Good evening friends and this evening is about the book “Steve Jobs” by Walter Isaacson. This is a book about the roller-coaster life and searingly intense personality of a creative entrepreneur whose passion for perfection and ferocious drive revolutionized six industries: personal computers, animated movies, music, phones, tablet computing, and digital publishing. You might even add a seventh, retail stores, which Jobs did not quite revolutionize but did reimagine. In addition, he opened the way for a new market for digital content based on apps rather than just websites. Along the way he produced not only transforming products but also, on his second try, a lasting company, endowed with his DNA, that is filled with creative designers and daredevil engineers who could carry forward his vision. In August 2011, right before he stepped down as CEO, the enterprise he started in his parents’ garage became the world’s most valuable company. He was not a model boss or human being, tidily packaged for emulation. Driven by demons, he could drive those around him to fury and despair. But his personality and passions and products were all interrelated, just as Apple’s hardware and software tended to be, as if part of an integrated system. His tale is thus both instructive and cautionary, filled with lessons about innovation, character, leadership, and values.

TURN TO PG 3

Abandoned. Chosen. Special.

Steve Jobs knew from an early age that he was adopted. “My parents were very open with me about that,” he recalled. He had a vivid memory of sitting on the lawn of his house, when he was six or seven years old, telling the girl who lived across the street. “So does that mean your real parents didn’t want you?” the girl asked. “Lightning bolts went off in my head,” according to Jobs. “I remember running into the house, crying. And my parents said, ‘No, you have to understand.’ They were very serious and looked me straight in the eye. They said, ‘We specifically picked you out.’ Both of my parents said that and repeated it slowly for me. And they put an emphasis on every word in that sentence.” Abandoned. Chosen. Special. Those concepts became part of who Jobs was and how he regarded himself. His closest friends think that the knowledge that he was given up at birth left some scars. “I think his desire for complete control of whatever he makes derives directly from his personality and the fact that he was abandoned at birth,” said one longtime colleague, Del Yocam. “He wants to control his environment, and he sees the product as an extension of himself.” Greg Calhoun, who became close to Jobs right after college, saw another effect. “Steve talked to me a lot about being abandoned and the pain that caused,” he said. “It made him independent. He followed the beat of a different drummer, and that came from being in a different world than he was born into.

So he grew up not only with a sense of having once been abandoned, but also with a sense that he was special. In his own mind, that was more important in the formation of his personality.

TURN TO PG 4

**If employers can’t keep the employees interested, it’s their fault.**

His school, Monta Loma Elementary, was a series of low-slung 1950s buildings four blocks from his house. He countered his boredom by playing pranks. “I had a good friend named Rick Ferrentino, and we’d get into all sorts of trouble,” he recalled. “Like we made little posters announcing ‘Bring Your Pet to School Day.’ It was crazy, with dogs chasing cats all over, and the 25 teachers were beside themselves.” Another time they convinced some kids to tell them the combination numbers for their bike locks. “Then we went outside and switched all of the locks, and nobody could get their bikes. It took them until late that night to straighten things out.” When he was in third grade, the pranks became a bit more dangerous. “One time we set off an explosive under the chair of our teacher, Mrs. Thurman. We gave her a nervous twitch.” Not surprisingly, he was sent home two or three times before he finished third grade. By then, however, his father had begun to treat him as special, and in his calm but firm manner he made it clear that he expected the school to do the same. “Look, it’s not his fault,” Paul Jobs told the teachers, his son recalled. “If you can’t keep him interested, it’s your fault.”

TURN TO PG 5

**Secrets of the Little Blue Box**

The story, Ron Rosenbaum’s “Secrets of the Little Blue Box,” described how hackers and phone phreakers had found ways to make long distance calls for free by replicating the tones that routed signals on the AT&T network.

At first the Blue Box was used for fun and pranks. The most daring of these was when they called the Vatican and Wozniak pretended to be Henry Kissinger wanting to speak to the pope. “We are at de summit meeting in Moscow, and ve need to talk to de pope,” Woz intoned. He was told that it was 5:30 a.m. and the pope was sleeping. When he called back, he got a bishop who was supposed to serve as the translator. But they never actually got the pope on the line. “They realized that Woz wasn’t Henry Kissinger,” Jobs recalled. “We were at a public phone booth.” It was then that they reached an important milestone, one that would establish a pattern in their partnerships: Jobs came up with the idea that the Blue Box could be more than merely a hobby; they could build and sell them. “I got together the rest of the components, like the casing and power supply and keypads, and figured out how we could price it,” Jobs said, foreshadowing roles he would play when they founded Apple. The finished product was about the size of two decks of playing cards. The parts cost about $40, and Jobs decided they should sell it for $150.

The partnership paved the way for what would be a bigger adventure together. “If it hadn’t been for the Blue Boxes, there wouldn’t have been an Apple,” Jobs later reflected. “I’m 100% sure of that. Woz and I learned how to work together, and we gained the confidence that we could solve technical problems and actually put something into production.” They had created a device with a little circuit board that could control billions of dollars’ worth of infrastructure. “You cannot believe how much confidence that gave us.” Woz came to the same conclusion: “It was probably a bad idea selling them, but it gave us a taste of what we could do with my engineering skills and his vision.” The Blue Box adventure established a template for a partnership that would soon be born. Wozniak would be the gentle wizard coming up with a neat invention that he would have been happy just to give away, and Jobs would figure out how to make it user-friendly, put it together in a package, market it, and make a few bucks.

