company—were officially over. Google was hiring again. It would also step up its rate of acquiring companies, big and small. Expect one a month. "We are increasing our hiring rate and our investment rate in anticipation of a recovery," he said. The company would prosecute with vigor its efforts to dominate in the phone world and the television world, as well in the field of software—Microsoft, Apple, and cable companies be damned.

"I feel like I shouldn't impose my beliefs on the world. It's a bad technology practice."

"DO KNOW EVIL!"

That was the legend on the back of the cool black T-shirts printed by the geeks, scientists, pager-bound technicians, and former break-in artists on the Google Security Team.

But the failure to know evil—or more accurately, the failure to navigate around it without falling into its dark orbit—would come to haunt the company in its most serious moral crisis. When the revelation came that a security breach had compromised the company's intellectual property and additional attacks had exposèd the Gmail accounts of dissidents critical of the Chinese government, Google's "China problem" became front-page news. After weeks of struggling with the issue, Google's Executive Committee, including Schmidt, Page, and Brin, finally agreed on the most significant and embarrassing retreat in the company's history. On January 12, 2010, they changed course in the country with the world's biggest Internet
user base, announcing an effective pullout of their search engine from mainland China.

Though the underlying issue of Google's China pullout was censorship, it was ironic that a cyberattack had triggered the retreat. Google had believed that its computer science skills and savvy made it a leader in protecting its corporate information. With its blend of Montessori naïveté and hubris that had served it so well in other areas, the company felt it could do security better. Until the China incursion, it appeared to be succeeding.

As with other aspects of the company, Google's security team had evolved as the enterprise grew. In May 2002, Google hired its first person dedicated specifically to protecting its operations from intruders, vandals, and thieves. Heather Adkins had wound up in the field almost by accident. She'd been a marine biology major at Humboldt State University, where she'd stumbled on computers, then switched her major to CS. It was the mid-1990s, and the Internet craze had spawned hundreds of companies desperate for engineers. Even before Adkins could graduate, the Internet company Excite lured her to Silicon Valley, where she ran its huge email system. She obtained an education in computer security on the fly and left Excite to run security for a short-lived start-up. She survived Google's interview process to become the top security enforcer of one of the world's most visible cyber targets. She was twenty-five years old.

Google's existing sysops (systems operations) teams, staffed by engineers familiar with best practices in the field, had been diligent in using security software to defeat what was already a constant series of probes and outright attacks, so Adkins wasn't facing a crisis. Instead, it was apparent that a big part of her job would be making sure that security was baked into the products and services Google would introduce. Some cyberattacks would inevitably involve not just Google's security but the personal information of Google's users. An early challenge came when Adkins learned about the Gmail product in development. Google would be responsible for billions of emails, loaded with personal information and confidential business materials. Atkins called for a complete design review from the security perspective. She took the entire Gmail team to an off-site meeting, and for a couple of days they whiteboarded every possible vulnerability. That began Google's practice of working on security with engineers while projects were in the design stage. The security team also ran training sessions, including a mandatory secure programming class that every Noogler had to take, and had regular office hours where engineers could work out knotty security problems with the team.

Google's security team grew substantially from the day when Adkins arrived as employee 451. It hired three different kinds of security workers. There were academic computer scientists; responders, who wore pagers and were prepared to address intrusions or denial-of-service attacks instantly (for instance, a giant attack of hacker bots during the 2003 Google ski trip); and "breakers," people whose job it was to don the mental cloak of dark-side hackers and reverse-engineer and probe Google's systems to see if there were holes that some mischievous might be exploiting. Sometimes Google paid outside consultants—their murky résumés notwithstanding—to search for vulnerabilities. Other times, it worked with skilled amateurs who were more than happy to be paid with a T-shirt for locating a bug in Google's software. (There was a discussion whether the garment should read, I FOUND A FLAW IN GOOGLE AND ALL I GOT WAS THIS LOUSY T-SHIRT, but the security people worried that the message might encourage even more attacks, so the shirt had only the standard company logo.)

In 2003, the company hired Alma Whitten. She'd earned the first doctorate in computer security and human factors at Carnegie Mellon. Her focus was internal security—in part to make sure that Google's security protocols were sufficiently easy to manage that the company's engineers wouldn't bypass them with shortcuts. Her job was not only to encourage a security-conscious mind-set but, in the worst case, to catch any Googlers who proved to be disloyal crooks.

"Google's been described as sort of the inmates running the asylum," says Brandon Downey, who works with Whitten in Security Operations. "But it's a little more than that—it's more like the inmates all have real guns." There was precious information to be protected, as well as hundreds of thousands of servers that could be turned into useless junk. And then there was the looming nightmare of espionage.

Early in Whitten's tenure, Google had been rewriting its system for handling user logs. Those were the crown jewels of information, containing precious and sometimes pernicious information about what Google users searched for and yearned for. Google wanted increasingly to use that information to improve its search and ad systems, but the company had a strict rule that no one examine logs to glean information about any individual user.

Whitten realized that Google needed what other big information technology companies already had: an explicit policy about security. But the policy had to be Googley. So Whitten and others formed a seven-person group to hammer out a commonsense internal security policy—something written in plain English that could be described in a couple of pages.
One issue proved to be a devil for the committee. "Specifically, it was about whether Google's physical security people would have the right to ask people to submit to a search," she says. "The set of people who were on this team were quite uncomfortable with the idea that this would be part of the employer--employee relationship." The people charged with physical security wanted a license to check out anyone anytime the security team's wrongdoing antennae twitched. "I was concerned that within the corporate environment the incentives would be perverse—it would always be janitors who got searched and never the research scientists."

This discussion dragged on for months, a glaring anomaly in a company that measures things in milliseconds. (The analogy to childbirth was certainly mentioned a number of times," says Whitten.) Ultimately, the group reached an arrangement that all sides could live with. A Google security officer could search employees without probable cause in issues where physical well-being was threatened—such as looking for weapons—but not to safeguard information. "You can do it to keep people safe, not to keep property safe," says Whitten.

That was the way Google security in Mountain View would work. As crucial as security was, Google could not bear the idea that its employees could not be trusted. In accordance with best practices, there would be "reasonable audit trails," in the words of Alma Whitten. But Google would not submit itself to a lockdown mentality. Could you really be a Googler if the company eyed you like a shoplifter and rummaged through your bag as you left?

As 2009 approached, Heather Adkins was asked about her OKRs for the approaching year. "Number one is, don't get hacked," she said. "That's always my first one." She was particularly concerned with attacks from overseas. Palestinian hackers were emerging. Iran was a rising threat. But one country presented the biggest worry for Google's security team. "Of course," she said. "China."

Page and Brin always saw Google as a global corporation. In the company's first few years, Omid Kordestani established beachheads in a number of countries. But those were sales operations. In 2004, Google began to get serious about starting engineering centers overseas.

To help set them up, Google turned to a recent hire from Hewlett-Packard. Kannan Pashupathy had been schooled in his native India before traveling to the United States for graduate work at Stanford. (This is so common a biographical fact at Google that there should be a keystroke shortcut to invoke it.) Pashupathy was a deft leader as well as an engineer, and HP moved him up its organizational ladder rung by rung—to lead engineer, architect, and ultimately senior manager.

Pashupathy was just about to return to the United States after a long stint abroad when Google's head of engineering, Wayne Rosing, recruited him. The university-like atmosphere at the Googleplex charmed Pashupathy, but an expertly baited hook by Rosing clinched the deal. "Kannan, if you're confident about your abilities and you know you'll be successful at whatever you do, Google is the place for you. If not, then don't come."

"That got me," says Pashupathy. "It appealed to my machismo." He arrived at Google just as the company was beginning an era of international expansion of engineering offices. Currently the company had only three small overseas outposts—in Zurich, Bangalore, and Tokyo. Larry Page wanted to build a hundred engineering offices in the next five years.

That was the situation in which Pashupathy found himself as a brand-new Googler sitting in a conference room in Building 43 with Larry Page, Sergey Brin, Eric Schmidt, and Alan Eustace, who had replaced Wayne Rosing after the latter's retirement. "It was almost like it was the first time they were talking amongst themselves about how Google was going to grow as a company internationally, from an engineering perspective," says Pashupathy. Larry Page was standing by the whiteboard, and Eric turned to him and said, "Okay, Larry, what do you want to do? How fast do you want to grow?"

"How many engineers does Microsoft have?" asked Page. About 25,000, Page was told.

"We should have a million," said Page.

Eric, accustomed to Page's hyperbolic responses by then, said, "Come on, Larry, let's be real." But Page had a real vision: just as Google's hardware would be spread around the world in hundreds of thousands of server racks, Google's brainpower would be similarly dispersed, revolutionizing the spread of information while speaking the local language.

Pashupathy and Eustace worked out a plan for expansion that they would take to a GFS session for approval. They ranked countries into tiers, organized by suitability for Google engineering offices. Before the meeting, Pashupathy was warned not to ever bring cost into the discussion—not to talk about return on investment. He was simply to look at the talent and the user value the project would bring. "That was brand-new to me, because all my years at HP, I'd be standing on budgets, trying to cut costs." Even so, his ambitions proved too timid for the founders. Part of his strategy was to
move deliberately into the new countries. In Google's cathedral of speed, this was a cardinal sin, and Page ripped into him for the transgression. “You're thinking like a big-company guy,” he said. Google had become a big company by thinking like a small company.

Google began to open engineering offices overseas. As soon as Google made a decision to pursue a country, Pushpashathy would go in and do a lightning round of meetings, gatherings, and interviews. “It was a very streamlined process,” he says. “Talk to a bunch of people, including government, companies, students, professors, the whole bit. And then come back and make a call of whether we were going to invest. If we were, we'd immediately look for a director.”

Some countries were natural fits. Zurich was a central location for European operations. Israel's entrepreneurial character led Google to establish a center in Haifa as well as the more expected Tel Aviv. The Haifa office was a move to accommodate Yoelle Maarek, a celebrated computer scientist who had headed IBM's labs in Israel. Google hired another world-class computer scientist, Yosef Matias, to head the Tel Aviv office. (In 2009, during Google's austerity push, the company would merge the engineering centers and Maarek would depart.)

Pushpashathy's native country, India, was an obvious choice for an engineering office. But finding a director proved difficult. Eventually, an early employee, Krishna Bharat, volunteered for the job. The India offices became among Google's most productive. “When you're outside, you've got the auto rickshaws, the poverty, the honking horns . . . India,” says Roy Gilbert, who helped set up the offices. “And then you walk into our office in Hyderabad and it's like you're in Mountain View. Like any Google office around the world.” (One difference: in India, the electricity was erratic.)

Different countries presented different challenges. In India the politicians demanded penalties and censorship when users of the Orkut social-networking service, very popular in that country, launched epithets at officials. In Thailand, the king could not be insulted. In Germany, denying the Holocaust is illegal. Generally, in cases where officials ordered that Google filter its search results, the company would push back. It was a constant struggle.

But nothing like that in China.

Before Pushpashathy's time, Google's history in China had been brief but not without tumult. In 2000, as part of its general effort to make Google search available worldwide, Google began working on a version of its flag-
At the time Brin tried to present the situation as just one more knotty consequence of tapping into the disruptive force that made Google Google. “As for China, I want to be respectful about all the kinds of issues they have, with the Falun Gong and so forth,” he said. “They also have their own set of laws. We didn’t have explicit communication [with the Chinese government] at that time. And we’ve tried to establish channels since then. But we felt that we should simply continue to provide the service we were providing, and eventually the site became unblocked. It just illustrates how Google is viewed as a really important tool for information.”

