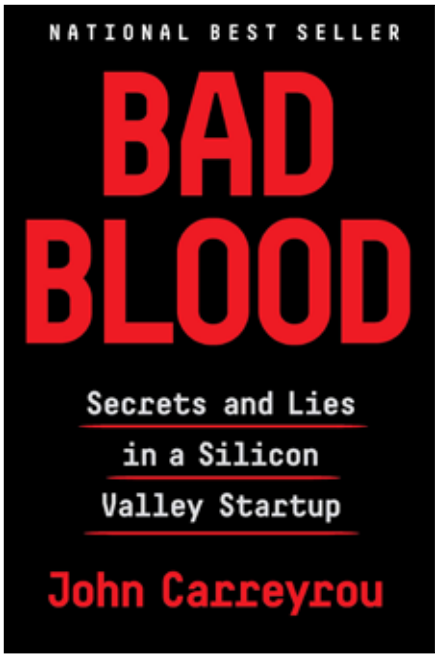

Bad Blood: Secrets and Lies in a Silicon Valley Startup

By John Carreyrou

Knopf Penguin Random House, New York, N.Y., 2018. 339 pages, $27.95.

Reviewed by Christopher Faille

Here is a seductive vision. Think of a smallish machine (about the size of a desktop PC) that can be sold directly to ordinary people who want to be proactive about their health. Consumers can buy this "Edison" machine at retail outlets, and it can allow them to test their own blood at home, in comfort and with confidence. Imagine how this would disrupt the diagnostic laboratory, pharmaceutical, and clinical industries.

In 2014, an entrepreneur named Elizabeth Holmes received a lot of mainstream media coverage as someone who had precisely this vision and offered the world this machine. A customer with Holmes' device at home could take just a couple of drops of blood out of the tip of a finger and put those drops into a "nanotainer." The patient could then slide that small container into the machine and, within minutes, get a report on what secrets that blood reveals.

This patient could learn of, or could rule out, dozens of medical conditions, from high cholesterol to cancer, based on that tiny quantity of blood. Medical information for the masses! What a concept! Two prominent retail chains, Safeway and Walgreens, were ready and eager to partner with Holmes's company, Theranos, in the proliferation of this concept.

This proposed decentralization of blood testing is so enchanting that I came away from this book hoping that even now somebody or some team is working on achieving it! But, Holmes was not that someone, and the crowd around her could not complete the task (including luminaries such as George Shultz, the secretary of the treasury under President Richard Nixon and the secretary of state under President Ronald Reagan). Holmes was a crook, and her supporters were, at best, ignorant enablers.

Sleight of Hand

In reality, Theranos was not a bearer of wonderful new technology. It was a house of cards, which began crashing down in 2015 when an investigative report by John Carreyrou for *The Wall Street Journal* questioned the Edison technology and discovered that Theranos was actually testing blood with traditional technology. The Edison device could not perform its nanotainer testing, as described; and the various demonstrations were, in essence, magic tricks.

Although many investors took big hits, as did Walgreens and Safeway, the world should on the whole be glad that the house of cards collapsed when it did. Had the pretense gone on much longer, people may have died, either from the risks of unnecessary medicine and procedures that individuals might have incurred due to the machine's false positives or from the risks of inaction that would have resulted from the machine's false negatives.

Due to Carreyrou's investigative journalism, Theranos was bombarded with legal challenges from the U.S. Securities and Exchange Commission(SEC), Centers for Medicare & Medicaid Services, and state attorneys general. Further, Theranos' downfall led to Holmes' personal net worth disappearing after a steady ascent to $5 billion. Additionally, the SEC charged Holmes with an "elaborate, years-long fraud," while federal prosecutors indicted Holmes on multiple counts of wire fraud. If convicted, Holmes faces 20 years in prison.

Bad Blood is a well-written book that follows up on Carreyrou's earlier critical reportorial work for the *Journal*. Not surprisingly, *Bad Blood* has recently been endowed with the 2018 *Financial Times* and McKinsey Business Book of the Year awards.