PG 6

**Reed College**

Jobs quickly became bored with college. He liked being at Reed, just not taking the required classes. In fact he was surprised when he found out that, for all of its hippie aura, there were strict course requirements. When Wozniak came to visit, Jobs waved his schedule at him and complained, “They are making me take all these courses.” Woz replied, “Yes, that’s what they do in college.” Jobs refused to go to the classes he was assigned and instead went to the ones he wanted, such as a dance class where he could enjoy both the creativity and the chance to meet girls. “I would never have refused to take the courses you were supposed to, that’s a difference in our personality,” Wozniak marveled.

Jobs also began to feel guilty, he later said, about spending so much of his parents’ money on an education that did not seem worthwhile. “All of my working-class parents’ savings were being spent on my college tuition,” he recounted in a famous commencement address at Stanford. “I had no idea what I wanted to do with my life and no idea how college was going to help me figure it out. And here I was spending all of the money my parents had saved their entire life. So I decided to drop out and trust that it would all work out okay.”

He didn’t actually want to leave Reed; he just wanted to quit paying tuition and taking classes that didn’t interest him. Remarkably, Reed tolerated that. “He had a very inquiring mind that was enormously attractive,” said the dean of students, Jack Dudman. “He refused to accept automatically received truths, and he wanted to examine everything himself.” Dudman allowed Jobs to audit classes and stay with friends in the dorms even after he stopped paying tuition. “The minute I dropped out I could stop taking the required classes that didn’t interest me, and begin dropping in on the ones that looked interesting,” he said. Among them was a calligraphy class that appealed to him after he saw posters on campus that were beautifully drawn. “I learned about serif and sans serif typefaces, about varying the amount of space between different letter combinations, about what makes great typography great. It was beautiful, historical, artistically subtle in a way that science can’t capture, and I found it fascinating.”

PG 7

**Apple Marketing Philosophy**

Markkula would become a father figure to Jobs. He began to teach Jobs about marketing and sales. “Mike really took me under his wing,” Jobs recalled. “His values were much aligned with mine. He emphasized that you should never start a company with the goal of getting rich. Your goal should be making something you believe in and making a company that will last.”

Markkula wrote his principles in a one-page paper titled “The Apple Marketing Philosophy” that stressed three points. The first was empathy, an intimate connection with the feelings of the customer: “We will truly understand their needs better than any other company.” The second was focus: “In order to do a good job of those things that we decide to do, we must eliminate all of the unimportant opportunities.” The third and equally important principle, awkwardly named, was impute. It emphasized that people form an opinion about a company or product based on the signals that it conveys. “People DO judge a book by its cover,” he wrote. “We may have the best product, the highest quality, the most useful software etc.; if we present them in a slipshod manner, they will be perceived as slipshod; if we present them in a creative, professional manner, we will impute the desired qualities.” For the rest of his career, Jobs would understand the needs and desires of customers better than any other business leader, he would focus on a handful of core products, and he would care, sometimes obsessively, about marketing and image and even the details of packaging. “When you open the box of an iPhone or iPad, we want that tactile experience to set the tone for how you perceive the product,” he said. “Mike taught me that.”

PG 8

**Good artists copy, great artists steal!**

Jobs and his colleagues went to see Xerox PARC’s technology in December 1979 and, when Jobs realized he hadn’t been shown enough, got an even fuller demonstration a few days later. Larry Tesler was one of the Xerox scientists called upon to do the briefings, and he was thrilled to show off the work that his bosses back east had never seemed to appreciate. But the other briefer, Adele Goldberg, was appalled that her company seemed willing to give away its crown jewels. “It was incredibly stupid, completely nuts, and I fought to prevent giving Jobs much of anything,” she recalled. Goldberg got her way at the first briefing. Jobs, Raskin, and the Lisa team leader John Couch were ushered into the main lobby, where a Xerox Alto had been set up. “It was a very controlled show of a few applications, primarily a word-processing one,” Goldberg said. Jobs wasn’t satisfied, and he called Xerox headquarters demanding more. So he was invited back a few days later, and this time he brought a larger team that included Bill Atkinson and Bruce Horn, an Apple programmer who had worked at Xerox PARC. They both knew what to look for. “When I arrived at work, there was a lot of commotion, and I was told that Jobs and a bunch of his programmers were in the conference room,” said Goldberg. One of her engineers was trying to keep them entertained with more displays of the word processing program. But Jobs was growing impatient. “Let’s stop this bullshit!” he kept shouting. So the Xerox folks huddled privately and decided to open the kimono a bit more, but only slowly. They agreed that Tesler could show off Smalltalk, the programming language, but he would demonstrate only what was known as the “unclassified” version. “It will dazzle [Jobs] and he’ll never know he didn’t get the confidential disclosure,” the head of the team told Goldberg. They were wrong. Atkinson and others had read some of the papers published by Xerox PARC, so they knew they were not getting a full description. Jobs phoned the head of the Xerox venture capital division to complain; a call immediately came back from corporate headquarters in Connecticut decreeing that Jobs and his group should be shown everything. Goldberg stormed out in a rage.