Left unsaid was Brin’s own history. His family had been victims of anti-Semitism under the Soviet regime. Sergey’s father, Michael Brin, had dreamed of being an astrophysicist, but the state had blocked his efforts. He became a mathematician, but though he graduated with honors from Moscow State University, his Jewish background made it impossible for him to continue his studies. (He would later sneek into research seminars and find advisers who helped him as he wrote a dissertation, for which he received a PhD.) He found work as an economist for Gosplan, the government planning agency. After a decade at the agency, he earned only a modest salary. Instead of using data to illuminate the reality behind statistics, Brin was forced to churn out misleading propaganda. “Much of that time I devoted to proving the Russian living standards were much, much higher than the American living standards,” Brin said to a reporter. Sergey’s mother, also a mathematician, worked as a civil engineer.

In 1977, Michael Brin attended a conference in Poland and for the first time socialized with Westerners, who gave him a sense of life outside the Soviet Union. It was possible, he realized, for his son to have a better future. “We cannot stay here anymore,” he said upon his return and with much trepidation began the risky process of applying for permission to emigrate. The family managed to leave Moscow in 1979, but not before a stressful waiting period. They spent several months in Paris waiting for visas before entering the United States, where Brin secured a teaching post at the University of Maryland.

The experience profoundly shaped Sergey Brin’s consciousness. “Just applying to leave the Soviet Union branded us with a scarlet letter,” he would later write in a blog posting. “My father lost his job, and we had visits from the police.” His personal saga left him with a visceral appreciation of the personal freedom provided by a democratic system—and the burden suffered by those whose freedom was constrained. Before Sergey entered college, Michael Brin led an exchange program of students back to the USSR, and Sergey accompanied the contingent. After two days of exposure to the soul-crushing landscape of his early childhood, he turned to his father, and said, “Thank you for taking us all out of Russia.”

Sergey shared with Larry a clear belief that data were the trump card in corporate decision making. But it troubled him when pure analytical criteria triumphed over vital humanistic concerns. In April 2004, Google had one of its countless minor crises, over an anti-Semitic website called Jew Watch. When someone typed “Jew” into Google’s search box, the first result was often a link to that hate site. Critics urged Google to exclude it in its search results. Brin publicly grappled with the dilemma. His view on what Google should do—maintain the sanctity of search—was rational, but a tremor in his voice betrayed how much he was troubled that his search engine was sending people to a cesspool of bigotry. “My reaction was to be really upset about it,” he admitted at the time. “It was certainly not something I want to see.” Then he launched into an analysis of why Google’s algorithms yielded that result, mainly because the signals triggered by the keyword “Jew” reflected the frequent use of that abbreviation as a pejorative. The algorithms had spoken, and Brin’s ideals, no matter how heartfelt, could not justify intervention. “I feel like I shouldn’t impose my beliefs on the world,” he said. “It’s a bad technology practice.”

What seemed to shake him most was the fear that people would believe that Google was somehow endorsing Jew Watch. “I don’t want people to be under the impression that these are decisions we somehow make,” he said. (Google’s eventual response was to discontinue its original sponsored link to the search term “Jew”—Google’s ad, titled “Offensive Search Results,” said, “We’re disturbed about these results as well” and offered a link to a fuller explanation of how Google’s algorithms could produce the occasional abomination.)

Google found itself in similar tough positions with Holocaust deniers and Scientology documents, which courts had ruled were protected as trade secrets. The company had to carefully abide by national laws while preserving its mission to make the world’s information accessible.

All of those controversies dealt with the delicate balancing act Google had set out for itself. Its business and its mission were pitched on the disruptive platform of the Internet; riding on the updraft of this tornado, Google was able to deliver the life-changing benefits of its search engine to users, but the company also paid the price of appearing to be the force behind the destruction of traditional models that the net leveled like so
many trailer parks. Inevitably, Google drew critics, but guided by its motto, “Don’t be evil,” it managed its mission with a clear conscience. Until China.

"I choose Google. I choose China."

While Google was growing in the 2000s, so was the People's Republic of China. China was the most exciting business story of the decade. The once-isolated Red giant was not just transforming its economy but its people, who were rising from poverty to taste the fruits of capitalism. The Chinese government continues to squash political dissent, most notably in the technological barricade that prevents Chinese Internet users from accessing websites and services whose messages conflict with the government's propaganda. (For instance, the government diligently blocks news accounts and web pages that refer to the 1989 Tiananmen Square massacre. And if a Chinese user happens to look for a website referencing the dissident Falun Gong group, his or her Internet service might mysteriously go down for several hours.) Nonetheless, it became an article of faith in Silicon Valley—and some quarters of Washington, D.C.—that China's adoption of the digital advances of the twenty-first century would inevitably erode those controls.

In any case, an internal company presentation at Google declared in January 2004, "China is strategically important to Google." The country was too big to ignore. "Larry and Sergey were depressed by the idea that if we just stayed out of China, we would be giving up on a billion plus people," says Andrew McLaughlin, who joined Google in 2004 as its policy director. McLaughlin had gained some previous experience in coping with China, helping out some nonprofit groups that wanted to make their information available in spite of China's firewall. Not long after McLaughlin got to Google, the vice president of corporate development, David Drummond, took him aside and explained that Google had never really understood what had happened in the 2002 blockage and that it still had not established useful relations with the government. Google had sent an employee to Beijing, a Chinese-born Silicon Valley businessman named James Mi, to explore a more serious presence. He was essentially surveying the territory to see if it was plausible for Google to set up an engineering center there. Later that year Mi contacted McLaughlin and asked him for help.

In the spring of 2004 McLaughlin took a small Google delegation to China, the first of several journeys there he would undertake. "It was kind of a scouting trip," he says. They met with government officials, of course—formal interviews in big, overstuffed chairs—but also with businesspeople, techie nerds, academics, and some people who had ambiguous connections to power and were quietly interested in the potential of a company like Google to help China make the transition to a more open and wired society. One of them was a woman named Hu Qiheng. Madame Hu's father had been an associate of Chairman Mao, and her brother had been a top Communist official. She became a government expert on the Internet. She expressed excitement that Google's entry into the country would work out for the company and would be a positive force for China as well.

McLaughlin presented his findings to a GPS, laying out the benefits and risks—he was still skeptical about the perils of dealing with the government. Everyone agreed that Google should look into putting more energy into China. Schmidt asked McLaughlin to perform an ethical analysis. McLaughlin remembers his mission very clearly: "Forget about revenue, assume that business considerations play no role here whatsoever, and come up with the best analysis: Will Google accelerate positive change and freedom of expression in China by being there, or will we accelerate it by staying out? That was the question."

McLaughlin worked on his report for nearly a year, spending one week of every six in China. Sometimes he included Larry and Sergey in his interviews. At one point the three Googlers met with Qiang Xiao, a Chinese human rights activist who was teaching at Berkeley. He told Page and Brin that if he were advising almost any business—an auto company, for instance—he would tell them not to invest in China, as the business would just contribute to the oppression of its people. But the Internet was a different matter. People in China wanted to connect with one another, and the net would help them do that. Xiao told them that Google's presence could help fight censorship by increasing communication.

But McLaughlin heard plenty of the other side as well. Censorship aside, Google would have to face the maddening process of dealing with bureaucrats. Kannan Pashupathy, for instance, had had experience with China while working for HP. "If you only wanted to start an engineering organization, you could do it rather easily," he later said. "But if you wanted to actually start operating a business where you made money, you couldn't do it without a certain type of license. It was a multiweek, multimonth
time frame we could never depend on. Every month, it moved to the next month. We really couldn’t bank on that."

In October 2004, Brin and Page were scheduled to go to Italy to receive the Marconi International Fellowship Award for computing innovation. At McLaughlin’s urging, they decided to continue traveling east to make a complete global circuit, visiting India and China. In India they met with the president, rode in rickshaws, and bantered with reporters (Sergey gabbled about his desire to see monkeys on the street). The Times of India wrote that in comparison to the serious demeanor of Bill Gates, Brin and Page “have been more like a couple of sophomore backpackers doing India.”

McLaughlin thought that approach would be a terrible error in China, making Google’s founders look like frivolous geeks who could easily be played by clever Communists. McLaughlin couldn’t get his bosses to listen to him, so he got Al Gore to speak to them. “I advised them to keep it low-key, because of the way Chinese react to Westerners, particularly Americans, who go over there and are full of themselves,” says Gore. Gore worried that the politically naïve Google founders might find themselves manipulated. He shared an experience he’d had as vice president, when he’d visited a Chinese factory. During the protocol negotiations, Gore’s representatives had made it clear that there would be no toasts—he would not clink glasses with Chinese officials. But at the actual event, a waiter with a tray full of champagne glasses made a beeline for Gore and handed him a glass. Gore quickly handed it off to an assistant, but a photo of that moment made it look like he was indeed raising a glass with the butchers of Tiananmen Square. He got ripped up for it in the press. Gore’s warning had its effect, and Page and Brin kept a low profile.

The trip was exciting—to a point. They visited all the major Internet companies—Baidu, Sohu, and Sina—to see what they were like. “We were treated wary,” says McLaughlin. “They couldn’t tell if we were a friend or a foe.” Despite the fact that Google was about to make an investment in China’s leading search engine, Baidu (a $5 million toe in the water), CEO Robin Li held the meeting on a national holiday so that Brin and Page could not see how many engineers he employed. The Google cofounders offended Li by refusing to eat the Subway sandwiches that Baidu provided.

The trip awakened the founders to how fast things were moving there and gave them a glimpse of the impact Google might have if it went all in. “They definitely were interested,” recalls McLaughlin. “But Sergey’s background as a refugee of the Soviet Union made him inherently suspicious of doing business in an environment like that.” The bigger question remained: should Google begin the process of cooperating with the Chinese government to get a license to operate in China?

The advantage was clear: Google could offer a speedier, more satisfying experience than existing search engines offered. Page and Brin were startled and upset by the difficulty people in China had getting access to the Internet in general and Google in particular. But in order to get a license to operate, Google would have to follow the Chinese government’s restrictions. Which meant that Google, which had always strived for purity in its search results, would have to alter its very nature in order to hew to the government’s Orwellian demands.

McLaughlin thought that Google should stay out, and his formal report made that clear. He acknowledged that Google’s presence might benefit China. His concern was with what the experience would do to Google. “My basic argument involved the day-to-day moral degradation, just dealing with bad people who are badly motivated and force you into a position of cooperation,” he says. “It’s degrading to the company. Life is short, focus on other markets. Don’t go into countries that are going to force you to censor to do business there, even if you could do good by being there.”

The entire executive team participated in the debate, though the call would be made by Google’s reigning troika. Schmidt was all for entering. Brin was troubled at the prospect. But Page, a natural optimist when it came to the potential of technology to transform society, believed that Google’s entry would be a boon to China.

Because the good that Google would do was hard to predict and impossible to measure, the China decision would be determined not by data but by gut. Nonetheless, the Google executives came to a decision using a form of moral metrics. The evil of censorship was balanced with a number of other factors, many of them involving the benefits that would come from Google’s participation in China. It was as if Google had created a kind of spreadsheet, with some cells (censorship) showing a loss and others, relating to more information, increased use of the Internet, and Google’s determination to eventually decrease censorship, winding up on the profit side. The global calculation of this virtual spreadsheet indicated that, morally, Google would wind up in the black. As Schmidt later explained, “We actually did an ‘evil scale’ and decided not to serve at all was worse evil.” All three leaders signed off on the concept.

