Turning humans into space colonizers is his stated life's purpose. Musk's ready willingness to tackle impossible things has turned him into a deity in Silicon Valley. In early 2012, SpaceX flew a supply capsule to the International Space Station (ISS) and brought it safely back to Earth. Tesla Motors delivered the Model S, a beautiful, all-electric sedan that took the automotive industry's breath away and slapped Detroit sober. He was also the chairman and largest shareholder of SolarCity, a booming solar energy company poised to file for an initial public offering. Musk had somehow delivered the biggest advance the space, automotive, and energy industries had seen in decades in what felt like one fell swoop. After making $200m from his Pay Pal startup, Musk threw $100m into SpaceX, $70m into Tesla, and $10m into SolarCity.

Instead of hybrids, which in Musk lingo are suboptimal compromises, Tesla strives to make all-electric cars that people lust after and that push the limits of technology. The direct sales model embraced by Tesla stands as a major affront to car dealers used to haggling with their customers and making their profits from exorbitant maintenance fees.

The Musk Co. empire of factories, employs tens of thousands of workers. Its industrial might has incumbents on the run and has turned Musk into one of the richest men in the world, with a net worth of around $14b. What Musk has developed that so many of the entrepreneurs in Silicon Valley lack is a meaningful worldview.

Building things—especially big things—is a messy business. In the 2 decades Musk has spent creating companies, he's left behind a trail of people who either adore or despise him. At the heart of this transformation are Musk's skills as a software maker and his ability to apply them to machines. The harmonious melding of software, electronics, advanced materials, and computing horsepower—appears to be Musk's gift. He comes off much more like Thomas Edison than Howard Hughes. Justine put it, "He does what he wants, and he is relentless about it. It's Elon's world, and the rest of us live in it."

He shares custody of his 5 young boys—twins and triplets—with his ex-wife, Justine, and has them 4 days/week. His last wife, Riley, watched him lose his entire fortune and get ridiculed by the press. She knows that the sting of these years remains and has combined with the other traumas in Musk's life—the tragic loss of an infant son and a brutal upbringing in South Africa—to create a tortured soul.

Born in 1971 and raised in Pretoria, South Africa, Musk's source code to a video game, called Blastar, was published in a South African trade publication when he was 12 years old. The teenage Musk arrived at his ultralogical mission statement. "The only thing that makes sense to do is strive for greater collective enlightenment," he said. The white Afrikaner culture so prevalent in Pretoria and the surrounding areas was hypermasculine behavior. Tough jocks were revered. Musk saw America in its most cliched form, as the land of opportunity and the most likely stage for making the realization of his dreams possible. Musk's mother, Maye, was gorgeous, tall, with ash-blond hair, and a finalist for Miss South Africa. She continued to model into her sixties. Maye and Elon's father, Errol Musk, grew up in the same neighborhood. "Elon seemed to understand things quicker that the other kids," Maye said. "The perplexing thing was that Elon seemed to drift off into a trance at times. It didn't endear him to his peers." Over time, Musk has ended up thinking that his brain has the equivalent of a graphics chip. It allows him to see things out in the world, replicate them in his mind, and imagine how they might change or behave when interacting with other objects. Elon churned through 2 sets of encyclopedias—a feat that did little to help him make friends. The boy had a photographic memory and the encyclopedias turned him into a fact factory. He genuinely thought that people would be happy to hear about the flaws in their thinking. For a number of years, there was no respite. "You get chased around by gangs at school who tried to beat the shit out of me, and then I'd come home, and it would just be awful there as well. It was just like nonstop horrible," he said. He was never in a leadership position at school.

