on this podcast, and one of Madoff's recurring comments is unpleasant victim-blaming where he says, "People were greedy. They did no due diligence. If they'd done any due diligence, they would have known," but they were so excited about the opportunity and the quick profit that they didn't bother to lack. There's clearly no serious due diligence that was done on this product, and Elizabeth was famously secretive. I'm curious. Most of our listeners are lawyers or compliance professionals. Do you have any advice for the compliance community, based on the years of your life that you've spent on this story, about how this might have unfolded differently?

[00:18:29] I think Ike Sorkin is probably right in the case of Madoff, that people didn't do their homework, and it certainly happened again with Theranos, and greed played a role in that. But one thing I would say is, in my eyes, and I think in the eyes of the Justice Department, it absolutely does not excuse the perpetrator of the fraud — the two perpetrators of the fraud really, in this case, because it was not just Elizabeth but also her boyfriend, Sunny Balwani, who was number-two executive at the company. They really perpetrated this fraud as a couple. Victim-blaming only goes so far. The people that premeditated this wrongdoing and committed these white collar crimes — they need to be the ones held accountable. I think the Justice Department sent a very clear and loud signal by bringing criminal charges against Elizabeth Holmes and her boyfriend, Sunny Balwani, in June. The message is, "We're no longer going to tolerate this 'fake-it-'till-you-make-it' ethos, at least to this extreme. We're not going to let situations happen again where the over-promising is such that the gap between the reality and the promises is enormous, and certainly not situations where patient care is impacted." I think by pressing charges, by bringing these criminal charges, they're setting an example. It's not just about punishing these two people, but it's also about setting a precedent and deterring people from doing this in the future.

[00:19:55] I certainly didn't mean to excuse anything that either Elizabeth Holmes or Sunny Balwani had done. I was really trying to get to, given that the victims — and I guess there are two categories of victims here, the patients who received inaccurate testing and then the investors, who I'm referring to now — given that they did too little due diligence and relied on what Holmes told them, I was just trying to generate lessons learned from this. One of those — and this comes through in your book — is insisting on evidence of elaborate reliable testing and looking for board members with a scientific background. Based on your experience — and you've won two Pulitzers now — looking at corporate crime, I'm curious if you have any insight. If you were going to invest in a medical device startup, what would you insist on?

[00:20:51] I would ask the dumb questions. I would say, "How does this work exactly?" and, "Can I see it?" and, "Can you show it to me?" and, "Can you explain to me the science? If I'm going to put in some money, I need to know what the science is, and if it's too complicated for me to understand alone, then I'm probably going to bring along a lab expert to accompany me to our meeting. I'm going to ask what you may consider to be dumb questions, but you'll have to bear with me because I'm going to ask them, and I'm not going to invest until I get satisfactory answers." It's really basic. If people had just asked simple questions and then not accepted for an answer, "I can't tell you because it's a trade secret," then this wouldn't have happened. She cloaked herself in this notion that Theranos technology was so special that it had to be protected because the two dominant companies in this industry, Quest and LabCorp, were bent on trying to undermine Theranos and steal its technology by any means possible, including industrial espionage, which is what David Boies asserted to me in our meeting in June of 2015. If people had just not accepted that smokescreen and continued to ask questions until they either got an answer or an until it became apparent that she couldn't give an answer because there wasn't a good answer, then I think none of this would have happened.

[00:22:17] That all sounds very intuitive, and it is interesting. I hadn't thought of it until just now, but the similarities with Bernie Madoff — in both cases, they would say, "If you need all that information, then perhaps this isn't the right investment for you," and they'd be very breezy and dismissive of people who insisted on answers because there were enough other people in the queue ready to invest.

[00:22:35] That's unfortunately one of the problems in Silicon Valley. There's been a gusher of money in the past decade that has flowed into the Valley, and these young tech founders have been able to basically have their pickings of who funds them and have also been able to impose their terms and, in particular, keep a majority of the voting rights. In the case of Theranos, she amazingly had 99.7 percent of the voting rights. The board was not really a board. The board had no say. The board couldn't even reach a quorum unless she was there, so the board was just window dressing. This was not a company with even a board that could say or do anything. In a deposition in private litigation over the past two years, George Schultz was asked about how the board functioned, and he acknowledged that the board never took any votes because it was pointless — because whatever they discussed didn't matter. Elizabeth was going to do and decide whatever she did and decided.

[00:23:37] No matter how lofty the names, that is a board that has failed in its duties. We'll watch how the criminal charges that have just been filed play out. Do you have any predictions with respect to those? Have you heard estimates or the likelihood of a plea bargain?

[00:23:52] There's been speculation that, facing up to 20 years in prison, that at least Elizabeth would try to strike a plea bargain. I don't think so. I may be proven wrong, but it's not in her nature to compromise. She just fights. She refuses to admit. To this day, to people who still work at the company, she refuses to admit that she did anything wrong and that she committed a crime. To the extent that mistakes were made by the company, she throws Sunny Balwani under the bus, her ex-boyfriend. I think she's going to fight this. I think she's going to take this to trial, and she's going to hope that she can convince a jury that her intent wasn't malicious, that she was just trying to build a company and that, ultimately, they didn't get the device to work as well as she hoped but that there was no criminal intent. I think that it's going to be a very risky gambit because I do think that prosecutors, by now, have amassed a trove of evidence and have reached a critical mass in it and will be able, pretty easily, to prove to a jury that she and Sunny did commit fraud.

[00:24:55] She was allowing her device to be used on children, and I think you'd lose a jury pretty quickly under the circumstances, but it is interesting. Your book makes it very clear that she is utterly free of remorse, or at least demonstrates no remorse of any kind.

[00:25:09] She had dinner with a documentary filmmaker who was working on a Theranos documentary back in the fall. In her mind, as she told it to this producer, she felt like she had done nothing wrong. To a large degree, she felt that I was the culprit here. I was the one who had taken her company down and her dream with it by relentlessly reporting on this story. I think she's just so narcissistic that she's unable to really let the consequences of her actions sink in.

[00:25:38] I understand there's also a movie in the works with Jennifer Lawrence playing Elizabeth Holmes. When should we look for that?

[00:25:43] The director and producer will be Adam McKay, who did "The Big Short." Jennifer Lawrence's is attached as Elizabeth Holmes and will also co-produce. They just hired Vanessa Taylor, who cowrote "The Shape of Water" with Guillermo del Toro, to write the screenplay. I've talked to Vanessa several times. She's beginning her work on the screenplay. I think the hope is that she'll have a screenplay written by the end of this year and that possibly filming of the movie could start next year, in 2019.

[00:26:12] We look forward to that, but in the meantime, "Bad Blood" is a fascinating read. You have to remind yourself at intervals that it's not fiction because some of the characters are very nearly caricatures of themselves and lengths they went to intimidate people to ensure security. It's a great and discouraging but fascinating book. Thank you for that.

[00:26:35] Thanks very much. I appreciate your interest in the book, and thanks for having me on the show.