To what degree did business considerations affect the outcome? You would have needed a psychologist, or a polygraph, to figure out whether the
rush to China was fueled by self-interest. But even years later, Larry Page would insist that the evidence indicated that the right thing—the moral thing—was to help the people of China by giving them access to Google. "Nobody actually believes this, but we very strongly made these decisions on what we thought were the best interests of humanity and the Chinese people," says Page.

In some respects, setting up Google China was a similar process to the one Google had used in Zurich, Tel Aviv, and Bangalore. There would be a business operation that handled the local marketplace and took care of marketing and ads, and an engineering center where Googlers would create products for both the specific region and the world at large. It would be housed in a Googley office, with accommodations to the national culture. But some aspects of the China operations were unique. No other Google center had to deal with anything like China's strict licensing requirements. No other Google country had such disregard for civil liberties that building a local data center (vulnerable to government seizure of information) was out of the question. And no other country required Google to censor its results for a broad range of content, especially content that contained a mere whiff of dissent.

If Google's Chinese service, running on the .cn Chinese Internet domain, was to earn its license, it would have to follow those laws. But Google had some ideas on mitigating the abhorrent practice of censorship. In an October 2004 presentation, "China Entry Plan," the company proposed that it explicitly inform users when results were blocked. A December 23 "China Launch Update" elaborated that Chinese users should be given the "greatest amount of information possible." When a search query listed a result that required filtering, Google would indicate at the bottom of the results page that there were results missing. Meanwhile the company would continue offering its Chinese-language version of the global search engine (which appeared when someone inside the country typed "www.google .com"), though it knew that the Chinese government would often block it and Google could not get a license to make money from it.

A different problem was determining what information should not be given to Chinese users. Though the government demanded censorship, it didn't hand out a complete list of what wasn't allowed. Following the law required self-censorship, with the implicit risk that if a company failed to block information that the Chinese government didn't want its citizens to see, it could lose its license. That was actually an interesting problem, and if nothing else, Googlers loved to solve such brain-twisters. In this case, they came up with an elegant solution. Google would exhaustively examine and probe the sites of competitors, such as China's top search engine, Baidu, testing them with risky keywords, and see what they blocked. It was a speedy means of determining forbidden information, and best of all, it scaled. Just as the people who created Google's machine learning algorithms didn't have to know Urdu or Greek to be able to write software that could be translated into those languages, Google's .cn programmers would not have to deal in the unpleasant intricacies of denying freedom to customers. The algorithms could do the censoring. In practice, the Google divination of what terms must be censored was only a baseline and was augmented by regular calls from the government demanding that Google block links to various other sites or not provide any links involving certain events or themes.

Plans for Google.cn were well under way by May 7, 2005, when an unexpected email arrived in the inbox of Eric Schmidt. It was from a computer scientist and executive named Kai-Fu Lee. "I have heard that Google is starting an effort in China," he wrote. "I thought I'd let you know that if Google has great ambitions for China, I would be interested in having a discussion with you."

Lee mentioned that he was a corporate vice president at Microsoft who had started its research and R&D efforts in China, and thoughtfully provided a link to an article in Technology Review that described Microsoft's Beijing center as 'the World's Hottest Computer Lab.' The biographical information was unnecessary. Kai-Fu Lee was a celebrated computer scientist—he'd worked for Apple before Microsoft—who had become a phenomenon in China. Lee, who had grown up in Taiwan and gotten his doctorate at Carnegie Mellon, was the embodiment of the "sea turtle"—an Asian-born engineer whose success in America was a prelude to a homecoming that allowed him to contribute to China's drive to the pinnacle of the world economy. Lee was perhaps the most famed of all sea turtles. Hundreds of thousands of people went to his website and wrote to him for advice, as if he were a combination of Warren Buffett, Bill Gates, and Abigail Van Buren.

Google immediately recognized how Kai-Fu Lee could accelerate its plans to make a mark in China. "I all but insist that we pull out all the stops and pursue him like wolves," Senior Vice President Jonathan Rosenberg wrote to his fellow executives. "He is an all-star and will contribute in ways that go substantially beyond China." Alan Eustace responded to Lee's
email, urging him to “call me as soon as possible, 24 hours a day, on my cell phone.” Lee flew down to Mountain View to meet with Google executives on May 27, 2005. The session was a love fest. That didn’t stop Google from conducting a series of job interviews. “How would you write a short program to tell if an image was a banana or an apple?” one engineer asked him. But these were really formalities. When he met Brin and Page—Lee was startled when Sergey, who had arrived by skateboard, asked him, “Do you mind if I stretch?” and then asked questions while doing body motions on the floor—Lee overheard them as they left the room. “People like Kai-Fu don’t grow on trees,” one founder said to the other. When Lee returned to Seattle, he was greeted by a huge box of Google swag, including a basketball, a chair, and a coin-operated gumball machine with a Google logo. When Google’s offer came a couple of weeks later, he decided to accept.

Lee resigned from Microsoft on July 18 and officially accepted Google’s offer the next day. It was worth over $13 million, including a $2.5 million signing bonus. Lee posted an explanation on his Chinese-language website, with the headline “I need to follow my heart.” He said that Google had given him “a shock” by its fresh approach to technology and postulated that in China, his new employer’s youth, freedom, transparency, and honesty would produce a miracle. “I have the right to make my choice,” he wrote. “I choose Google. I choose China.”

Microsoft rushed to the courthouse and charged Lee with violating a noncompete agreement that was part of his employment contract. The Washington state judge filed a temporary restraining order preventing Lee from joining Google or even talking to its employees. “I had one meeting with him to transition my China duties to him,” says Pashupathy. “I said, ‘Kai-Fu, welcome to Google. Here’s all I know about China.’ And the next day I couldn’t talk to him.”

By going to Google, Kai-Fu Lee had hit a soft spot in Microsoft’s psyche. Ironically, in early 2002, Kai-Fu Lee, who was an early enthusiast of Google search, had once recommended to Bill Gates that Microsoft buy Google. After looking into it, Gates told Lee that the cost would be too high. “It’s a company without revenue but asking for a billion dollars,” he said to Lee. “Those two kids are crazy!” After it became clear that Google was not just an innovator but a financial powerhouse with resources to take on Microsoft, the rivalry took on a bloodlust. Just how intensely Microsoft’s CEO, Steve Ballmer, despised his competitor to the south became clear in depositions that would be filed in the Lee lawsuit. The year before, in November 2004, a top Microsoft executive named Mark Lucovsky had gone to Steve Ballmer with the unwelcome news that he was leaving Microsoft. “Just tell me it’s not Google,” said Ballmer, according to Lucovsky’s sworn testimony. Lucovsky confirmed that it was indeed Google. Lucovsky testified that Ballmer went ballistic: “Fucking Eric Schmidt is a fucking pussy! I’m going to fucking bury that guy! I have done it before and I will do it again. I’m going to fucking kill Google.” (The reference to having “done it before” seemed to refer to Microsoft’s anticompetitive actions during the browser war, when Schmidt was aligned with the Netscape forces.) For good measure, Ballmer threw a chair across the room, according to Lucovsky. (Ballmer would later say that Lucovsky’s account was exaggerated, but the CEO’s denials were not made under oath.)

A little-noticed aspect of the litigation was a declaration made by Kai-Fu Lee. He claimed that Microsoft didn’t understand how to deal with the Chinese and that its employees “repeatedly angered and embarrassed various officials in the Chinese government.” He told of an episode when Bill Gates had yelled at him that the Chinese government had “fucked” Microsoft, and concluded, “It was a statement my work had been in vain.” (Gates denied the episode.) That comment indicated that Lee saw his role in leading a corporation’s China effort as one that brought the company into harmony with the demands of the government.

Despite Microsoft’s saber rattling, Lee would get his chance to work with Google. On September 13, Judge Steven Gonzalez ruled that while Lee was prohibited from sharing proprietary information with or helping Google in competitive areas such as search and speech technologies, he could participate in planning and recruiting for Google’s effort in China. Ultimately, the two companies would settle, and the restrictions on Lee’s activities would be lifted in 2006.

Google.cn went live on January 27, 2006. Earlier in the month, Brin and Page had showed the product to Googlers at a TGIF. The question-and-answer session “was honest and frank,” says Sunny Oh, an American who had helped pull together the presentation. She remembers one employee in particular standing at the microphone and aggressively challenging Larry to say just why this was a good thing for Google.

It was something that people outside Google wanted to know as well. Just before the launch, Schmidt, appearing before the annual gathering of string pullers at the World Economic Forum in Davos, explained the company’s reasoning: “We concluded that although we weren’t wild about the restrictions, it was even worse to not try to serve those users at all.” On Google’s official blog, Andrew McLaughlin (whose hellish job it was to be-
come the chief defender of a policy design he had argued against) allowed an apologetic tone to creep into his prose. “To some people, a hard compromise may not feel as satisfying as a withdrawal on principle,” he wrote. “But we believe it’s the best way to work toward the results we all desire.”

As soon as Google.cn went live, Google’s critics made their own assessments on the “evil scale.” The verdict was that Google’s algorithms had done a scary-good job in preventing Chinese citizens from accessing forbidden information. The New York Times described what awaited people who tried to seek out the truth from Google.cn:

[The first page of results for “Falun Gong,” they discovered, consisted solely of anti-Falun Gong sites. Google’s image searching engine—which hunts for pictures—produced equally skewed results. A query for “ Tianamen Square” omitted many iconic photos of the protest and the crackdown. Instead it produced tourism pictures of the square lighted up at night and happy Chinese couples posing before it.]

On the other hand, Google had stuck by its intention to inform users when it blocked information to conform to Chinese law. It had done so without seeking permission from the government. To Larry Page, that extra bit of explanation—making explicit what was perfectly obvious to all but the densest Chinese users—had the potential of a snowball rolling down a mountain. Maybe rubbing the censorship in the faces of the Chinese users would make them so mad that they would no longer tolerate it.

There was an alternative interpretation, however: the rulers of China had managed to get even the freedom lovers at Google to compromise their principles, sending a message that resistance was hopeless. You could take your choice.

Christopher Smith had no difficulty making that choice. A representative from New Jersey who chaired the House Subcommittee on Human Rights and International Operations, he had been following the activities of U.S. technology companies in China for some months. What he had found appalled him. Yahoo had provided the Chinese government the identity of a dissident journalist—whom the Chinese had thrown in prison. Microsoft had shut down a dissident blog at the Chinese government’s request. Cisco had provided the Chinese with Internet tools that had become critical components in its Great Firewall. And now Google—the warm, fuzzy com-
pany that wore its morality on its T-shirt—was China’s partner in political censorship. Since the unofficial company motto presented him with a large bull’s-eye, he could not resist a shot.

“It is astounding that Google, whose corporate philosophy is ‘don’t be evil,’ would enable evil by cooperating with China’s censorship policies just to make a buck,” he said in a press release. “... Many Chinese have suffered imprisonment and torture in the service of truth—and now Google is collaborating with their persecutors.”

On February 1, 2006, Smith’s subcommittee held a hearing, but none of the offending Internet companies chose to attend. Smith and similarly indignant representatives scheduled a second hearing, this time with a more coercive approach. The title of the session was “The Internet in China: A Tool for Freedom or Suppression?”