He was selected for an experimental computer program in high school. Students were plucked out of a number of schools and brought together to learn the BASIC, COBOL, and Pascal programming languages. 'I can remember failing subjects in like 4th and 5th grade. Then, my mother's boyfriend told me I'd be held back if I didn't pass. I didn't actually know you had to pass the subjects to move to the next grade. I got the best grades in class after that. At 17, Musk left South Africa for Canada with his brother Kimbal. He wanted to get to the US as quickly as possible and could use Canada as a pit stop via his Canadian ancestry. Also, South Africa required military service at the time. Musk wanted to avoid joining the military because it would have forced him to participate in the apartheid regime. Musk's opportunity to flee arrived with a change in the law that allowed Maye to pass her Canadian citizenship to her children.

Outside of his studies, Elon would read the newspaper alongside Kimbal, and the 2 of them would identify interesting people they would like to meet. They then took turns cold-calling them to ask if they were available to have lunch. Musk was more ambitious in college. He studied business, competed in public speaking contests, and began to display the brand of intensity and competitiveness that marks his behavior today. What truly stood out, though, was Musk's ability to master difficult physics concepts in the midst of actual business plans. Even then, he showed an unusual knack for being able to perceive a path from a scientific advance to a for-profit enterprise. He viewed the Internet, renewable energy, and space as the 3 areas that would undergo significant change in the years to come and as the markets where he could make a big impact.

Musk's first startup was Zip2, an internet version of the Yellow Pages, with Kimbal. His contact with venture capi-

talists shifted his business model and company makeup. Starting Zip2 and watching it grow imbued Musk with self-confidence. Now he was confident and in control. The sale of Zip2 left Musk searching for an industry that had tons of money and inefficiencies that he and the internet could exploit. He began thinking back to his time as an intern at the Bank of Nova Scotia. His big takeaway from that job--that bankers are rich and dumb--now had the feel of a massive opportunity. He also began to hone his trademark style of entering an ultracomplex business and not letting the fact that he knew very little about the industry's nuances bother him in the slightest.

Musk connected with Harris Fricker from his time as an intern at the Bank of Nova Scotia. Fricker would not be the last to accuse Musk of overhyping products and playing the public, although whether this is a flaw or one of Musk's great talents as a businessman is up for debate. His traits as a confrontational know-it-all and his abundant ego created deep, lasting fractures within his companies. These criticisms must be weighed against his track record. He demonstrated an innate ability to read people and technology trends at the inception of the consumer Web. PayPal came to represent one of the greatest assemblages of business and engineering talent in Silicon Valley history. This collection of superb employees has become known as the PayPal Mafia—more or less the current ruling class of Silicon Valley—and Musk is its most famous and successful member. History had demonstrated that while Musk's goals can sound absurd in the moment, he certainly believes in them and, when given enough time, tends to achieve them. "Money is not his motivation, and I think it just happens for him," Justine said. "It's just there. He knows he can generate it."

While in Africa on a vacation Musk contracted the most virulent version of malaria which accounts for the vast majority of malaria deaths. He said, "That's my lesson for taking a vacation; vacations will kill you."

The Musks had tucked Nevada in for a nap and placed the boy on his back as parents are taught to do. When they returned to check on him he was no longer breathing and had suffered from what the doctors would term a sudden infant death syndrome-related incident. Justine wrote, "I buried my feelings, coping with Nevada's death by making my first visit to an ICF clinic less than 2 months later. Elon and I planned to get pregnant again as swiftly as possible. Within the next 5 years, I gave birth to twins, then triplets."

Musk built an honest-to-God rocket factory in the middle of Los Angeles. SpaceX had acquired several buildings that used to be part of a Boeing factory, which made the fuselages for 747s. Howard Hughes, the USAF, NASA, Boeing, and myriad other people and organizations have performed much of their manufacturing and cutting-edge experimentation in and around Los Angeles. What Muck would not tolerate were excuses or the lack of a clear plan of attack. SpaceX developed the feeling of a small, tight-knit family up against the world.

Los Angeles' bureaucracy made getting just a basic office an ordeal. The building's owner wanted to see 7 years of audited financials from Tesla, which was still a private company. Then the building owner wanted 2 years' worth of advanced rent. Throughout these early years, the engineers credited Martin Eberhard with making quick, crisp decisions. Rarely did Tesla get hung up overanalyzing a situation. The company would pick a plan of attack. And when it failed at something, it failed fast and then tried a new approach.