**Good artists copy, great artists steal! (Continued…)**

When Tesler finally showed them what was truly under the hood, the Apple folks were astonished. Atkinson stared at the screen, examining each pixel so closely that Tesler could feel the breath on his neck. Jobs bounced around and waved his arms excitedly. “He was hopping around so much I don’t know how he actually saw most of the demo, but he did, because he kept asking questions,” Tesler recalled. “He was the exclamation point for every step I showed.” Jobs kept saying that he couldn’t believe that Xerox had not commercialized the technology. “You’re sitting on a gold mine,” he shouted. “I can’t believe Xerox is not taking advantage of this.”

The Smalltalk demonstration showed the graphical interface that was made possible by a bitmapped screen. “It was like a veil being lifted from my eyes,” Jobs recalled. “I could see what the future of computing was destined to be.” When the Xerox PARC meeting ended after more than two hours, Jobs drove Bill Atkinson back to the Apple office in Cupertino. He was speeding, and so were his mind and mouth. “This is it!” he shouted, emphasizing each word. “We’ve got to do it!” It was the breakthrough he had been looking for: bringing computers to the people, with the cheerful but affordable design of an Eichler home and the ease of use of a sleek kitchen appliance.

“How long would this take to implement?” he asked. “I’m not sure,” Atkinson replied. “Maybe six months.” It was a wildly optimistic assessment, but also a motivating one.

The Apple raid on Xerox PARC is sometimes described as one of the biggest heists in the chronicles of industry. Jobs occasionally endorsed this view, with pride. As he once said, “Picasso had a saying—‘good artists copy, great artists steal’—and we have always been shameless about stealing great ideas.”

**The Reality Distortion Field**

When Andy Hertzfeld joined the Macintosh team, he got a briefing from Bud Tribble, the other software designer, about the huge amount of work that still needed to be done. Jobs wanted it finished by January 1982, less than a year away. “That’s crazy,” Hertzfeld said. “There’s no way.” Tribble said that Jobs would not accept any contrary facts. “The best way to describe the situation is a term from Star Trek,” Tribble explained. “Steve has a reality distortion field.” When Hertzfeld looked puzzled, Tribble elaborated. “In his presence, reality is malleable. He can convince anyone of practically anything. It wears off when he’s not around, but it makes it hard to have realistic schedules.” Tribble recalled that he adopted the phrase from the “Menagerie” episodes of Star Trek, “in which the aliens create their own new world through sheer mental force.” He meant the phrase to be a compliment as well as a caution: “It was dangerous to get caught in Steve’s distortion field, but it was what led him to actually be able to change reality.”

At first Hertzfeld thought that Tribble was exaggerating, but after two weeks of working with Jobs, he became a keen observer of the phenomenon. “The reality distortion field was a confounding mélange of a charismatic rhetorical style, indomitable will, and eagerness to bend any fact to fit the purpose at hand,” he said.

There was little that could shield you from the force, Hertzfeld discovered. “Amazingly, the reality distortion field seemed to be effective even if you were acutely aware of it. We would often discuss potential techniques for grounding it, but after a while most of us gave up, accepting it as a force of nature.” After Jobs decreed that the sodas in the office refrigerator be replaced by Odwalla organic orange and carrot juices, someone on the team had T-shirts made. “Reality Distortion Field,” they said on the front, and on the back, “It’s in the juice!”

He would assert something—be it a fact about world history or a recounting of who suggested an idea at a meeting —without even considering the truth. It came from willfully defying reality, not only to others but to himself. It allowed him to con people into believing his vision, because he has personally embraced and internalized it. A lot of people distort reality, of course. When Jobs did so, it was often a tactic for accomplishing something. Wozniak, who was as congenitally honest as Jobs was tactical, marveled at how effective it could be. “His reality distortion is when he has an illogical vision of the future, such as telling me that I could design the Breakout game in just a few days. You realize that it can’t be true, but he somehow makes it true.”

**Birth of rounded corner rectangles in computer graphics**

Jobs obsessed with equal intensity about the look of what would appear on the screen. One day Bill Atkinson burst into Texaco Towers all excited. He had just come up with a brilliant algorithm that could draw circles and ovals onscreen quickly. The math for making circles usually required calculating square roots, which the 68000 microprocessor didn’t support. But Atkinson did a workaround based on the fact that the sum of a sequence of odd numbers produces a sequence of perfect squares (for example, 1 + 3 = 4, 1 + 3 + 5 = 9, etc.). Hertzfeld recalled that when Atkinson fired up his demo, everyone was impressed except Jobs. “Well, circles and ovals are good,” he said, “but how about drawing rectangles with rounded corners?” “I don’t think we really need it,” said Atkinson, who explained that it would be almost impossible to do. “I wanted to keep the graphics routines lean and limit them to the primitives that truly needed to be done,” he recalled.