Besides Smith the committee included California congressman Tom Lantos. As the only Holocaust survivor ever elected to Congress, his personal mission was to stamp out genocide and suppression and to dole out retribution to those who tolerated oppressive foreign regimes. There was no doubt where he stood on the issue of the Internet and China. “The launch last week of the censored Chinese Google website,” Lantos said at the February 1 hearing, “is only the latest sign that the companies that make strong and impressive corporate claims, such as Google’s motto, ‘Don’t be evil,’ cannot or do not want to respect human rights when business interests are at stake.”

The Google representative at this hearing would have to endure hostile questioning alongside punching bags from Microsoft, Cisco Systems, and Yahoo. Who at Google would take the bullet? The recently hired vice president of communications and policy, Elliot Schrage.

“My background was the most relevant,” he would later say to explain why he was chosen. He had once represented the Gap when it was defending itself against charges of labor violations. Schrage had never testified before Congress before, but he knew what was in store for him. No matter how cogent his arguments, his role was to act as Tom Lantos’s piñata. Complicating matters was his personal history. Schrage’s grandparents had died in the Holocaust. So even though he disagreed with Lantos, he felt a connection with him.

On February 15, Room 2172 of the Rayburn House Office Building was packed. Reporters were approached by a stream of people from various human rights groups distributing leaflets and reports documenting the mis-
business. His colleagues immediately turned the floor over to the star interrogator. Lantos was an old man, and he was an angry one. The poison tip to his dart was the Hungarian accent he still retained, a constant reminder of his origins. As his questioning proceeded, his volume rose until he was almost shouting. It was reminiscent of the scene in the movie Marathon Man, where an elderly, Jewish survivor spots the war criminal played by Laurence Olivier on 47th Street and dogs him, howling, “Stop him! He’s a beast! He’s a murderer!”

“Mis-ter Schrage,” said Lantos. “You have just indicated that you are not proud, and are not enthusiastic. Can you say in English that you are ashamed of what you and your company and the other companies have done?”

Schrage did his best to answer unemotionally. “Congressman, I actually cannot.”

“Cannot,” repeated Lantos, barely able to contain his contempt.

One by one, Lantos asked the other representatives of the high-tech firms the same question: were they ashamed? None would admit it. There was more than a bit of theater in the presentation—and it was certainly easier to flog technology companies that were trying to navigate this difficult international dilemma than it was to pass laws to help them. (No legislation emerged from the hearings.) Nonetheless, Lantos had once stared down the devil, and when he said that the behavior of these companies was abhorrent and disgraceful and professed not to understand how its leaders could sleep at night, he was articulating concerns that Google itself had been debating. Lantos died two years later, but his words rang in Google’s ears for a long time.

“Most Chinese don’t speak English. They will never use Google.”

In 2006, Google China had a coming-out party. The occasion was Google’s adoption of a new name. Since names are accorded tremendous significance in China, a lot of care was devoted to the process. An exact transliteration of Google was out of the question: it sounded too much like Gou-gou, which meant “dog-dog.” Culturally, this was humiliating. After months of research, in 2004 Google settled on something pronounced Goo-goo-a. It seemed to reflect the quirkiness of the original name. The first syllable
evoked a bird call, and go-a means “fruit.” But critics immediately seized on the name as being overly cute. Also, one translation of the name meant “wandering and enough,” which implied a lack of initiative. Like every actual or perceived misstep Google would make in China, the misguided name was viewed as proof of the American company’s inability to grasp the intricacies of Chinese culture. And how could such a company provide the essential information that a Chinese person would look for in a search engine? So in 2006, Goo-go-a was replaced by GuGe, which translated to “valley song.” “It didn’t have any negative meaning, and the priority was to get a Chinese name as soon as possible,” says Dandan Wu, a member of the “landing team” that helped establish Google China.

For the launch, Google produced a video that showed animated nature scenes in the style of traditional ink brush painting. Over a sound track of wooden flute and tweeting birds, a gentle female voice made the connection between a song of the valley and the seething digital infrastructure that makes up Google’s products.

In this sowing season Google takes the name Valley (grain) Song. Using the grain as a song, it is a song of sowing and expectation. It’s also a song of harvesting with joy. Welcome to GuGe. Let’s search for you, let’s harvest for you.

The video only vaguely referred to Google’s algorithms, nothing too technical: “It is our expectation to put a very big server on the boat and just let the ever-flowing water be the energy to drive the integration of information. It seems like a beautiful and romantic picture, but it shows our drive to pursue our ideals day and night.”

The name “Valley Song” didn’t please everybody. In a poll conducted by the popular Sina portal, 85 percent of respondents thought GuGe was a bad idea. A website called NoGuGe.com, supposedly consisting of Chinese Google fans unhappy with the new name, collected thousands of signatures protesting the change. Commentators charged that Valley Song was a weird, unsophisticated, and embarrassingly clueless effort to evoke China’s rural past to embody an exciting futuristic venture.

But GuGe it was. To celebrate the new name, Eric Schmidt and other executives went to China in April, and the Google CEO defended its policy. Schmidt was perhaps the most enthusiastic supporter of the company’s China strategy. “I think it’s arrogant for us to walk into a country where we are just beginning to operate and tell that country how to operate,” Schmidt said to reporters at the event. Later that year in business meetings, he framed a more poetic promise: “We will take a long-term view to win in China;” he said, “The Chinese have five thousand years of history. Google has five thousand years of patience in China.”

A few months later, Google moved into its new offices. It occupied several floors of a gleaming building that appeared as if it were made out of giant white Lego blocks and glass. It was one of several similar structures in the Tsinghua Science Park on Zhongguancun East Road in the Harman District of north Beijing. Close to two top universities—Beijing and Tsinghua—the district was known as China’s Silicon Valley. Google shared the development with other high-tech firms, and there was even a Starbucks around the corner. Occupying several floors of the high-rise, Google’s headquarters was outfitted with the usual frills: physio balls, foosball tables, a fully equipped gym, a small massage room, and (in a nod to local recreational activities) a karaoke room and a Dance Dance Revolution video game. As with other Google offices, the centerpiece was a huge cafeteria with free meals. Kai-Fu Lee was a notorious foodie and took as much care in hiring a chef as the original Googlers had devoted to choosing Charlie Ayers. “I’m a demanding taster,” he admits. After several weeks of competition, the winner was a Shanghai chef, Rohnsin Xue. Lee made him go through numerous iterations of a recipe for beef noodle soup that Lee’s mother used to cook. Ultimately, he would declare that Xue’s beef noodle soup was superior to his mother’s. “It’s been served to the president of Taiwan,” he would boast.

Kai-Fu Lee had been busy. For several months, the restrictions of the Microsoft suit had prevented him from engaging in product strategy, but, as he told the landing team already in place in Beijing, his priority was recruiting. Finding applicants wasn’t a challenge. As soon as the news broke that Lee would be heading Google China, résumés began arriving by the hundreds. The best incentive was Lee himself. He went on a recruiting trip that had aspects of a rock-and-roll tour. Students were actually bootlegging counterfeit tickets. Alan Eustace accompanied him on one trip and couldn’t get over how people mobbed Lee. It was like some weird Asian form of Beatlemania. “He’d give a talk at a university, and it would be like a basketball game, two thousand people in the audience,” he says. “He would be surrounded by literally hundreds of students. People would get close to him, just to touch him.”

Kai-Fu Lee’s celebrity status had a downside. He became as much a part of the rumor mill as the celebrity female pop singers who dominated bulletin board discussions. Every time Google had a setback, word would
appear that his departure was imminent. The Chinese press would often slam Google by going negative on Lee. At one point, reports spread that Lee was a tax evader. “That was completely personal, even though there was no tax issue,” Lee says. “The company pays my Chinese taxes.”

At Microsoft, the hiring had focused on experienced computer scientists. But at Google, Lee wanted young graduates. “He was worried that once people worked for a Chinese company, it would be hard to culturally fit into Google,” says Ben Luk, a Hong Kong–born Google engineering director who began working in China in 2005. Lee said at the time that Google China’s atmosphere would be exactly as it was in the United States.

While appreciating the difficulties censorship posed for the company, Lee believed that inside the walls of Google China, the filtering question wasn’t all that important. The Chinese people themselves didn’t see censorship as something so onerous. Some of the smartest people in China had confided in him that in a time of dramatic economic change, it made sense to keep some control over society. In any case, it was not an issue that engineers should be involved with, in his view. “We’re technologists,” he said. “We’re not politicians. We don’t care about all this mumbo-jumbo.” Most of the Chinese engineers he spoke to were hardly aware how controversial the matter was. When they heard that it was a big issue, they would say, “Oh, is that how Americans think?”

The young Chinese engineers were to be augmented, and generally led, by experienced Googlers. Lee was looking for a Google variation on sea turtles.

Typical of those who heeded his call was Xuemei Gu. A Beijing native, she’d graduated from Tsinghua University and, like many of the top graduates, had gone to the United States to attend graduate school at Carnegie Mellon—Kai-Fu Lee’s alma mater, where his name was still invoked with awe. After her doctorate, she went to Silicon Valley to work for Inktomi, a company that handled web infrastructure. When her part of the company was acquired by AOL, she jumped to Google. Hearing about Google’s new venture in her hometown stirred conflicting emotions. She still had deep ties to China and had watched its economic transformation over the last decade feeling very much like an athlete relegated to the sidelines. On the other hand, she enjoyed life in California. She and her husband had a one-year-old son. She had just bought a BMW. A lot of Chinese engineers were very excited, but I didn’t think many of them would have the determination to come back. They have everything already set up in the U.S.—house, kids, and all,” she says.

Yet she went to China. She later recounted her thought process: “If I stay in the U.S., what’s my future? I’ll probably become a better engineer, doing more complicated work, but my life will be the same every day—very peaceful life, go shopping on the weekend, go hiking. That’s not what I was looking for. I was just thirty-three then. I needed some change.”

Another Googler who joined the China team was Wesley Chan, straight from his triumphs with Google Toolbar and Google Analytics. Soon after arriving, he sensed there would be trouble. “I’m really blunt, and that’s not the norm there,” he says. He felt that Chinese citizens were suspicious of people like him, who came from headquarters. “Everybody saw me as a spy from Mountain View, so I couldn’t be successful there. Though Chan got along with Kai-Fu Lee personally, he felt that something very un-Googley was happening in Beijing: “A bunch of people built a cult of personality [around Lee],” says Chan. According to Chan, at one meeting a number of people Lee hired in China began squabbling about what their titles should be. “Your title,” Chan told them, “is product manager.” They objected that in China no one knew what that meant, and they preferred the official appellation of “special assistant to Kai-Fu Lee,” so everyone would know that they had the ear of the esteemed leader of Google China. Chan almost fell over. “This isn’t the White House!” he told them. “Our job is to be focused on users, not Kai-Fu.” But they insisted and told him that it was important for them to sit within a hundred feet of Lee, a geographic honor that would cement their status as special assistants. Worst of all, he says, “It was this weird culture of kiss up or kiss down, and I really don’t do that. So I said, ‘Okay, I’m done.’” Besides, the air pollution in Beijing was killing him.