The more Tesla guys researched the industry, the more they realized that the big automakers don't even really build their cars anymore. The only thing they had kept was internal combustion research, sales and marketing, and the final assembly. Tesla would do what every other Silicon Valley start-up had done before it, which was hire a bunch of young, hungry engineers and figure things out as they went along. They turned Silicon Valley into a real threat to Detroit for the first time. It had some trends working in its favor. Advances in computing had made it so that small car companies could sometimes punch at the same weight as the giants of the industry.

One former Tesla executive said, "He just destroys you and, if you survive, he determines if he can trust you. He has to understand that you're as crazy as he is." This ethos filtered through the entire company, and everyone quickly understood that Musk meant business. Tesla's major issue no longer revolved around effort, engineering, or clever marketing. Heading into 2008, the company was running out of money. The Roadster had cost about $140m to develop, way over the $25m originally estimated in the 2004 business plan.

He would place an urgency that he expected the revenue in 10 years to be $10m/day and that every day we were slow to achieve our goals was a day of missing out on the money. The image he'd sculpted over the years appeared ready to crumble alongside his businesses. Gracias, a Tesla and SpaceX investor and Musk's friend said, "He has the ability to work harder and endure more stress than anyone I've ever met. What he went through in 2008 would have broken anyone else. He didn't just survive. He kept working and stayed focused." That ability to stay focused in the midst of a crisis stands as one of Musk's main advantages over other executives and competitors.

SpaceX sends a rocket up about once a month, carrying satellites for companies and nations and supplies to the ISS. SpaceX can undercut its US competitors—Boeing, Lockheed Martin, Orbital Sciences—on price by a ridiculous margin. It also offers US customers a peace of mind that its rivals can't. Where these competitors rely on Russian and other foreign suppliers, SpaceX makes all of its machines from scratch in the US. Its $60m per launch cost is much less than what Europe and Japan charge and trumps even the relative bargains offered by the Russians and Chinese, who have the added benefit of decades of sunk government investment into their space programs as well as cheap labor. Government leaders and the public have been willing to concede much of the commercial

launch market. The total market for satellites, related services, and the rocket launches needed to carry them to space has exploded over the past decade from about $60m/year to more than $200m. A number of countries pay to send up their own spy, communication, and weather satellites.

The retirement of the space shuttle made the US totally dependent on the Russians to get astronauts to the ISS. Russia gets to charge $70m per person for the trip and to cut the US off as it sees fit during political rifts. At present, SpaceX looks like the best hope of breaking this cycle and giving back to America its ability to take people into space. Musk's goal is to use manufacturing breakthroughs and launchpad advances to create a drastic drop in the cost of getting things to space. SpaceX uses reverse thrusters to lower rockets down softy and reuse them. SpaceX expects to cut its price to at least $1/10^{th}$ that of its rivals. Reusing its rockets will drive the bulk of this reduction and SpaceX's competitive advantage. The company remains privately owned with Musk as the largest shareholder. Since getting past its near-death experience in 2008, SpaceX has been profitable and is estimated to be worth $12b. Zip2, PayPal, Tesla, SolaryCity are all expressions of Musk. But SpaceX is Musk.

People who know Musk well tend to describe him more as a general than a CEO, and this is apt. He's built an engineering army by having the pick of just about anyone in the business that SpaceX wants. Most of the attention goes toward spotting engineers who have exhibited type A personality traits over the course of their lives. The object is to find individuals who ooze passion, can work well as part of a team, and have real-world experience bending metal. "We're looking for people that have been building things since they were little." Musk interviewed almost every one of SpaceX's first 1000 hires, including the janitors and technicians, and has continued to interview the engineers as the company's workforce swelled.