“Rectangles with rounded corners are everywhere!” Jobs said, jumping up and getting more intense. “Just look around this room!” He pointed out the whiteboard and the tabletop and other objects that were rectangular with rounded corners. “And look outside, there’s even more, practically everywhere you look!” He dragged Atkinson out for a walk, pointing out car windows and billboards and street signs. “Within three blocks, we found seventeen examples,” said Jobs. “I started pointing them out everywhere until he was completely convinced.”

“When he finally got to a No Parking sign, I said, ‘Okay, you’re right, I give up. We need to have a rounded-corner rectangle as a primitive!’” Hertzfeld recalled, “Bill returned to Texaco Towers the following afternoon, with a big smile on his face. His demo was now drawing rectangles with beautifully rounded corners blisteringly fast.” The dialogue boxes and windows on the Lisa and the Mac, and almost every other subsequent computer, ended up being rendered with rounded corners.

**Obsession with design and detail**

From his father Jobs had learned that a hallmark of passionate craftsmanship is making sure that even the aspects that will remain hidden are done beautifully. One of the most extreme—and telling— implementations of that philosophy came when he scrutinized the printed circuit board that would hold the chips and other components deep inside the Macintosh. No consumer would ever see it, but Jobs began critiquing it on aesthetic grounds. “That part’s really pretty,” he said. “But look at the memory chips. That’s ugly. The lines are too close together.” One of the new engineers interrupted and asked why it mattered. “The only thing that’s important is how well it works. Nobody is going to see the PC board.” Jobs reacted typically. “I want it to be as beautiful as possible, even if it’s inside the box. A great carpenter isn’t going to use lousy wood for the back of a cabinet, even though nobody’s going to see it.” In an interview a few years later, after the Macintosh came out, Jobs again reiterated that lesson from his father: “When you’re a carpenter making a beautiful chest of drawers, you’re not going to use a piece of plywood on the back, even though it faces the wall and nobody will ever see it. You’ll know it’s there, so you’re going to use a beautiful piece of wood on the back. For you to sleep well at night, the aesthetic, the quality, has to be carried all the way through.”

From Mike Markkula he had learned the importance of packaging and presentation. People do judge a book by its cover, so for the box of the Macintosh, Jobs chose a full-color design and kept trying to make it look better. “He got the guys to redo it fifty times,” recalled Alain Rossmann, a member of the Mac team who married Joanna Hoffman. “It was going to be thrown in the trash as soon as the consumer opened it, but he was obsessed by how it looked.” To Rossmann, this showed a lack of balance; money was being spent on expensive packaging while they were trying to save money on the memory chips. But for Jobs, each detail was essential to making the Macintosh amazing.

***End-to-end Control***

Jobs’s reluctance to make the Mac compatible with the architecture of the Lisa was motivated by more than rivalry or revenge. There was a philosophical component, one that was related to his penchant for control. He believed that for a computer to be truly great, its hardware and its software had to be tightly linked. When a computer was open to running software that also worked on other computers, it would end up sacrificing some functionality. The best products, he believed, were “whole widgets” that were designed end-to-end, with the software closely tailored to the hardware and vice versa. This is what would distinguish the Macintosh, which had an operating system that worked only on its own hardware, from the environment that Microsoft was creating, in which its operating system could be used on hardware made by many different companies.

“Jobs is a strong-willed, elitist artist who doesn’t want his creations mutated inauspiciously by unworthy programmers,” explained ZDNet’s editor Dan Farber. “It would be as if someone off the street added some brush strokes to a Picasso painting or changed the lyrics to a Dylan song.” In later years Jobs’s whole widget approach would distinguish the iPhone, iPod, and iPad from their competitors. It resulted in awesome products. But it was not always the best strategy for dominating a market. “From the first Mac to the latest iPhone, Jobs’s systems have always been sealed shut to prevent consumers from meddling and modifying them,” noted Leander Kahney, author of Cult of the Mac.

Jobs’s desire to control the user experience had been at the heart of his debate with Wozniak over whether the Apple II would have slots that allow a user to plug expansion cards into a computer’s motherboard and thus add some new functionality. Wozniak won that argument: The Apple II had eight slots. But this time around it would be Jobs’s machine, not Wozniak’s, and the Macintosh would have limited slots. You wouldn’t even be able to open the case and get to the motherboard. For a hobbyist or hacker, that was uncool. But for Jobs, the Macintosh was for the masses. He wanted to give them a controlled experience. “It reflects his personality, which is to want control,” said Berry Cash, who was hired by Jobs in 1982 to be a market strategist at Texaco Towers.

***End-to-end Control (Continued…)***

“Steve would talk about the Apple II and complain, ‘We don’t have control, and look at all these crazy things people are trying to do to it. That’s a mistake I’ll never make again.’” He went so far as to design special tools so that the Macintosh case could not be opened with a regular screwdriver. “We’re going to design this thing so nobody but Apple employees can get inside this box,” he told Cash. Jobs also decided to eliminate the cursor arrow keys on the Macintosh keyboard. The only way to move the cursor was to use the mouse. It was a way of forcing Steve Jobs by Walter Isaacson 189 old-fashioned users to adapt to point-and-click navigation, even if they didn’t want to. Unlike other product developers, Jobs did not believe the customer was always right; if they wanted to resist using a mouse, they were wrong.