He left expecting little to come from Google’s great experiment in China. “We’d get these edicts from the Ministry of Information every day about what thing we had to remove every day, and I had to sit there. We hired some of the smartest people in China, but between the leadership issues and the government Wild West situation of all that arbitrariness, it was really difficult to operate,” he says.

Lee considered his role as navigating his team through a landscape full of treacherous conflicts—Chinese law and Google morality, Chinese culture and Google hubris, Chinese nationalism and Google’s disruptive ambition. He believed that his celebrity could help. “I felt that if I put my reputation behind Google, it was good for Google and I did that,” he says.

Others weren’t so sure. Xuemei Gu recalls a remark by an executive visiting from Mountain View. Gu asked him what he thought the biggest
difference was between Beijing and the other international engineering centers he had visited. “Other offices think they are Google,” he told her. “The Beijing office thinks it’s Google China.”

Kai-Fu Lee was gratified that China’s top students strove to win posts at Google. But winning consumers was another matter. “Google is clearly number one with computer science students,” he said in early 2006. “But if you go out on the street and say, ‘Who makes a good search engine?’ most people will tell you, ‘Baidu.’ They’ve done a good job of marketing.”

Baidu ruled search in China. It was founded by Robin Li—the Chinese native who had discovered the power of web links in Internet search at the same time that Larry Page and Jon Kleinberg had. He had left the United States in 2000. “I didn’t have a Stanford degree, and I didn’t know many VCs at the time, so I went back to China and started to develop our own search technology,” he says. (Despite this, his new company was funded by Silicon Valley VC money.) Working out of a hotel room that overlooked Beijing University, he began Baidu. Its name was drawn from the first words of a Chinese poem that translates as: “Hundreds and thousands of times, for her I searched in chaos; suddenly I turned by chance to where the lights were waning, and there she stood.” Originally, Li found users for Baidu by licensing his technology to the big Internet portals in China. But he quickly found that they were not willing to pay him enough to maintain the high level of technological effort he wanted. So Baidu decided to put its efforts into its own website.

Some Googlers believed that Baidu shamelessly borrowed from Google’s interface; on its debut in September 2001, it looked like a Chinese-language version of Brin and Page’s search engine. “If you find similarities between Baidu and Google that means the market demands the same things,” Li would later explain. And its search results sometimes included links that it served not because of their relevance but because of fees paid by advertisers. (A search for “cancer” delivered top results not for information on the disease but for hospitals eager for patients.) But it also took advantage of a freedom that Google did not have, particularly in flouting copyright regulations. A significant percentage of its searches were for music, and the links that came up on results connected users directly to free downloads of songs. It was such a dominant music distribution tool that Chinese people call MP3 players “Baidu devices.” And because, unlike Google, Baidu did not have objections to turning over the names of users to the Chinese government, it could run services that let Chinese citizens express themselves. Its bulletin boards promulgated discussion of popular cultural issues. Items on Chinese celebrities would commonly generate more than a million comments.

Also, Baidu had none of the moral qualms about censorship suffered by Google or the U.S. Congress. In 2001, when the Chinese government had informed Robin Li that Baidu had to filter results, he was at first shocked. “I didn’t understand—we’re a search engine, we don’t create content, we shouldn’t be responsible for what’s on the web,” he later recalled. “But we were told we were the entry point.” Li spent a sleepless night considering whether he should move the service to Hong Kong. His objections were not moral, but practical. “It’s a cost issue,” he says, noting the drain in resources it would take to implement such a system. “I thought, if the servers are in Hong Kong, then it’s not subject to Chinese law and we can save this kind of cost.” In the light of morning, he realized that as a Chinese citizen, he had no choice, and from that point he implemented the government’s request without complaint. “It’s not an issue to me,” he says. “It’s just Chinese law. I’m not in politics. I’m not in a position to judge what’s right and wrong.”

When the Chinese government first blocked Google’s search engine for a period in 2002, Baidu had only a single-digit market share. But in the ensuing years it grew to over half the market. (Google sold its $5 million investment in Baidu in 2006. The 2.6 percent stake was worth $60 million by then.) Generally, Google was the favorite of English-speaking, highly educated Chinese consumers; the newly wired, less educated consumer class in China was less familiar with Google. “When I first told my family I am going to come to China and work for Google, they asked, ‘What is Google?’” says Mark Li, a Chinese-born, school-educated engineer who was hired by Kai-Fu Lee before he worked at Oracle. “It’s Baidu’s competitor,” he told them, and only then did they understand.

Kai-Fu Lee felt strongly that Google’s underlying technology could whip Baidu’s in a head-to-head competition. But Baidu was not a pushover. Robin Li was a smart computer scientist, and he had hired a thousand engineers to work solely on Chinese search. He professed that he was not threatened by Google’s new rock-star hire. “Kai-Fu is very smart and probably the best that Google could find at that time,” says Li. “But Google understands search, and Kai-Fu did not.” (Lee disputes that, writing in his book that he thought about search every waking hour.) The Baidu founder was particularly unimpressed with Kai-Fu Lee’s recruiting strategy. “I had
been very afraid of Google hiring away my engineers by doubling or tripling their salaries. Instead, they hired a lot of fresh graduates and brought Chinese engineers from Mountain View to train them. That gave me some relief," he says.

Google China's top engineer—hired from Microsoft, where he'd worked with Lee in the Beijing research center—was a scientist named Jun Liu. He arrived at Google's office in June 2006 and conducted a comparative study of the competitors. To his horror, "we realized that even on the technology part, we were actually behind, though publicly we didn't want to admit that. I was a bit shocked by how advanced their systems were." The difference lay in one of the key components of search: freshness. In a study of top-rising queries, the ones that included new names and phenomena, Google lost. Once those new terms were around for a couple of days, Google's other signals, including PageRank, handled them effectively; for familiar queries, Google's quality surpassed Baidu's. But by that time people had lost interest in the rising queries. "For the first eight days [of a rising query], our search quality was worse than Baidu," Liu says.

"It was so obvious that there was something wrong that we spent one and a half years basically fixing our entire infrastructure," says Liu. "We initially devoted 80 percent of the energy of our entire office to fixing search problems." (Google search in general benefited from this work, as some of the ideas found their way into Google's next general update of its indexing system.) Eventually Google's studies showed that the company had caught up to and passed Baidu. By the time it introduced new improvements such as Universal Search, Google was confident that its superiority was obvious.

But by then the comparison in the minds of Chinese consumers was seriously clouded. Baidu had succeeded in transforming the competition into a test of patriotism. Its message was that Baidu, being local, understood China and Google did not. Its nationalistic campaign was embodied in a television commercial that defined the two companies for many Chinese. A tall, bearded American in a top hat, accompanied by an Asian woman in a wedding gown, squares off in a knowledge contest against a young Chinese man dressed in bright yellow traditional garb. While the Chinese man is glib and brainy, the American's grasp of Chinese is halting, and he butcher's his pronunciation. A group of spectators gleefully taunts the American greenhorn. His bride bolts and joins the Chinese man. The American is last seen spitting up blood. "It was very unprofessional, but very funny, so it caught on," says Kai-Fu Lee.

But Baidu's biggest boost came from the Chinese government. The government would often slow or block Google's service and at one point even redirected Google traffic to Baidu. An apparent whispering campaign attributed the problem to Google's alleged ineptness in serving China. The most charitable fiction was that an undersea cable had broken, cutting off service from the United States.

Google had hoped that its decision to create a search engine in the .cn domain—one that followed government rules of censorship—would lead to a level playing field. But even as Google had rolled out its .cn web address, there were indications that its compromise would not satisfy the Chinese government. Unexplained outages still occurred. And not long after Google got its operating license in December 2005, the Chinese declared that the license was no longer valid, charging that it wasn't clear whether Google's activities made it an Internet service or a news portal (foreigners could not operate the latter). Google then began a year-and-a-half-long negotiation to restore the license.

On the one hand, Lee saw the episode as a positive sign—since the government did not go public and announce a crackdown, that meant that the bureaucrats Google were dealing with had a certain degree of trust in the company. On the other, Google had two strikes against it. The government was giving it the benefit of the doubt but also signaling that if anything went wrong, China would not protect it.

Google finally got its license in June 2007. The dispute had been resolved in secret. And to a large degree, the level of service stabilized. Another boost that year was that Google was granted a valuable concession: simply typing "g.cn" would take Chinese users to the Google.cn site. But by then, many Chinese had written off Google as an unwelcome outsider with less reliable service. In the summer of 2007, a group of young associate product managers from the United States spent an afternoon interviewing Chinese consumers. One woman in a T-shirt that read BRASIL SOCCER seemed surprised that she'd even be asked what search engine she uses. "Baidu," Why? "Because it is the product of Chinese people who naturally know more about China than Google," she said. Though she conceded that some people with advanced education and familiarity with English may want to use Google, "Most Chinese don't speak English. They will never use Google." A young man told them, "Google needs to be more close to the Chinese people." And another young woman said that she likes Google but doesn't use it much because it often stops working. Did she know why? "A broken cable under the ocean," she said.
When Google set up in a country, it typically would have two leaders, one to head the engineering operations and the other to run the business side. In China, Google’s business head was Johnny Chou. Officially, he was the equal of Kai-Fu Lee, but Lee’s celebrity and exalted status as the man who had started Microsoft’s China Research Lab far outweighed Chou’s reputation. Ultimately, Google China was not big enough for both of them. Chou’s replacement was an even-tempered executive named John Liu, who formerly had headed the China operations of SK Telecom (Korea’s dominant mobile network). Liu was content to let the more celebrated man take the spotlight. “I respected Kai-Fu as the in-country leader,” he says. “I think we needed one. I’m not an ego guy.” In any case, Lee told Liu that he wasn’t a businessman and was perfectly happy for Liu to act on his own in generating sales and revenue in the Chinese marketplace.

Liu found that though Baidu’s nationalistic sales pitch worked well with consumers, advertisers wanted results and Google—with its superior AdWords technology—could offer that. Chinese businesses also liked the idea of a competitor to Google. “Baidu did a great job of building up local Chinese search, but the Chinese will never accept that there’s only one search engine,” he says. “They want Google to be here, they want Google successful.”

But Liu believed that to compete in China, Google had to try harder to get its message across. “A lot of normal users in third- and fourth-tier cities don’t really know Google,” says Liu. It depressed the Google China people to see Baidu’s name everywhere. When you used an ATM machine, the log-in screen often showed a Baidu ad. When you ate at a KFC restaurant, the paper on your tray would have the Baidu logo on it. Google China’s leaders—including Kai-Fu Lee—wanted the sort of aggressive marketing that Google never had done in the United States. But the people in Mountain View, perhaps because they were still conflicted about the entire China effort, would not give those efforts full blessing.

Early on, Google’s marketing team spent six months on a big media campaign, including print, radio, and television. They’d hired Ogilvy & Mather to coordinate and shoot television commercials with real Chinese Google users. In one, a teenage boy couldn’t find the Nike sneakers he wanted anywhere—until he used Google. Google made six variations of those success stories. But at the last minute, the bosses at Mountain View pulled the plug. This was disheartening to the China Googlers, who felt that the company should cover the third- and fourth-tier cities to tell people of the existence of Google. But that wasn’t the Google way.

Google was already at a disadvantage because its ethics prevented the company from practices that were common in China but too unsavory to pass the “evil test” applied in Mountain View. Some of these were as simple as paying expensive money (known as “red pockets,” typically fees that exceeded cab fare) to reporters attending press conferences. Google angered the local press by not paying.

