Silicon Valley: A Corrupt Utopia

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

As a computer science major graduating to work for Google LLC as a software engineer, and an entrepreneurship minor, the successes and failures of the start-ups of Silicon Valley have always fascinated me. Steve Jobs was my role model for the longest time, and I've always greatly admired the other brilliant minds of the century like Bill Gates, Larry and Sergei, Mark Zuckerburg, and Elon Musk. In more recent times, however, with the very public scandals of Theranos, Uber, and Facebook, a lot of the idealistic shine has worn off. I've become more and more curious about what goes on behind the scenes at the start-ups and big tech companies that make up the Valley. Theranos in particular has intrigued me, and I think the story of Theranos can be used to describe the ethical blind spots in Silicon Valley.

Silicon Valley is a world unto itself, where men and women with magical ideas come together to build products that contribute to the common good and betterment of society. But with the mindset that the decisions one makes are all for the betterment of society, as opposed to for personal, monetary gain, it becomes easier to make decisions that would otherwise be considered questionable, all in the name of utilitarianism and the common good. The amount of money poured into Silicon Valley and the scale upon which companies within the Valley develop often blurs the truth and makes it difficult to use consequentialist decision frameworks effectively. Instead, the rights approach to ethical decision making should be integrated by agents within the Valley, to create a truly utilitarian environment.

The Story of Silicon Valley

Silicon Valley is known as the place where dreams of science fiction become reality—it is the birthplace of the most revolutionary technologies of the past century. We've seen major

tech giants born and flourish in the Valley, and it's become a haven for those seeking careers in the tech industry. Silicon Valley is a nickname for the portion of California from the Bay Area down to San Jose, encompassing the area around Stanford University. Silicon Valley's roots can be traced back to Stanford in the 1940s and 50s, when Frederick Terman was Dean of Stanford's School of Engineering.

Frederick Terman, an MIT grad, wanted to turn Stanford Engineering into the MIT of the West, and believed that placing a heavier emphasis on research and integrating Stanford with industry was the way to do it. He encouraged Stanford professors and students to found their own companies. Terman also founded Stanford Research Park (now Stanford Industrial Park), which granted long-term leases on university land exclusively to high-technology firms. Stanford Research Park became a miniature version of present-day Silicon Valley, where professors consulted with the firms leasing space in the Park, researchers from the Park taught lectures at Stanford, and the companies had increased access to recruit Stanford's students. Many influential companies were formed in Stanford Research Park during this time that are still relevant today: Varian Associates, Inc. (now Varian Medical Systems, Inc.), Eastman Kodak Company, General Electric Company, Admiral Corporation, Lockheed Corporation (now Lockheed Martin Corporation), the Hewlett-Packard Company, etc.

In 1956 William Shockley, Nobel Prize-winning coinventor of the transistor, established his new Shockley Semiconductor Laboratory in the Stanford Research Park. Following the establishment of the Shockley Semiconductor Laboratory, Stanford Research Park saw a sudden boom in both the number of semiconductor companies in the area, and also in the innovation in the field of semi-conductors. Of the 31 semiconductor companies that existed in the during the 1960s, only 5 existed outside of that area. The overwhelming presence of semiconductor

companies in the area led to the area becoming known as the Silicon Valley, as semiconductors are made primarily out of silicon. The sudden boom in the semiconductor market let to an increase in entrepreneurship in the area. Many new companies popped up to supply the semiconductor manufacturers with all of the tools they needed. Other new companies appeared as consumers of semiconductors—semiconductors are essential components of most electronic devices today. As entrepreneurship in the area grew, the landscape shifted from semiconductors to personal computer manufacturing and then to computer software and Internet-based business. We've seen huge companies come out of the Valley since, including Apple Inc in 1976, Sun Microsystems, Inc., in 1982, Yahoo! Inc. in 1994, and Google LLC in 1998 (Dennis, M).

Silicon Valley was always meant to be the place where people came together to make the world a better place. In the most idealistic sense, money was never meant to be the end goal; the end goal was to change the world. As Steve Jobs once said, "Being the richest man in the cemetery doesn't matter to me... Going to bed at night saying we've done something wonderful... that's what matters to me." Google's code of conduct began with the line, "Don't be evil." The vision behind Silicon Valley was one where, as Mark Zuckerburg said, "[They] don't build services to make money; [they] make money to build better services." Silicon Valley has evolved to become a place where the future of mankind is being reinvented through technology (Cox, R., *The Ruthless Overlords of Silicon Valley*).