There was one other advantage, he believed, to eliminating the cursor keys: It forced outside software developers to write programs specially for the Mac operating system, rather than merely writing generic software that could be ported to a variety of computers. That made for the type of tight vertical integration between application software, operating systems, and hardware devices that Jobs liked.

Jobs’s desire for end-to-end control also made him allergic to proposals that Apple license the Macintosh operating system to other office equipment manufacturers and allow them to make Macintosh clones. The new and energetic Macintosh marketing director Mike Murray proposed a licensing program in a confidential memo to Jobs in May 1982. “We would like the Macintosh user environment to become an industry standard,” he wrote. “The hitch, of course, is that now one must buy Mac hardware in order to get this user environment. Rarely (if ever) has one company been able to create and maintain an industry-wide standard that cannot be shared with other manufacturers.” His proposal was to license the Macintosh operating system to Tandy. Because Tandy’s Radio Shack stores went after a different type of customer, Murray argued, it would not severely cannibalize Apple sales. But Jobs was congenitally averse to such a plan. His approach meant that the Macintosh remained a controlled environment that met his standards, but it also meant that, as Murray feared, it would have trouble securing its place as an industry standard in a world of IBM clones.

**Mac Celebration**

The retreat in September 1982 was at the Pajaro Dunes near Monterey. Fifty or so members of the Mac division sat in the lodge facing a fireplace. Jobs sat on top of a table in front of them. He spoke quietly for a while, then walked to an easel and began posting his thoughts.

The first was “Don’t compromise.” It was an injunction that would, over time, be both helpful and harmful. Most technology teams made trade-offs. The Mac, on the other hand, would end up being as “insanely great” as Jobs and his acolytes could possibly make it—but it would not ship for another sixteen months, way behind schedule. After mentioning a scheduled completion date, he told them, “It would be better to miss than to turn out the wrong thing.” A different type of project manager, willing to make some trade-offs, might try to lock in dates after which no changes could be made. Not Jobs. He displayed another maxim: “It’s not done until it ships.” Another chart contained a koōan-like phrase that he later told me was his favorite maxim: “The journey is the reward.” The Mac team, he liked to emphasize, was a special corps with an exalted mission. Someday they would all look back on their journey together and, forgetting or laughing off the painful moments, would regard it as a magical high point in their lives. At the end of the presentation someone asked whether he thought they should do some market research to see what customers wanted. “No,” he replied, “because customers don’t know what they want until we’ve shown them.” Then he pulled out a device that was about the size of a desk diary. “Do you want to see something neat?” When he flipped it open, it turned out to be a mock-up of a computer that could fit on your lap, with a keyboard and screen hinged together like a notebook. “This is my dream of what we will be making in the mid-to late eighties,” he said. They were building a company that would invent the future.

Steve’s comment on market research after the Macintosh launch: After the Macintosh team returned to Bandley 3 that afternoon, a truck pulled into the parking lot and Jobs had them all gather next to it. Inside were a hundred new Macintosh computers, each personalized with a plaque. “Steve presented them one at a time to each team member, with a handshake and a smile, as the rest of us stood around cheering,” Hertzfeld recalled. It had been a grueling ride, and many egos had been bruised by Jobs’s obnoxious and rough management style. But neither Raskin nor Wozniak nor Sculley nor anyone else at the company could have pulled off the creation of the Macintosh. Nor would it likely have emerged from focus groups and committees. On the day he unveiled the Macintosh, a reporter from Popular Science asked Jobs what type of market research he had done. Jobs responded by scoffing, “Did Alexander Graham Bell do any market research before he invented the telephone?”

**Sculley and Jobs Face-off**

John Sculley and Apple co-founder Steve Jobs got together every weekend for five months as Jobs was trying to convince Sculley to take a job at Apple. Sculley, who was the CEO of Pepsi at the time, first met Jobs after Thanksgiving in 1982.

“We got to know each other very, very well, but at the end of it I said, ‘Steve, I’ve thought about it and I’m not coming to Apple,’” Sculley. This was the last Sunday in March, 1983.

“Steve paused and thought for a while, and then he was about 18 inches away from me — and in those days he was in his 20s and he had jet black hair, very dark eyes and he was right in my face — and he said, ‘You want to sell sugar water for the rest of your life, or do you want to come with me and change the world?’”

After the burst of excitement that accompanied the release of Macintosh, its sales began to taper off in the second half of 1984. The problem was a fundamental one: It was a dazzling but woefully slow and underpowered computer, and no amount of hoopla could mask that.

There were many reasons for the rift between Jobs and Sculley in the spring of 1985. Some were merely business disagreements, such as Sculley’s attempt to maximize profits by keeping the Macintosh price high when Jobs wanted to make it more affordable. Others were weirdly psychological and stemmed from the torrid and unlikely infatuation they initially had with each other. Sculley had painfully craved Jobs’s affection, Jobs had eagerly sought a father figure and mentor, and when the ardor began to cool there was an emotional backwash. But at its core, the growing breach had two fundamental causes, one on each side. For Jobs, the problem was that Sculley never became a product person. He didn’t make the effort, or show the capacity, to understand the fine points of what they were making.