More complicated were fees paid to managers of Internet cafés. A substantial percentage of Chinese users accessed the net in these basement operations, smoky parlors that looked like a cross between a telemarketing boiler room and a video poker casino, with hundreds of terminals active at any hour. The large companies that franchised these establishments preloaded the computers with their chosen software, and Google and Baidu paid for the privilege of being the default search engine. But often the managers of individual cafés would take money under the table to replace one search engine with another. Google generally avoided such arrangements. But the company sometimes used representatives who weren’t as finicky and looked the other way.

Navigating these precarious situations was especially tricky for Google because it presented itself in China as a righteous force, a trustworthy avatar of the digital age. “In my mind there’s a new kind of China—the WTO and the Olympics, where there’s a rising middle class that expects justice and expects things to work,” said Sunny Oh, who became Google’s director of marketing in Beijing. “We represent this new China, a trustworthy institution that’s not going to fiddle with the results because someone’s paying us to insert search results or suppress results because there’s bad publicity.” (Apparently this was a distinction from suppressing results to accommodate government censors.)

Google had a chance to trumpet its incorruptible search standard when its competitor Baidu was embarrassed by a commercial arrangement in its own search results. In 2008, the Chinese company Sanlu Group sold baby formula containing melamine, which caused kidney stones to form in hundreds of thousands of babies, killing six of them. Chinese news agencies reported that Sanlu had paid millions of renminbi to Baidu for its program called PR [page rank] Services to remove news articles about the scandal from search results. Baidu denied the story, but on September 12, a reporter for 21st Century Economic Report found that Google delivered
11,400 search results for the incident, while Baidu had 11. Even CCTV, the government-controlled television network, reported the story, thus reprimanding Baidu.

“We saw this problem as a great opportunity to drive our core values,” says Sunny Oh. “It was a chance to say, ‘Why does integrity matter?'”

But Baidu had its revenge. A couple of months after the Sanhu flap, Robin Li undoubtedly enjoyed Google's discomfort when CCTV criticized Google for serving search ads for unlicensed medical products for keywords such as “diabetes.” That year, Baidu won the sponsorship of one of the hugest events in the country's television schedule, the CCTV Chinese New Year gala, watched by more than 400 million people.

It was as if the government was sending Google a message: you can be in our market, but you must not be the leader. As Google's market share inched into the twenties and approached 30 percent, some Google executives believed the number was hitting an artificial ceiling: the government would never allow Google to accumulate more than a 35 percent share.

Meanwhile, Kai-Fu Lee and his directors were organizing their smart young engineers to do great work. It took a while for some of the Chinese to adjust to the Google style. For instance, many had difficulty with the concept of 20 percent time—despite assurances, they did not feel comfortable pursuing a part-time project on their own initiative. At one point a visiting Mountain View executive called an all-hands meeting and asked for all the managers to leave the room. When only the engineers remained, he emphasized that they did not need permission to do a 20 percent project. Even that wasn't sufficient, so Lee set up brainstorming sessions where people could talk freely about cool ideas and then vote on the best. “It gives you more confidence if your idea was voted number one in a group of ten,” says Lee. Another impetus for engineers to pursue 20 percent projects was to pair them, on the theory that having a partner would build confidence.

Because Google had a firm policy against storing personal data inside China—to avoid the problems of having the government demand that Google turn over the data—it did not offer a number of its key services for local Chinese users. No Gmail. No Blogger. No Picasa. Other services had to be drastically altered. YouTube was blocked entirely.

In 2007, Kai-Fu Lee assigned Mark Li to head the Google Maps team. At the time Maps was judged the worst product in Google China. In large part this was due to the government restrictions Google labored under. It had no license to gather geographical data and had to buy information from other companies. Li began working closely with the government to get various functions approved. Google also shared its information and technology with other companies. For instance, one of Google's partners had a service that identified the best restaurants in an area but did not have a license to show the restaurants on a map. Under the arrangement, Google could pinpoint the restaurants on its maps—both helping the partner's business and making Google Maps more useful. As more information came online, Google began to draw more users.

The breakthrough for Google Maps came during the 2008 Chinese New Year, when a huge, unexpected snowstorm hit. Millions of people were stuck in their home provinces; more than 100,000 people were stranded at the Guanxou train station alone. A group of seven or eight Googlers who regularly ate dinner together brainstormed on how they could help and returned to the office to start on a project inspired by the fire maps around San Diego during forest fire season. By the end of the next day, the Google team published a detailed interactive snowstorm map that aggregated information from dozens of different sources—things like news, weather reports, airport closures, and road status. It was wildly popular, and Google did a variation on other holidays. When a major earthquake hit China, the Googlers combined the system with Google Earth to bring in satellite images. Google provided the Chinese government information it had not gathered on its own. The government actually presented Google with an award for its efforts. By 2009, Google was the market leader in maps.

But arguably the most important project at Google was the Pinyin Input Method Editor (IME), a system that sped up and streamlined the often awkward task of producing Chinese-language ideographs on a computer keyboard. (Pinyin is a phonetic system that generates Chinese characters from Latin alphabet input.) Google's system took smart guesses from minimal keystrokes and suggested which characters the user might want to use. It was able to make these predictions by applying user behavior data it had collected from its search engine. As people began to use its IME system more, Google would get even better data (by noting which suggestions the user accepted and rejected), and the system would presumably get even better. Thus Google's system had the chance, when it debuted on April 10, 2007, to become a huge asset in the company's crusade to win market share in China. “We were really proud of this product,” says Yonggang Wang, who headed the project. But the launch was one of Google China's worst disasters.

Google had invited the Chinese business press to attend a roundtable
where the engineering director and product manager would announce the product. During the presentation, Jin Cui, the Google PR rep, got a call to go to Kai-Fu Lee's office. Apparently, some of the Chinese bulletin boards were reporting that Google's IME was based on intellectual property stolen from a local company. Google's engineers discovered that there was indeed a problem with rogue information inside the IME product but weren't sure how widespread it was. Jin Cui returned to the meeting, pretending that all was fine, and the first day's reports on Google's new product were positive. But over the next few days, the bulletin board reports accusing Google of theft only accelerated.

After a couple of days, Google found the problem. One of its student interns had been working on the IME product, and during the testing process, he had taken a shortcut. Instead of using original data, he had gone to a competing search engine called Sogou (which translated to Search Dog) and drawn from Sogou's search results, which in turn had drawn from an internal dictionary that had originally come from its parent company, the Internet portal Sohu.

"He was an intern, and he just wanted to find a work-around to speed up the process," says Wang. "So he borrowed the data to provide a work-around way. It was a bad thing." Wang explained that such acts are not uncommon in China, where there's a "more fluid" view of plagiarism. Google's routine new-employee training did address such issues, but in this case it had apparently failed to make an impression on the intern. ("He went to Microsoft," says Wang.)

People at Google were convinced that the early discovery hadn't happened by accident but had been planted on the bulletin boards by competitors, who had come across the problem by testing Google's IME as soon as they got their hands on it. Nonetheless, Google had screwed up, and before it formed its response, Sohu was attacking it in the first of what would be a series of almost daily press conferences over the next two weeks. "It was a smart decision on Sohu's part," says Cui, "because they had a competing product and they could say, 'Our product is so good that the mighty Google is stealing from us.'"

All Google could do was admit its error and apologize. "The Chinese journalists really believe Google values, so they cannot believe Google would do this kind of thing," Cui says. "All they wanted to know was, is it true?" And it was. The company that had hoped to instruct China on moral business practices had stolen code.

The number one concern of Google's engineers was not unfair competition or the pressures of censorship. It was an issue that spoke to the place Chinese employees—and the Chinese business itself—occupied in Mountain View's estimation. The situation infuriated and humiliated the Chinese engineers every day of their working life. It was their access, or lack of it, to Google's production code.

Google was a collaborative company that wanted its engineers around the world to innovate on its existing products and create exciting new ones. It empowered them to do so by giving them access to its production code base. Without such access, engineers were limited in what they could do. But unlike Google's employees in other locations—Zurich, Tokyo, Tel Aviv, Bangalore, or even Moscow—the China workers did not have such access. Convoluted procedures were required to work on search, ads, and other key projects. The restrictions limited what the engineers could do—and sent a message that they were second-class employees, that Google did not trust them. "China was the only country that had this," says Boon-Loock Yeo, who headed engineering in the office Google had opened in Shanghai. "It was this fear that something bad was going to happen—somebody breaking into the data center or someone will take out certain information that would be considered very sensitive."

"It's not that I don't trust Chinese engineers," Alan Eustace, the Google executive assigned to monitor the China territory, later explained. "It's the same engineers as here, who went to the same schools, but when you go to a place like China, there's lots of examples of companies where intellectual property has gone out that door."

"We were concerned that employees in China who were Chinese nationals might be asked by government officials to disclose personal information, and all our access policies derived from that," says Bill Coughran, Google's engineering director, who enforced the policy. Despite those reasonable concerns, suspicion lingered in quarters of Google China that the engineering executives behind the policy—some of whom had deep concerns about the company's China policy—had intentionally engineered rigid restrictions as a form of corporate civil disobedience against their employer's cooperation with censors.

"Productivity was impacted," admits Yeo, who tried for years to overcome the problem. "It took longer than people anticipated to solve it." In the meantime, Google relied on sea-turtle engineers who had come to China to check the code of local engineers. "That was a real pain, because then they'd spend their time not thinking, but just checking people," says
Yeo. Local engineers were urged to pick projects that didn’t involve the global code base. Or they would just be told to make searches and look for unsuccessful queries—basically, performing the tasks that less qualified testers do for Google in other countries. “Go search every day, search for lots of things, tell us what’s broken,” says Kai-Fu Lee. “That doesn’t require access to code.” But it also put those engineers in a position where any creative genius they had was wasted. And that infuriated them.

“There’s a lot of pain here,” Ben Luk says. “People feel they are being treated like second-class citizens. You can feel the pain gnawing at you. At one time, after we had a hundred engineers in the office, I had the feeling that if we didn’t give them access, there would be a riot.”

Beginning in 2008, Boon-Lock Yeo spent more than half his time on the problem, working with a security engineer in Mountain View. Eventually Google was able to implement a system where all but the most sensitive portions of the code base were available to the Google China engineers. But the anger remained. In September 2009, Luk told a visiting journalist that although things were better than they had been, “there’s no clear access policy.” He cited an example where a Chinese engineer “opens a ticket” to access a protected database and the request gets stuck in the queue for months.

Still, when that conversation occurred in the fall of 2009, Google China was feeling pretty good about security.

4

“The worst moment in our company.”

Google’s success in China depended in part on having a government relations (GR) point person who could navigate the tricky shoals of preserving Google’s values without offending Chinese officials. Google’s first GR head was a former vice president of Sina, who was experienced in the ways of Chinese bureaucracies. But perhaps because she did not speak English, she failed to appreciate issues from the Google perspective. She complained to at least one colleague that Google wasn’t flexible enough with the government and did not work hard enough to please it.

Her tenure came to an end when Google discovered that she had taken it upon herself to give Chinese officials new iPods. She had charged them to Google, and another executive had approved the charge. In the Chinese business culture such gifts were routine, but the act unambiguously violated Google policy, not least because it was an explicit violation of the U.S.-Foreign Corrupt Practices Act. Google fired both her and the executive who had approved the expense. When she was called to Kai-Fu Lee’s office for dismissal, she was dumbfounded that what she considered a normal business practice had led to her firing.