SpaceX and Musk seem to inspire an unusual level of loyalty. Musk has managed to conjure up that Jobs-like zeal among his troops. "His vision is so clear," Singh said. "He almost hypnotizes you. He gives you the crazy eye, and it's like yes, we can get to Mars." Take that a bit further and you arrive at a pleasure-pain, sadomasochistic vibe that comes with working for Musk.

The equipment at SpaceX tends to be built out of readily available consumer electronics as opposed to "space grade" equipment used by others in the industry. SpaceX has had to work for years to prove to NASA that standard electronics have gotten good enough to compete with the more expensive, specialized gear trusted in years past. As a result of its trials and errors, SpaceX can now join large, thin sheets of metal and shave hundreds of pounds off the weight of the Falcon rockets, as it's able to use lighter-weight alloys and avoid using rivets, fasteners, and other support structures. Musk's competitors in the auto industry might soon need to do the same because SpaceX has transferred some of the equipment and techniques to Tesla. Blue Origin, Jeff Bezo's (Amazon founder) secretive rocket company, has been particularly aggressive, hiring away Ray Miryekta, one of the world's foremost friction stir welding experts and igniting a major rift with Musk.

Musk's growth as a CEO and rocket expert occurred alongside SpaceX's maturation as a company. "I thought at first that he was challenging me to see if I knew my stuff," said Kevin Brogan, one of the early engineers. "Then I realized he was trying to learn things. He would quiz you until he learned 90% of what you know." People who have spent significant time with Musk will attest to his abilities to absorb incredible quantities of information with near-flawless recall. After a couple of years running SpaceX, Musk had turned into an aerospace expert.

Musk simply cannot help himself. He's an optimist by nature, and it can feel like he makes calculations for how long it will take to do something based on the idea that things will progress without flaw at every step and that all the members of his team have Muskian abilities and work ethics. "He doesn't say, 'You have to do this by Friday 2pm,'" Brogan said. "He says, 'I need the impossible done by Friday 2pm. Can you do it?' Then, when you say yes, you are not working hard because he told you to. You're working hard for yourself. By recruiting hundreds of bright, self-motivated people, SpaceX has maximized the power of the individual. One person putting in a 16-hour day is much more effective than 2 people working 8-hour days together.

The total cost for Dragon came in at $300m, which would be on the order of 10-30 times less than capsule projects built by other companies. "One of my favorite things about Elon is his ability to make enormous decisions very quickly." SpaceX produced a communication computer in record time, and it ended up as the first system of its kind to pass NASA's protocol test on the first try. "I don't want to be the person who ever has to compete with Elon. You might as well leave the business and find something else fun to do. He will outmaneuver you, outthink you, and out-execute you." An employee could be telling Musk that there's no way to get the cost on something down to where he wants it or that there is simply no enough time to build a part by Musk's deadline. "Elon will say, 'Fine. You're off the project, and I am now the CEO of the project. I will do your job and be CEO of 2 companies at the same time. I will deliver it," Grogan said. "What is crazy is that Elon actually does it. Every time he's fired someone and taken their job, he's delivered on whatever the project was."

We're trying to have a really big impact on the space industry. If the rules are such that you can't make progress, then you have to fight the rules. There is a fundamental problem with regulators. If a regulator agrees to change a rule and something bad happens, they could easily lose their career. Whereas if they change a rule and something good happens, they don't even get a reward. So, it's very asymmetric. How would any rational person behave in such a scenario?

When Musk rubs outsiders the wrong way, Gwynne Shotwell is often there to try to smooth over the situation. Shotwell grew up in the suburbs of Chicago, the daughter of an artist (mom) and a neurosurgeon (dad). She managed to sell a dozen SpaceX flights to a mix of government and commercial customers before it put its first Falcon 1 into orbit. Her deal-making skills extended to negotiating the big-ticket contracts with NASA that kept SpaceX alive during its leanest years, including a $278m contract in August 2006 to begin work on vehicles that could ferry supplies to the ISS. Shotwell's track record of success turned her into Musk's ultimate confidante at SpaceX, and at the end of 2008 she became president and CEO at the company.