Budding entrepreneurs are told to think big and shatter the glass ceiling, because Silicon Valley is the place where science fiction becomes reality. Elizabeth Holmes was one such entrepreneur. Holmes imagined a world where traditional costly and inconvenient blood tests for conditions ranging from cholesterol and diabetes to deadly and exotic diseases could all be replaced with one test conducted with blood drawn from a prick of a finger. In 2003, Holmes

founded Theranos, a company that aimed to use the finger prick test for easy and early detection of a wide range of diseases (Worland, J., *What to Know About Theranos' Rise and Fall*)

The Dark Side

Today, we are in the so-called "age of unicorns," where innovators with incredible ideas create companies that raise billions of dollars in capital and become sizable businesses in a very short time. These companies are often subjected to less scrutiny and have less accountability than the traditional large-scale public corporation. Theranos was one such unicorn, that, at least initially, seemed to exist in the perfect utopia of Silicon Valley. But here's the issue with perfect utopias: they don't really exist. Except maybe for Switzerland. And Silicon Valley is no Switzerland.

Fake it 'Till You Make it

As an innovator, you come up with magical ideas that may seem impossible to everyone else, but you know that you can make them happen. That confidence in yourself, your abilities, and your ideas, is what attracts investors, employees, and customers. Without that confidence, there is very little chance your product will ever be successful. And even if you have doubts about your project, you need to pretend those doubts don't exist. Your unwavering certainty in your idea can convince even the staunchest naysayer. Startup culture venerates "fake it till you make it" hustling. Many companies encourage their employees to "fail fast," prioritizing fast development and thus rapid increases in revenue over the stability of their product. This has always been the culture of the valley, and today, it is almost expected. Investors aren't bothered by entrepreneurs stretching the truth a little bit, as long as they are in pursuit of the greater good (Griffith, E., *Theranos and Silicon Valley's 'Fake It Till You Make It' Culture*). And since it has

almost always worked out in the past, no one has ever really questioned the viability of structuring a start-up around that culture.

With Theranos, the claim was that their blood analyzing device, the Edison, could take a single drop of blood and conduct over 200 different diagnostic tests. Within the span of a few minutes, users would have the results of hundreds of different blood analyses, such as antigen detection, hormone levels, and even some cancers. The Edison was a device that never really worked, but that fact was never a deterrent to the company's growth. It was instead assumed the Edison would eventually work, and so the Theranos marketing teams continued wooing prospective customers, investors, and employees. Holmes, with her utter and complete belief in herself and her product's ability to be successful, existed within a bubble of denial of her own creation. She refused to contemplate even the idea that the Edison would be a failure, and so continued to push her nonfunctional device. This was a start-up purely surviving through the Silicon Valley "fake it 'till you make it" mentality.

Endless Streams of Free Money

If you are trying to turn science fiction into reality, at some point you will need money. Large amounts of it. And that's not to say the broke and the hungry can't change the world. For example, take Jobs and Wozniak. Jobs was broke, living in a toolshed in his parents' backyard, when they built the first Apple computer in his parents' garage. But there is only so far you can get without needing significant capital from someone willing to invest in you.

To quickly summarize the economics behind all of this, there are two main parties here. There's you, the visionary, who probably doesn't have a lot of money, but has the ideas, the drive, and confidence in yourself as a revolutionary. There's the investor, someone who either has a lot of money or represents other people with lots of money, who may not be a great

entrepreneur, but is very good at making money grow. The investor is going to give you a lot of money, not out of the goodness of his heart, but because he believes that you have the potential to return to him 5 to 20 times his initial investment. And you will probably only be ok with giving the investor 5 to 20 times his initial investment in the end as long as you are receiving at least that much in return. Even looking at the smallest possible case, we are talking about very large profits.

Investors know that sometimes the craziest idea can yield the highest profit. They encourage out-of-the-box thinking, and fund the magical ideas that make the impossible possible. They know successful entrepreneurs have a vision of "What the world *could* be," because that is the nature of technological innovation. For most investors, funding a risky start-up isn't an issue, because they'll be funding many start-ups, and as long as one succeeds, it is ok if all of the others fail. On the other hand, there is now immense pressure to succeed on the entrepreneur, because they must first repay the investor before taking any profits, and if they fail, they could lose everything. When this process works, the results are immeasurably good and successful. But when this process fails, it has the potential to change lives in significant and catastrophic ways. Even though there is the idealistic claim that those in charge are completely unconcerned with profits, the amounts of money at stake in this process are huge, and the more money there is the larger the sphere of influence is (The Ruthless Overlords).