In Mountain View this breach was another sign of how difficult the China situation was. Alan Eustace later recalled the incident as “the worst moment in our company” and blamed himself for not making sure that Google’s representative to the Chinese government knew how dimly the company would view such an act. “I was crushed by it,” he says. “Our decision could have cost us our brand. We’d take a huge worldwide hit in an office we had just started with a person we didn’t train well enough in a culture we didn’t completely understand. It was my failing.”

Google’s response to the violation also reflected that culture gap. It sent tough investigators from a firm specializing in white-collar crime to Beijing. “They act like prosecutors—they do an investigation,” says Andrew McLaughlin. “I’m sure it was extremely unpleasant.” In tandem with Chinese employees’ existing resentment of the restrictions on code access, it was traumatic. “I was really ashamed at the way Google handled it,” says a Google China executive. “They treated everyone like a thief.” And all for some gift iPods in a country, thought the Chinese Googlers, where everybody does that! It took months before the Beijing office got over that morale-busting incident.

After the employee’s departure, Google chose a three-person government relations team, all female, led by Julie Zhu, an energetic woman in her thirties. She was hired straight from a government ministry, instead of working in the commercial sector with its backscratching culture. Zhu was better able to communicate with Mountain View. But she had her hands full fending off Chinese government directives. A demand would come from a government ministry to take down ten items; Google would typically take down seven and hope that the compromise resolved the matter. Sometimes after a few days or weeks Google would quietly restore links it had censored. Every five months, Google’s policy review committee in China would meet to make sure it was filtering the minimum it could possibly get away with.

It was, as Google China engineering director Jun Liu put it, “trench warfare,” but he believed that Google’s continuing problems were proof that it was indeed moving the democracy needle in China. One could see
evidence of the effect even on Baidu, which had adopted Google's policy of letting users know when results were truncated because of mandated filtering. Baidu also was scrambling to duplicate Google's practices of divorcing paid advertising links from the organic search results: it began work on a much-touted new ad system called "Phoenix Nest," which was a virtual clone of AdWords. "Before we people didn't even have a clue to what that means for search to be transparent, to be balanced, to be fair," says Liu. "The reason that the government is so uncomfortable with us is that we are pushing our philosophy and making progress."

But for all the progress, some Google executives were beginning to think that its great China compromise wasn't working. Though not formally organized, they consisted of a rump group of skeptics on China policy, and they looked ahead to a day when Google would no longer censor its search engine there—or leave the country. A turning point came in 2008, the year China hosted the Olympics. In the run-up to its turn in the international spotlight, China apparently decided to increase its restrictions. It demanded that in addition to censoring the .cn results, Google purge objectionable links from the Chinese-language version of Google.com. This of course was unacceptable to Google—it would mean that Google was acting as an agent of repression for Chinese-speaking people all over the world, including in the United States. Other search engines, including Microsoft's, agreed to such demands. But Google stalled, hoping that after the Olympics the Chinese would back off. They did not. The demands for censorship became broader and more frequent. "I knew of specific instances where skirmishes involving minor government officials were censored, as well as instances where they tried to limit access to information about certain natural disasters and things like that," says Bill Coughran. "The level of censorship seemed to be increasing."

It was then that David Drummond and Andrew McLaughlin suggested that Google should begin considering a change in direction. (For McLaughlin, this was a no-brainer: "Every opportunity that I've had, I re-presented the case for getting the hell out of China, and I'd always lose," he says.) Google had held its corporate nose and made a dirty bargain to get into China. Now China was changing the deal. Maybe it was time to leave.

"The environment was getting more difficult and closed, not more open as we had hoped," says Drummond. China was now insisting that all computers in the country be outfitted with filtering software called Green Dam. Ostensibly intended to block viruses and porn, it was universally identified by critics as an effort to extend the Great Firewall into people's homes and offices. Manufacturers managed to resist installing this software, but the incident was only one indication that China was clamping down. "We had more services blocked than before," says Drummond. Also, China kept its ban on YouTube. "It was all about the Chinese government's desire to lock down cyberspace. And there was a growing fatigue with how we could deal with it."

During the Google annual shareholders meeting on May 8, 2008, Brin took the rare step of separating himself from Page and Schmidt on the issue. Shareholders unhappy with Google censorship in China had forwarded two proposals to mitigate the misdeed. The first, organized by Amnesty International and submitted by the New York state pension fund, which owned 2 million shares of Google, demanded a number of steps before the company engaged in activities that suppressed freedom. The second would force the board of directors to set up a committee focusing on human rights. Google officially opposed the proposals, and with a voting structure that weighted insider shares ten times as heavily as those owned by outside investors, the proposals were easily defeated. But Brin abstained, sending a signal—though maybe only to himself—that his conscience would no longer permit him to endorse the company's actions in China unreservedly. When shareholders had a chance to question Google's leaders, Brin explained himself: "I agree with the spirit of both of these, particularly in human rights, freedom of expression, and freedom to receive information." He added that he was "pretty proud of what we've been able to achieve in China" and that Google's activities there "honored many of our principles." But not all.

It was a clear sign that Brin no longer believed in Google's China strategy. Another signal was the fact that after Google China was established, and despite Kai-Fu Lee's urging, neither Brin nor Page ever crossed the threshold of their most important engineering center abroad. Even in mid-2009, when the pair decided to fly their private Boeing 767-200 to the remote Eniwetok Atoll in the Pacific Ocean to view a solar eclipse and Brin used the occasion to drop in on Google Tokyo, they skipped China.

Still, Google was reluctant to defy the government of China. There was still hope that things would turn around. In addition, its business operations in China were doing well. Though it had far to go to unseat Baidu, Google was clearly in second place and more than holding its own. In maps
and mobile Google was a leader. In the world’s biggest Internet market, Google was in a better position than any other American company.

In 2009, though, the government demands got even worse. This was yet another sensitive year for China, because of several anniversaries, including the sixtieth year of the establishment of Communist rule and the twentieth year since the Tiananmen Square uprising. China’s requests to filter search results increased. Google would comply, while trying to do so in the least restrictive way possible. And Google could also point to the fact that it offered users of its .cn search engine a link to the standard Google .com site. Including that link had been a key part of Google’s internal compromise to allow filtering. It was like an escape hatch to freedom, even if the Chinese government then blocked the results from that site.

Chinese officials themselves used the link: one member of the Politburo, Li Yuanchao, visiting Mountain View in 2009, wryly called the .com link his social secretary—he used it often to find news articles about himself. But apparently another member of the Politburo, Li Changchun, was horrified when he Googled himself on the global search engine and discovered links to critical comments about him. Since Li Changchun was China’s top propaganda officer, he had a means to express his outrage. That spring the government demanded that Google remove the link on its local site that directed interested users to the Chinese language Google.com.

Google officials considered this demand beyond the scope of censorship; it meant that Google would be breaking the commitment it had made to Congress that it would always keep that link, just as it did on every localized version of the Google search service in the world. After a couple of months of standoff, the Chinese government suggested that maybe Google should join it in a joint committee to study the problem further. Google was off the hook but realized that at any point, the problem could resurface.

In June, a new problem arose. It involved Google Suggest, a search feature that instantly offered fully developed search queries when users typed just a few characters or words into the search box. This innovation, ultimately offered globally, was developed first in China, after Google’s search team realized that, because of difficulty in typing, Chinese users generally entered shorter queries into the search box. Naturally, the quality of the feature was driven by the amount of data Google collected. In this case, the trick was for Google to examine the first few keystrokes and immediately access its servers to plumb the indexes for the most popular queries that began with the same letters as those partial entries. Unfortunately for Google, Chinese officials discovered that in an alarming (to them) number of instances, the suggestions offered by Google were related to sexual matters.

Chinese officials informed Google of their unhappiness by summoning Kai-Fu Lee and other Google China executives to a local hotel. Representatives of three ministries were waiting with a laptop and a projector. Once everyone was seated the show began. The Chinese went to the Google.cn websee and typed in a vulgar term for breasts. Google Suggest offered links that displayed raw nudity, and more. The official typed in the word meaning “son,” and one of the Google Suggest terms was “love affair between son and mother.” The links to this term yielded explicit pornography. The woman serving tea in the conference room almost fainted at the spectacle. The Google people tried to explain that apparently someone had successfully spammed the keyboards in Google Suggest to artificially boost the popularity of sex sites. The officials were not impressed. “This is the antiporn year,” they said. “You’ve been warned twice before, and this is the third time. So we’re going to punish you.”

By that time Kai-Fu Lee had already decided to leave Google but hadn’t given notice. As was standard, his options were vested after four years, enough time for reevaluation. He’d decided that his strength was building things, not managing them after they were built. He was proud of what he had built in China for Google: a strong business, with impressive and motivated workers. He felt that his greatest success was balancing what seemed to be two mutually exclusive demands: Google’s company values and the requirements of the Chinese government. But he also knew that some people in Mountain View—including Sergey Brin—believed that Google’s efforts were not paying off and that the compromises made in China were tainting the Google brand. His main frustration with Mountain View, though, was its refusal of his constant requests to spend more to promote its search engine. Had Google given him the resources to really take on Baidu in the marketplace, he may well have stayed another year.

By July, when Lee had to go to the hospital for minor surgery, he was debating several options for his next career step, none of them involving Google. He was thinking of his future when the phone rang in his hospital room. The Chinese were once more blocking Google.cn, meting out the punishment they had promised. In addition, Google was singled out in a scathing news report on the main television network, where content is carefully controlled by the government. Now he was hearing that the government demanded that Google remove Suggest. There was a second demand—to remove foreign websites from its indexes. Google refused.
Though Lee would not say it, he had to have been thinking, I won’t miss this.

That August, Lee went to Mountain View for a previously scheduled GPS on China. Before the executives went into the Marrakesh conference room in Building 43, Lee quietly told Alan Eustace that he had decided to leave. Then he went into the GPS and outlined the progress and difficulties of Google China, only afterward telling Schmidt that he would be departing. He had decided to start a company that would incubate Internet start-ups in China. “It was hard,” he later said, “but it was harder to say good-bye to the team here [in China], some of whom I talked into joining. I wanted to personally assure them that things are going to go great.”

Many employees of Google China didn’t believe it when they first heard the news, because there had been so many earlier false reports about Lee leaving.

Lee’s departure party took place on September 18. Instead of the usual TGIF, all hands gathered at the WenJin Hotel. Chinese Googlers tried to keep things upbeat; they called him onstage and had him pretend he was a contestant on a game show where they asked him silly questions and meted out “punishments” (belching three times, talking like Donald Duck, imitating Mike Tyson) whether he answered correctly or not. Then people shared stories about him. The evening ended with the entire room breaking out in a well-known Chinese pop song called “Blessing.” That was when the crying began. People were singing and sobbing at the top of their lungs. The next day, Lee repeated the lyrics in an email to former colleagues: “You and I will meet again in the brilliant season!”

Some China Googlers still felt optimistic about the company’s prospects. A few weeks after Lee’s departure even Xuemei Gu, who was not reluctant to deliver blistering criticisms of her employer, said that she still believed in the mission. She thought her time in China was well spent. “I will say Google will probably be the most popular Internet service in China,” she said. “I’m still happy. A lot of tears and challenges, but yes, I’m still happy.”

Just before Christmas, Heather Adkins learned that she would fall short on her annual “don’t get hacked” OKR. Google’s monitoring system had detected a break-in to Google’s computer system, and some of the company’s most precious intellectual property had been stolen.