**Sculley and Jobs Face-off (Continued…)**

On the contrary, he found Jobs’s passion for tiny technical tweaks and design details to be obsessive and counterproductive. He had spent his career selling sodas and snacks whose recipes were largely irrelevant to him. He wasn’t naturally passionate about products, which was among the most damning sins that Jobs could imagine. “I tried to educate him about the details of engineering,” Jobs recalled, “but he had no idea how products are created, and after a while it just turned into arguments. But I learned that my perspective was right. Products are everything.” He came to see Sculley as clueless, and his contempt was exacerbated by Sculley’s hunger for his affection and delusions that they were very similar.

For Sculley, the problem was that Jobs, when he was no longer in courtship or manipulative mode, was frequently obnoxious, rude, selfish, and nasty to other people. He found Jobs’s boorish behavior as despicable as Jobs found Sculley’s lack of passion for product details. Sculley was kind, caring, and polite to a fault. At one point they were planning to meet with Xerox’s vice chair Bill Glavin, and Sculley begged Jobs to behave. But as soon as they sat down, Jobs told Glavin, “You guys don’t have any clue what you’re doing,” and the meeting broke up. “I’m sorry, but I couldn’t help myself,” Jobs told Sculley. It was one of many such cases. As Atari’s Al Alcorn later observed, “Sculley believed in keeping people happy and worrying about relationships. Steve didn’t give a shit about that. But he did care about the product in a way Steve Jobs by Walter Isaacson 263 that Sculley never could, and he was able to avoid having too many bozos working at Apple by insulting anyone who wasn’t an A player.”

In May 1985, Sculley—encouraged by Arthur Rock—decided to reorganize Apple, and proposed a plan to the board that would remove Jobs from the Macintosh group and put him in charge of "New Product Development". This move would effectively render Jobs powerless within Apple. In response, Jobs then developed a plan to get rid of Sculley and take over Apple. However, Jobs was confronted after the plan was leaked, and he said that he would leave Apple. The Board declined his resignation and asked him to reconsider. Sculley also told Jobs that he had all of the votes needed to go ahead with the reorganization. A few months later, on September 17, 1985, Jobs submitted a letter of resignation to the Apple Board. Five additional senior Apple employees also resigned and joined Jobs in his new venture, NeXT.

In 1986, Jobs funded the spinout of The Graphics Group (later renamed [Pixar](https://en.wikipedia.org/wiki/Pixar)) from [Lucasfilm](https://en.wikipedia.org/wiki/Lucasfilm)'s computer graphics division.

The first film produced by Pixar with its [Disney](https://en.wikipedia.org/wiki/The_Walt_Disney_Company) partnership, [*Toy Story*](https://en.wikipedia.org/wiki/Toy_Story) (1995), with Jobs credited as executive producer. Steve Jobs played a pivotal role in shaping the future of computer animation. Over the next 15 years, under Pixar's creative chief [John Lasseter](https://en.wikipedia.org/wiki/John_Lasseter), the company produced box-office hits [*A Bug's Life*](https://en.wikipedia.org/wiki/A_Bug's_Life) (1998); [*Toy Story 2*](https://en.wikipedia.org/wiki/Toy_Story_2) (1999); [*Monsters, Inc.*](https://en.wikipedia.org/wiki/Monsters,_Inc.) (2001); [*Finding Nemo*](https://en.wikipedia.org/wiki/Finding_Nemo) (2003); [*The Incredibles*](https://en.wikipedia.org/wiki/The_Incredibles) (2004); [*Cars*](https://en.wikipedia.org/wiki/Cars_(film)) (2006); [*Ratatouille*](https://en.wikipedia.org/wiki/Ratatouille_(film)) (2007); [*WALL-E*](https://en.wikipedia.org/wiki/WALL-E) (2008); [*Up*](https://en.wikipedia.org/wiki/Up_(2009_film))(2009); and [*Toy Story 3*](https://en.wikipedia.org/wiki/Toy_Story_3) (2010). *Finding Nemo*, *The Incredibles*, *Ratatouille*, *WALL-E*, *Up* and *Toy Story 3* each received the [Academy Award for Best Animated Feature](https://en.wikipedia.org/wiki/Academy_Award_for_Best_Animated_Feature), an award introduced in 2001.[[7](https://en.wikipedia.org/wiki/Steve_Jobs)