At its conception, Theranos quickly attracted a star-studded board of investors and advisors. The first was successful investor Tim Draper, with a million-dollar investment. With Draper and his million-dollar investment, Theranos quickly attracted other the prominent investors and venture capitalists Larry Ellison and Rupert Murdoch. Soon after, former secretaries of state George Shultz and Henry Kissinger, and former secretary of defense Jim

Mattis joined Theranos' board. From 2003 to 2014, Theranos' valuation shot up exponentially, hitting $9 billion at its peak. Holmes herself was worth $4.5 billion at the time. By this point, Theranos had conducted blood tests on thousands of people, the results of most of which had been faked. One woman had received a false test result from a Theranos lab saying she had tested positive for breast cancer. In the end, Theranos ultimately had to void two years of results from its machines because they were not sufficiently accurate (Levine, M., *Theranos Didn't Just Harm Investors*).

Ethical Decision Making

Although there are underlying issues with the underlying environment in Silicon Valley, it is telling it too simply to say that the environment is what has led to the major failures and mistakes of companies like Theranos, Uber, and Facebook. The reality is more nuanced, and has to do with poor ethical decision making.

Consequentialism

When one is a leader of a company with billions of dollars at your finger-tips and a technology that will change the world, it becomes easy to justify crossing a line here or there with the justification "it's for the greater good." This way of thinking stems from *consequentialist* ethical decision-making models. Consequentialism is defined by Merriam-Webster dictionary as "the theory the value and especially the moral value of an act should be judged by the value of its consequences." This can be roughly summarized as "the end justifies the means." Within consequentialism there exist the Utilitarian approach, the Egoist approach, and the Common Good approach. Utilitarianism is the most common, especially when making decisions that will affect large groups of people, as it focuses on action that create the greatest good for the greatest number of people. The Egoist approach focuses more on self-interest, and

has many parallels with *laissez-faire* economics. And the Common Good approach states that our actions should lead to better communal life.

Two consequentialist decision-making models, utilitarianism and common good, are very commonly found in Silicon Valley. These models of decision-making work well when every decision has the exact repercussions you expect. But they fall apart when an actor does something questionable for the greater good, and the repercussions are not what they expect. This can be seen in the analysis of ethical violation that has occurred in the Valley.

Theranos is a perfect example of a combination of "fake it 'till you make it" and poor consequentialist decision-making. In *Bad Blood*, John Carreyrou delves into the psychology behind the actions of the founder of Theranos, Elizabeth Holmes, concluding that she had never meant for Theranos to be a Ponzi scheme—she truly believed in her technology, and was merely channeling the "fake it 'till you make it" culture of the valley. Holmes, with her utter and complete belief in herself and her product's ability to be successful, existed within a bubble of denial of her own creation. Steve Jobs was her role model, and she had crafted her own image carefully so as to brand herself *the next Jobs*. Jobs was credited with having a 'reality distortion field'—he could propose things that seemed impossible and somehow pull them off. That was what Holmes aspired to be. She refused to contemplate even the idea that the Edison would be a failure, and so continued to push her nonfunctional device. Her unassailable belief in her product, that it would eventually work and would change the world for the better, and the sheer amount of money that had been invested in her company, led to her use of consequentialism to make ethical decisions. She believed that once everything worked as she intended it to, the end would justify the means. And in the end, when it was unveiled that her product did not work and would never be able to work, her actions were revealed to be unethical and unacceptable.

Rights Approach

When you are the innovator at the helm of a billion-dollar company, someone who is piloting society towards a better tomorrow, it becomes very easy to forget that society is comprised of individual people. Making decisions for the common good of an entire population is very different from making decisions for the good of each individual within the population. This is where the rights approach to ethical decision making comes in. The rights approach "stipulates that the best ethical action is that which protects the ethical rights of those who are affected by the action. It emphasizes the belief that all humans have a right to dignity" (Bonde and Firenze, *A Framework for Ethical Decision Making*).

When making decisions at the head of a large company, you cannot make broad decisions that consider the needs and rights of every one of your customers, who are the ones often most negatively impacted if your decisions backfire. You could, and should, consider the rights and needs of your stakeholders, but those will most likely differ greatly from you those of your customers. If you were to combine the consequentialist approach to decision making with the rights approach, making decisions for the common good that still protects the right to dignity of those in the population your decision is affecting, you will make decisions that are less likely to be unethical. If Holmes had made decisions that protected the ethical rights of her customers by applying moral imagination, the company itself would most likely still have been a gross and colossal failure, but the fallback would not have included thousands of innocent bystanders.

Conclusion

Entrepreneurs should never stop dreaming. The out-of-the-box ideas and impossible products that come out of Silicon Valley truly do make the world a better place the majority of the time. Rather than change the nature of a place that churns out amazing innovations,

innovators need to focus on their own mindset and make sure they aren't trampling the little guy in their decision making. This can be done by integrating the rights approach with the consequentialist approaches in use by most innovators today. Innovators must understand that the means and end should not violate human rights, and the consequences of their actions should be beneficial both for consumers and for themselves.

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