Shotwell made sure to emphasize the lean, innovative edge SpaceX has over the more traditional aerospace companies. "Our competitors are scared shitless of us. The behemoths are going to have to figure out how to get it together and compete. And it is our job to have them die." One of SpaceX's biggest goals is to fly as often as possible. The company has never sought to make a fortune off each flight. It would rather make a little on each launch and keep the flights flowing. A Falcon 9 flight costs $60m through economies of scale and improvements in launch technology. A number of new nations were showing interest in launches, eyeing communications technology as essential to growing their economies and leveling their status with developed nations. Cheaper flights would help SpaceX take the majority of the business from that new customer set. The company also expected to participate in an expanding market for human flights. SpaceX will also start making its own satellites, turning the company into a one-stop space shop. All of these plans hinge on SpaceX being able to prove that it can fly on schedule every month and burn through the $5b backlog of launches. For prospective astronauts, working at SpaceX was almost certainly their best chance to get to space now that NASA's astronaut corps had dwindled. As Shotwell saw it, the commercial space race was coming down to SpaceX and China. Outside of SpaceX, the American launch providers are no longer competitive against their peers in other countries. Musk noted that the US could soon be placing sanctions on Russia that could carry over to aerospace equipment. ULA (a competitor) relies on Russian-made engines to send up sensitive US military equipment in its Atlas V rockets.

SpaceX set another first, as the only private company to dock with the ISS. A couple of months later SpaceX received $440m from NASA to keep developing Dragon so that it could transport people. "Elon is changing the way aerospace business is done," said NASA's Stoker. "He's managed to keep the safety factor up while cutting costs." The Dragon 2 will be able to land anywhere on Earth by using the Super-Draco engines and thruster to come to a gentle stop on the ground. No more landings at sea. Musk said, "No more throwing spaceships away. So long as we continue to throw away rockets and spacecraft, we will never have true access to space. We have complete control. We have our own test site, while most of the other guys use government test sites. The labor hours are cut in half and so is the work around the materials. Four years ago, we could make 2 rockets a year and now we can make 20 a year." SpaceX boasts that the Falcon Heavy can take up twice the payload of the nearest competitor at 1/3 the cost.

Made of lightweight aluminum, the Model S achieved the highest safety rating in history. And it can be recharged *for free* at Tesla's stations lining highways across the US and the world. Other cars end up being about 10-20% efficient at turning the input of gasoline into the output of propulsion. The Model S ends up being about 60% efficient at the equivalent of about 100 miles/gallon. Tesla sells the Model S directly through its own stores and website. Typically, the stores are placed in high-end malls of affluent suburbs, not far from the Apple stores on which they were modeled. Whether you buy the car in a store or online, it is delivered in a concierge fashion. Tesla will bring it to your home, office, or anywhere else you want it.

Tesla has transformed the car into a gadget—a device that actually gets better after you buy it. In November 2012, just a few months after it started shipping, the Model S was named *Motor Trend's* Car of the Year in the first unanimous vote that anyone at the magazine could remember. They wrote that the vehicle handled like a sports car, drove as smoothly as a Rolls-Royce, held as much as a Chevy Equinox, and was more efficient than a Toyota Prius. Several months later, *Consumer Reports* gave the Model S its highest car rating in history—99 out of 100—while proclaiming that it was likely the best car ever built. One year after the Model S went on sale, Tesla posted a profit, hit $565m in quarterly revenue, raised its sales forecast, and became as valuable as Mazda Motor.