A delightful curiosity in this woeful tale is that Carreyrou's employer, Rupert Murdoch, had $125 million invested in Theranos. And Holmes, who discovered that Carreyrou was working on a story regarding Theranos' malfeasance, directly appealed to Murdoch in September 2015 to spike the story. Murdoch refused to interfere with Carreyrou's investigation because he respected the traditional wall of separation between the business of publishing and the work of reporting. Those who may take issue with Murdoch's other dealings may consider that his choice in favor of inaction counts in his favor in the Bank of Karma.

Patent Troll as Protagonist

Another institution of value in bringing down this multibillion-dollar con job was the much-maligned "patent troll." Therein hangs a tale. It is only a smallish subplot in this book, but one that may deserve some emphasis.

Richard Fuisz was, in Carreyrou's terms, an "opportunist" who made a practice of "patenting inventions he anticipated other companies … would someday want." This is precisely what is called "trolling" in the world of patent-law wonkery. Fuisz learned of Holmes' claims long before she was a media star because in 2005 she had given an interview to National Public Radio's "BioTech Nation." Holmes had even helpfully provided a link to that interview on Theranos' website.

Fuisz found the link, listened to the interview, and decided there was a missing piece to Holmes' plans. Such a machine, if it were to be made practical for home use, would require a memory chip or other storage device coding the "normal parameters" for healthy blood. Further, if a particular sample violated

those parameters in any specific respect, it would make sense for the machine to have a transmission system that would automatically alert a primary care physician, medical center, or pharmacy of the alarming results.

In April 2006 Fuisz filed a patent application for a wireless transmission system of the out-of-parameters results of an at-home blood-testing device. The application was not secretive about its inspiration; its fourth paragraph mentioned Theranos and quoted from the company's website.

In October 2011 Theranos sued Fuisz and one of his corporate alter egos, Fuisz Pharma. The theory of this lawsuit involved Fuisz's son John Fuisz, who was a patent litigator himself with the law firm McDermott Will & Emery. The firm had previously completed legal work for Theranos, and Theranos' theory of the case was that John Fuisz had seen Theranos' files in the law firm's office and had tipped off his father about its technology. Arguably, Theranos believed that Richard Fuisz had then allegedly ginned up a related patent that he could use to extort payments from Theranos.

As Carreyrou tells the story, the theory behind the Theranos lawsuit seems farfetched. John and Richard Fuisz were not close, John would not have come across those files in the normal course of his own work at McDermott, and the NPR interview had already made the critical points a matter of public record in 2005. Nevertheless, Theranos' pitbull attorney David Boies managed to wear Fuisz down and eventually, in early 2014, extracted a favorable settlement largely because he feared that if he lost and became liable for the legal expenses of the plaintiffs it would bankrupt him.

The settlement cleared any IP obstacle from Theranos' path. John Fuisz had not been a party to that settlement. But during the settlement talks, the Theranos-Boies side did suggest to Richard that the Boies Schiller law firm could refer some patent work to John. John had been looking forward to a chance to testify in the lawsuit as an opportunity to clear his name, which he thought was unfairly sullied by the notion that he was peeking in his colleagues' files at McDermott. John angrily rejected the idea of taking any such referrals and, when his father nonetheless settled, John emailed a reporter for American Lawyer Media (ALM) and told her about what he saw as blatant bribery by Theranos and Boies.

In March 2014, ALM ran a piece on the alleged bribery in *Litigation Daily* headlined "Family Gives up Disputed Patent." This was one of the few articles that portended bad press for Theranos. Holmes and Theranos were, at the time, receiving a lot of fawning coverage as innovators opening new doors, disrupting industries, and so forth. However, ALM's account suggested that Theranos had played the role of steamroller at the expense of a family-run business. Therefore, a patent troll may have turned the tide in revealing what turns out to have been one of the biggest business and medical deceptions in recent decades.

Of course, none of the Fuiszes at this point had any reason to believe that Theranos' underlying "innovation" was itself a con. Richard's patent claim only makes sense, after all, if something like what Theranos was trying to do can be done. Still, if karma can award points to Rupert Murdoch for failing to intervene or prevent news reports that undermined a company in which he was invested heavily, it can spare some points for the Fuisz family, too. For, well … lighting a fuse. ⊙

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