**iCEO**

In 1996, Apple announced that it would buy [NeXT](https://en.wikipedia.org/wiki/NeXT) for $427 million. The deal was finalized in February 1997,[[86]](https://en.wikipedia.org/wiki/Steve_Jobs) bringing Jobs back to the company he had cofounded. Jobs became *de facto* chief after then-CEO [Gil Amelio](https://en.wikipedia.org/wiki/Gil_Amelio) was ousted in July 1997. He was formally named interim chief executive in September.[[87]](https://en.wikipedia.org/wiki/Steve_Jobs) In March 1998, to concentrate Apple's efforts on returning to profitability, Jobs terminated a number of projects, such as [Newton](https://en.wikipedia.org/wiki/Newton_(platform)), [Cyberdog](https://en.wikipedia.org/wiki/Cyberdog), and [OpenDoc](https://en.wikipedia.org/wiki/OpenDoc). In the coming months, many employees developed a fear of encountering Jobs while riding in the elevator, "afraid that they might not have a job when the doors opened. The reality was that Jobs's summary executions were rare, but a handful of victims was enough to terrorize a whole company."[[88]](https://en.wikipedia.org/wiki/Steve_Jobs) Jobs changed the licensing program for [Macintosh clones](https://en.wikipedia.org/wiki/Macintosh_clones), making it too costly for the manufacturers to continue making machines.

**Apple’ s Design Principles:**

In Jony Ive, Jobs met his soul mate in the quest for true rather than surface simplicity. Sitting in his design studio, Ive described his philosophy: Why do we assume that simple is good? Because with physical products, we have to feel we can dominate them. As you bring order to complexity, you find a way to make the product defer to you. Simplicity isn’t just a visual style. It’s not just minimalism or the absence of clutter. It involves digging through the depth of the complexity. To be truly simple, you have to go really deep. For example, to have no screws on something, you can end up having a product that is so convoluted and so complex. The better way is to go deeper with the simplicity, to understand everything about it and how it’s manufactured. You have to deeply understand the essence of a product in order to be able to get rid of the parts that are not essential. That was the fundamental principle Jobs and Ive shared. Design was not just about what a product looked like on the surface. It had to reflect the product’s essence. “In most people’s vocabularies, design means veneer,” Jobs told Fortune shortly after retaking the reins at Apple. “But to me, nothing could be further from the meaning of design. Design is the fundamental soul of a man-made creation that ends up expressing itself in successive outer layers.”

**The iMac**

The first great design triumph to come from the Jobs-Ive collaboration was the iMac, a desktop computer aimed at the home consumer market that was introduced in May 1998. Jobs had certain specifications. It should be an all-in-one product, with keyboard and monitor and computer ready to use right out of the box. It should have a distinctive design that made a brand statement. And it should sell for $1,200 or so. (Apple had no computer selling for less than $2,000 at the time.) “He told us to go back to the roots of the original 1984 Macintosh, an all-in-one consumer appliance,” recalled Schiller. “That meant design and engineering had to work together.”

Design Changes:

Jon Rubinstein, who was in charge of hardware, adapted the microprocessor and guts of the PowerMac G3, Apple’s high-end professional computer, for use in the proposed new machine. It would have a hard drive and a tray for compact disks, but in a rather bold move, Jobs and Rubinstein decided not to include the usual floppy disk drive. Jobs quoted the hockey star Wayne Gretzky’s maxim, “Skate where the puck’s going, not where it’s been.” He was a bit ahead of his time, but eventually most computers eliminated floppy disks.

The plastic casing that Ive and Coster proposed was sea-green blue, later named bondi blue after the color of the water at a beach in Australia, and it was translucent so that you could see through to the inside of the machine. “We were trying to convey a sense of the computer being changeable based on your needs, to be like a chameleon,” said Ive. “That’s why we liked the translucency. You could have color but it felt so unstatic. And it came across as cheeky.”

**The iMac (Continued…)**

Both metaphorically and in reality, the translucency connected the inner engineering of the computer to the outer design. Jobs had always insisted that the rows of chips on the circuit boards look neat, even though they would never be seen. Now they would be seen. The casing would make visible the care that had gone into making all components of the computer and fitting them together. The playful design would convey simplicity while also revealing the depths that true simplicity entails.

Even the simplicity of the plastic shell itself involved great complexity. Ive and his team worked with Apple’s Korean manufacturers to perfect the process of making the cases, and they even went to a jelly bean factory to study how to make translucent colors look enticing. The cost of each case was more than $60 per unit, three times that of a regular computer case. Other companies would probably have demanded presentations and studies to show whether the translucent case would increase sales enough to justify the extra cost. Jobs asked for no such analysis.

**Right before the launch of iMac...**

Jobs had not seen the final product before, and when he looked at it onstage he saw a button on the front, under the display. He pushed it and the CD tray opened. “What the fuck is this?!?” he asked, though not as politely. “None of us said anything,” Schiller recalled, “because he obviously knew what a CD tray was.” So Jobs continued to rail. It was supposed to have a clean CD slot, he insisted, referring to the elegant slot drives that were already to be found in upscale cars. “Steve, this is exactly the drive I showed you when we talked about the components,” Rubinstein explained. “No, there was never a tray, just a slot,” Jobs insisted. Rubinstein didn’t back down. Jobs’s fury didn’t abate. “I almost started crying, because it was too late to do anything about it,” Jobs later recalled.