Tesla was, in effect willed into existence by Musk and reflects his personality as much as Intel, Microsoft, and Apple reflect the personalities of their founders. In the case of the Model S, the bulk of the car's mass is very close to the center of gravity and this has positive follow-on effects to handling, performance and safety. Tesla would make up for its lack of R&D money by hiring smart people who could outwork and outthink the third parties relied on by the rest of the automakers. The mantra was that one great engineer will replace 3 medium ones. Musk said he wanted an aesthetic that borrowed from Aston Martin and Porsche and some specific functions. He insisted, for example, that the car seat 7 people. He had 5 kids and wanted something that could be thought of as a family vehicle, and he knew other people would have this issue. Musk wanted to make another statement with a huge touchscreen. Drivers would tap on this 17-inch screen for every task except for opening the glove box and turning on the emergency lights--jobs required by law to be performed with physical buttons.

In May 2009, things started to take off for Tesla. The Model S had been unveiled, and Daimler followed that by acquiring a 10% stake in Tesla for $50m. The companies also

formed a strategic partnership to have Tesla provide the battery packs for 1000 of Daimler's Smart cars. In January 2010, the Department of Energy struck a $465m loan agreement with Tesla. Tesla would need one more windfall or, perhaps, to steal a car factory. And in May 2010, that's more or less what it did. Just one month after the last Toyota /Corolla went off the manufacturing line in April 2020, Tesla and Toyota announce a partnership and transfer of the factory. Tesla agreed to pay $42m for a large portion of the factory (once worth $1b), while Toyota invested $50m for a 2.5% stake in the company.

"The guys from Toyota and Daimler were blown away by the development process at Tesla. They might have 200 alpha cars and 300-1000 beta cars. We were doing everything from crash test to the interior design with about 15 cars. That was amazing to them." You did what Muck asked or were prepared to burrow down into the properties of materials to explain why something could not be done. "He always said, 'Take it down to the physics,'" Javidan said. "Elon holds Tesla up as a product company," von Holzhousen said. "He's passionate that you have to get the product right. Like the controversial door handles on the Model S (flush with the car's body until the driver gets close), the Model X's distinctive gull-wing doors have become one of its most striking features and the thing consumers talked about the most. Musk, though, approaches everything from a Platonic perspective. As he sees it, all of the design and technology choices should be directed toward the goal of making a car as close to perfect as possible. Either you're trying to make something spectacular with no compromises or you're not. And if you're not, Musk considers you a failure.

"The typical dealer wants to sell you a car on the spot to clear inventory off his lot," Blankenship said. "The goal here is to develop a relationship with Tesla and electric vehicles." What Musk had done that the rival automakers missed or didn't have the means to combat was turn Tesla into a lifestyle. It did not just sell someone a car. It sold them an image, a feeling they were tapping into the future, a relationship. Apple did the same thing decades ago with the iPod and the iPhone. Even those who were not religious about their affiliation with Apple were sucked into its universe once they bought the hardware and downloaded software like iTunes. This sort of relationship is hard to pull off if you don't control as much of the lifestyle as possible.

Tesla does not designate cars as being 2014s or 2015s. It produces the best Model S it can at the time. For the Model S owner, the all-electric life-style translates into a less hassled existence. Instead of going to the gas station, you just plug the car in at night, a rhythm familiar to anyone with a smartphone. Tesla owners not only dodge gas stations; they mostly get to skip out on visits to mechanics. Both the Roadster and the Model S take advantage of regenerative braking, which extends the life of the brakes. "I went in for a one-year service, and they spruced up everything so that the car was better than new" one Model S owner said.

Diarmuid O'Connell, the vice president of business development at Tesla, was former chief of staff for the assistant secretary of state for political-military affairs. He said, "I realized that even in peacetime, so many of our assets were employed to support the economic pipeline around oil."

In 2004, Lyndon, Peter, and Russ Rives, Musk's cousins from South Africa, left Burning Man enthused. They decided to become experts on the solar industry and find the opportunity in the market. People had thrown money at green technology because it seemed like the right thing to do, not because it made business sense. SolarCity, like the rest of Musk's ventures, did not represent a business opportunity so much as a worldview.