Apparently someone had hacked into Google from what was supposed to be a security stronghold—its password system, called Gaia. It was a serious breach that involved a theft of code. As her forensics team dug deeper, using all its digital CSI-style techniques to walk back over what happened—more alarms went off. The hack was geographically tied to China. What’s more, both the sophistication of the attack and the nature of its targets pointed to the government itself as an instigator of or a party to the attack. “The more we learned as we looked into it, the more we realized this wasn’t just a classic hack, but folks who were after something. This was hacking with a purpose,” says David Drummond.

The attackers used a vulnerability in Microsoft’s instant messaging system to break into the accounts of Google employees in Beijing. The openness among its employees that the company cherished turned out to be a vulnerability—and the paranoia that Google had exercised in limiting code access to the Chinese turned out not to be so paranoid. The victims were apparently people whom the attackers had identified as being useful to efforts to penetrate Google’s safesbox. The bandits had tracked their targets diligently, accumulating knowledge via their activities on sites such as Facebook and Twitter; then they had set up a phony photo website, sending a link to the employees that appeared to be from a familiar contact. When the employees followed the link, the trap sprung, injecting their computers with malicious software. That allowed the penetrators to take control of their computers. The outsiders had accessed MOMA, Google’s internal website, to locate the engineers who were working on Gaia, the company’s master password system. Then the bandits had monitored those employees to learn enough about the system to work their way into Google’s internal operations and eventually copy confidential code. What they stole was apparently so critical that Google never revealed its nature.

As Google’s security specialists kept looking, they found even more horrendous consequences. The hackers had dug into some Gmail accounts. Not just any Gmail accounts, but those of Chinese dissidents and human rights activists. All their contacts, their plans, their most private information had fallen into the hands of intruders. It was hard to imagine that the Chinese government was not prying over them. “It hadn’t even occurred to us that that kind of targeted attack would be happening,” says Nicole Wong. One of the compromised Gmail accounts belonged to a Chinese student at Stanford. Google arranged with campus security to meet with her, and Google’s corporate head of security and safety personally took charge of her laptop. The malware was so sophisticated that it had already self-destructed.

Within days, Google set up the most elaborate war room in its
history—it was actually a war building, as an entire Google facility was filled with a mix of security engineers working on the forensics of the incursions and policy lawyers trying to figure out what to do next. No one could get in without special light blue laminates affixed to their Google employee badges. In a move that would disturb privacy advocates already worried about Google, the company invited security experts from the National Security Agency to help analyze the attack and devise future defenses. Meanwhile Google’s executives began a series of meetings to determine the next step in the company’s China policy. “We had an interesting holiday season,” says Bill Coughran.

The question the executives discussed was the same one that had been argued five years earlier: what’s the right thing to do in China? Google had originally hoped that the Chinese would appreciate its compromise and tacitly tolerate Google’s quiet pressure to relax the filtering. Instead it was the opposite. And now Google was under attack. Was this a short-term problem, or should Google acknowledge the setback and press on? In 2006, Eric Schmidt had promised five thousand years of patience. Would Google now give up after only five? As with the previous argument, the outcome would rely less on business considerations than moral ones, though no one could say how much the prospect of profits affected the views of those who argued for sticking it out. Google didn’t reach out to the Chinese government to discuss the consequences. Nor did Google consult with its former head of its China operation.

Sergey Brin took the incident personally. Insiders observed that he was much less perturbed by the theft of Google’s intellectual property than the fact that his company had unwittingly been a tool used to identify and silence critics of a repressive government. In interviews afterwards, he acknowledged that his personal history had shaped his response. He was also incensed to learn that other American companies had been similarly compromised yet had chosen to bury the incidents. He argued that Google should expose those companies, but others, including Google’s lawyers, discouraged him. Brin focused his considerable computer science talents on the minutiae of security: it was the cofounder himself who gave briefings to the communications staff to explain what had happened.

Brin wanted the incident to be the catalyst to the action that he and others had been urging since 2008: Google should stop censoring. He was passionate in his insistence: He had support from some executives who had soured on China over the past ten months—but not all. Notably, Eric Schmidt was not convinced. But Brin was adamant: Google was under attack by the forces of evil, and if his fellow executives did not see things his way, they were supporting evil. (I’d heard from a knowledgeable but not firsthand source that Brin threatened to quit if Google did not change its policy. Brin, through a spokesperson, says he didn’t recall saying that, and that the company was so much in his blood and DNA, it was unlikely that he expressed that intention. He did acknowledge that during the many hours of debate, he presented his case with the utmost passion.) As the days went on, and the security news looked worse—now it appeared that Google was one of more than forty companies targeted in the hack, an indication that the Chinese harbored the worst intentions toward U.S. high-tech businesses—Brin’s point of view eventually prevailed. On January 10, 2010, Google’s top executives reached a decision. Larry Page had joined Brin in deciding to end Google’s experiment in censorship; the outvoted Schmidt accepted the decision. (Insiders would later say that the setback had long-lasting implications for Schmidt’s relationship with the founders, but from the very start of his time at Google, Schmidt had understood that his word on crucial company matters was not final.) In any case, the company decided that it would no longer carry out censorship for the Chinese government on its .cn search engine. The consequences of that decision would be up to the Chinese government.

“The security incident, because of its political nature, just caused us to say ‘Enough’s enough,’” says Drummond.

The next day Drummond wrote a blog item explaining Google’s decision. It was called “A New Approach to China.” He outlined the nature of the attack on Google and explained that it had implications far beyond a security breach; it hit the heart of a global debate about free speech. Then he dropped Google’s bombshell:

These attacks and the surveillance they have uncovered—combined with the attempts over the past year to further limit free speech on the web—have led us to conclude that we should review the feasibility of our business operations in China. We have decided we are no longer willing to continue censoring our results on Google.cn, and so over the next few weeks we will be discussing with the Chinese government the basis on which we could operate an unfettered search engine within the law, if at all. We recognize that this may well mean having to shut down Google.cn, and potentially our offices in China.

On January 12, Google published the Drummond essay on its blog. The news spread through Mountain View like an earthquake. Meetings all
over the campus came to a dead stop as people looked at their laptops and read how Google was no longer doing the dirty work of the Chinese dictatorship. "I think a whole generation of Googlers will remember exactly where they were when that blog item appeared," says one product manager, Rick Klau.

For Google's employees in China, the day was also unforgettable. Not one of them had been alerted to the move ahead of time. Drummond posted his announcement at 6 a.m. Beijing time, and many of the Googlers in Beijing and Shanghai first heard about it when frantic colleagues wakened them. Employees filed into the office in a state of shock. That afternoon Google told all the employees to leave and gave them tickets to see Avatar. The next day everyone gathered in the café for a teleconference with Brin and other executives, who did their best to explain Google's actions. It was a tough sell. At one point, Government Relations head Julie Zhu delivered an emotional objection to the actions of her employers, overseas generals who seemed to have abandoned the soldiers in the theater of war. You should not have given up, she argued. You should have kept fighting. Others, including Xuemei Gu, challenged Sergey on the issue as well. Over the next few days, dozens of Googlers crossed the street to Kai-Fu Lee's new offices to get advice from their former leader. A few would choose to work for him.

Drummond's posting had said that Google was waiting to see if China would allow it to run an uncensored search engine from inside the country, but of course the government would never allow that. The Chinese government responded by rebuking Google for what it called false accusations of government complicity in the cybercrimes. After a few weeks, Google announced that it would shutter the Google.cn site and redirect traffic to its service in Hong Kong, at Google.hk. Because of Hong Kong's history as a free zone, China did not demand that Internet sites there follow the same censorship regime as on the mainland.

But as Google awaited the renewal of its business license in June, China signaled that the Hong Kong arrangement was unsatisfactory. Google changed its landing page so that search users would no longer be taken directly to the .hk site but could click on a link to it. From there, Google would deliver uncensored search. It would be slow, and sometimes China would block the site. The government could, and did, block users from visiting forbidden sites. But at least it would be the Chinese government, not Google, doing the censoring. Google would continue to offer other services, such as music and maps, from China. China renewed the license and implicitly approved the plan. Google was still alive in China. But it had no illusions about the arrangement. "I want to make this clear," Eric Schmidt told reporters in summer 2010. "China has the absolute ability to shut us down, and we wouldn't have an appeals process."

Meanwhile, Google's market share in China began a steady erosion. "We are certainly benefiting from it," said Baidu CEO Robin Li in a conference call in April 2010 that announced the biggest profits in its history.

Kai-Fu Lee still believed that the balance he had maintained between censorship and transparency had been the right one, and he was proud that Google could redraw the line that the government had set down—and survive. He also believed that Google should have remained on its course, even after the security breach. "Had I been there and had they consulted me, I would've said certain things which may or may not have made any difference," he says. "Most Chinese people don't care. I think some felt, 'This is a company that didn't follow the laws, so they should get out of here.' Others felt, 'Oh, no, don't leave for this.' It's all over the place. But I do think most people think it was not good for the user."

Lee said if you look at China's behavior over a long horizon—twenty or thirty years—it's clear that the trend was toward more openness. The incidents that led to Google's retreat were "a perturbation" in this movement, mainly because the current Chinese leaders had reached their limits. "The next generation will come up in less than two years," he says. "They're younger, more progressive, many American-trained, and many have worked in businesses and run banks—they're going to be more open."

But the government of China saw things differently. As the Google experiment ended, its State Council Information Office reported to its leadership that it had essentially overcome the threatening prospect of openness once promised by the Internet—and Google. "In the past a lot of officials worried that the web could not be controlled," someone familiar with the report told The New York Times, "But through the Google incident and other increased controls and surveillance . . . they reached a conclusion: the web is fundamentally controllable."

In the wake of the attack from China, Heather Adkins and her security team reset their practices and policies. The work experience of Google engineers all over the world was affected as Google went into what it called "corporate lockdown." The golden balance that Google security had strived for—bulletproof protection with minimal disruption to a natural workflow—was gone. For instance, to get into MOMA from a remote location, you had to put in the usual passwords as well as an additional onetime pass-
word that was sent to your mobile phone. Getting access to the data centers became a painstaking process.

Googlers accepted the new restrictions with little outcry. The China break-in provided them with indisputable data to justify increased safeguards for Google's jewels. There was a psychological justice to the inconvenience as well. Call it a penance for doing evil in China.

PART SEVEN

GOOGLE.GOV
Is What's Good for Google Good for Government—or the Public?

"I was probably the only computer science degree in the whole campaign."

On November 14, 2007, Barack Obama came to Google.
It was not his first trip. In the summer of 2004, as an Illinois state legislator running for the U.S. Senate, Obama had toured Silicon Valley. A Mountain View drop-in was a highlight, so much so that he wrote about the experience in his book The Audacity of Hope. David Drummond had given the recent star of the Democratic National Convention a tour ("the main building ... felt more like a college student center than an office," observed the guest) and introduced him at a TGIF. Obama discussed Gmail and voice search with Larry Page, who led him on an exhibit Google often showed its visitors: a flat-panel display with a representation of the globe, with points of light indicating Google search activity in real time. In his book, Obama described the reverie this animation inspired:

The image was mesmerizing, more organic than mechanical, as if I were glimpsing the early stages of some accelerating evolutionary process, in which all the boundaries between men—nationality, race, wealth—were rendered