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There was also a problem with the video he planned to show. In it, Jony Ive is shown describing his design thinking and asking, “What computer would the Jetsons have had? It was like, the future yesterday.” At that moment there was a two-second snippet from the cartoon show, showing Jane Jetson looking at a video screen, followed by another two-second clip of the Jetsons giggling by a Christmas tree. At a rehearsal a production assistant told Jobs they would have to remove the clips because Hanna-Barbera had not given permission to use them. “Keep it in,” Jobs barked at him. The assistant explained that there were rules against that. “I don’t care,” Jobs said. “We’re using it.” The clip stayed in.

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**Right before the launch of iMac... (Continued…)**

As always, Jobs was compulsive in preparing for the dramatic unveiling. Having stopped one rehearsal because he was angry about the CD drive tray, he stretched out the other rehearsals to make sure the show would be stellar. He repeatedly went over the climactic moment when he would walk across the stage and proclaim, “Say hello to the new iMac.” He wanted the lighting to be perfect so that the translucence of the new machine would be vivid. But after a few run throughs he was still unsatisfied, an echo of his obsession with stage lighting that Sculley had witnessed at the rehearsals for the original 1984 Macintosh launch. He ordered the lights to be brighter and come on earlier, but that still didn’t please him. So he jogged down the auditorium aisle and slouched into a center seat, draping his legs over the seat in front. “Let’s keep doing it till we get it right, okay?” he said. They made another attempt. “No, no,” Jobs complained. “This isn’t working at all.” The next time, the lights were bright enough, but they came on too late. “I’m getting tired of asking about this,” Jobs growled. Finally, the iMac shone just right. “Oh! Right there! That’s great!” Jobs yelled.

**The iPhone Design**

On many of his major projects, such as the first Toy Story and the Apple store, Jobs pressed “pause” as they neared completion and decided to make major revisions. That happened with the design of the iPhone as well. The initial design had the glass screen set into an aluminum case. One Monday morning Jobs went over to see Ive. “I didn’t sleep last night,” he said, “because I realized that I just don’t love it.” It was the most important product he had made since the first Macintosh, and it just didn’t look right to him. Ive, to his dismay, instantly realized that Jobs was right. “I remember feeling absolutely embarrassed that he had to make the observation.”

The problem was that the iPhone should have been all about the display, but in their current design the case competed with the display instead of getting out of the way. The whole device felt too masculine, task-driven, efficient. “Guys, you’ve killed yourselves over this design for the last nine months, but we’re going to change it,” Jobs told Ive’s team. “We’re all going to have to work nights and weekends, and if you want we can hand out some guns so you can kill us now.” Instead of balking, the team agreed. “It was one of my proudest moments at Apple,” Jobs recalled. The new design ended up with just a thin stainless steel bezel that allowed the gorilla glass display to go right to the edge. Every part of the device seemed to defer to the screen. The new look was austere, yet also friendly. You could fondle it. It meant they had to redo the circuit boards, antenna, and processor placement inside, but Jobs ordered the change. “Other companies may have shipped,” said Fadell, “but we pressed the reset button and started over.”

One aspect of the design, which reflected not only Jobs’s perfectionism but also his desire to control, was that the device was tightly sealed. The case could not be opened, even to change the battery. As with the original Macintosh in 1984, Jobs did not want people fiddling inside. In fact when Apple discovered in 2011 that third-party repair shops were opening up the iPhone 4, it replaced the tiny screws with a tamper-resistant Pentalobe screw that was impossible to open with a commercially available screwdriver. By not having a replaceable battery, it was possible to make the iPhone much thinner. For Jobs, thinner was always better. “He’s always believed that thin is beautiful,” said Tim Cook. “You can see that in all of the work. We have the thinnest notebook, the thinnest smartphone, and we made the iPad thin and then even thinner.”

**The saga of Steve Jobs is the Silicon Valley creation myth writ large**: launching a startup in his parents’ garage and building it into the world’s most valuable company. He didn’t invent many things outright, but he was a master at putting together ideas, art, and technology in ways that invented the future. He designed the Mac after appreciating the power of graphical interfaces in a way that Xerox was unable to do, and he created the iPod after grasping the joy of having a thousand songs in your pocket in a way that Sony, which had all the assets and heritage, never could accomplish. Some leaders push innovations by being good at the big picture. Others do so by mastering details. Jobs did both, relentlessly. As a result he launched a series of products over three decades that transformed whole industries:

• The Apple II, which took Wozniak’s circuit board and turned it into the first personal computer that was not just for hobbyists.

• The Macintosh, which begat the home computer revolution and popularized graphical user interfaces.

• *Toy Story* and other Pixar blockbusters, which opened up the miracle of digital imagination.

• Apple stores, which reinvented the role of a store in defining a brand.

• The iPod, which changed the way we consume music.

• The iTunes Store, which saved the music industry.

• The iPhone, which turned mobile phones into music, photography, video, email, and web devices.

• The App Store, which spawned a new content creation industry.

• The iPad, which launched tablet computing and offered a platform for digital newspapers, magazines, books, and videos.

• iCloud, which demoted the computer from its central role in managing our content and let all of our

devices sync seamlessly.

• And Apple itself, which Jobs considered his greatest creation, a place where imagination was nurtured, applied, and executed in ways so creative that it became the most valuable company on earth.