In June 2014, SolarCity acquired a solar cell maker call Silevo for $200m. This deal marked a huge shift in strategy. SolarCity would no longer buy its solar panels. It would make them at a factory in New York State. It then built out a network of solar systems all under its control and managed by the company's software. By the end of 2015, SolarCity expects to have installed 2 gigawatts' worth of solar panels, producing 2.8 terawatt-hours of electricity/year. It has since purchased the old Solyndra manufacturing plant that secured a controversial $500m loan from Obama's stimulus in 2009. SolarCity is a key part of what can be thought of as the unified theory of Musk. Each one of his businesses is interconnected both in the short and the long term. Tesla makes battery packs that SolarCity can then sell to end customers. SolarCity supplies Tesla's charging stations with solar panels, helping Tesla to provide free recharging to its drivers. Newly minted Model S owners regularly opt to begin living the Musk Lifestyle and outfit their homes with solar panels. Tesla and SpaceX help each other as well. They exchange knowledge around materials, manufacturing techniques, and the intricacies of operating factories that build so much stuff from the ground up.

The solar, automotive, and aerospace industries remain larded by regulation and bureaucracy, which favors incumbents. Altogether, Musk Co. employed about 15,000 people at the end of 2014. Tesla already consumes a huge portion of the world's lithium ion battery supply and will need far more batteries to produce the Model 3. This is why, in 2014, Musk announced plans to build what he dubbed the Gigafactory, or the world's largest lithium ion manufacturing facility. Each Gigafactory will employ about 6,500 people and help Tesla meet a variety of goals. It should first allow Tesla to keep up with the battery demand created by its cars and the storage units sold by SolarCity. Tesla also expects to be able to lower the costs of its batteries while improving their energy density. The battery backs coming out of the Gigafactory should be dramatically cheaper and better than ones built today, allowing Tesla not only to hit the $35,000 price target for the Model 3 but also to pave the way for electric vehicles with 500-plus miles of range. To do that while also constructing a worldwide network of free charging stations, revamping the way cars are sold, and revolutionizing automotive technology would be an exceptional feat in the history of capitalism.

Tesla's ability to raise money from eager investors was a newfound luxury. Tesla had bordered on bankruptcy for much of its existence and been one major technical gaffe from obsolescence at all times.

Musk speaks about the cars, solar panels, and batteries with such passion that it's easy to forget they are more or less sideline projects. He believes in the technologies to the extent that he thinks they're the right things to pursue for the betterment of mankind. They've also brought him fame and fortune. Musk's ultimate goal, though, remains turning humans into an interplanetary species. Musk sits somewhere on the autism spectrum and has trouble considering other people's emotions and caring about their well-being. But among his inner circle, Musk is warm, funny, and deeply emotional.

Musk announced in 2014 that Tesla would open-source all of its patents, a straightforward decision for him. He wants people to make and buy electric cars. Steve Jurgetson, the venture capitalist who has invested in SpaceX, Tesla, and SolarCity worked for Jobs and knows Gates well, described Musk as an upgraded mix of the 2. He's nicer than Jobs and a bit more refined than Bill Gates. To the extent that Silicon Valley has searched for an inheritor to Steve Jobs's role as the dominant, guiding force of the technology industry, Musk has emerged as the most likely candidate. This becomes a competitive advantage for him, too. Why would you want to work for a defense contractor when you can work for a guy who wants to go to Mars (estimated 3-month trip) and he's going to move heaven and earth to make it happen? Good ideas are always crazy until they're not.

By 2025 Tesla could very well have a lineup of 5 or 6 cars and be the dominant force in a booming electric car market. Playing off its current growth rate, SolarCity will have had time to emerge as a massive utility company and the leader in a solar market that had finally lived up to its promise. SpaceX? Well, it's perhaps the most intriguing. Musk may well have gone so far as to give people hope and to have renewed their faith in what technology can do for mankind.

[Musk has somehow delivered the biggest advance the space, automotive, and energy industries had seen in decades in industries larded by regulation and bureaucracy, which favor incumbents. Each one of his businesses is interconnected both in the short and the long term. What Musk had done was turn Tesla into a lifestyle.]