

*The publisher gratefully acknowledges the generous support of the General
Endowment Fund of the University of California Press Foundation.*

The Googlization of Everything

(AND WHY WE SHOULD WORRY)

Updated Edition

Siva Vaidhyanathan



UNIVERSITY OF CALIFORNIA PRESS
Berkeley Los Angeles

"get inside" the minds of the visionaries who run the company, as other, more connected writers have.⁸

This book is not about Google; instead, it is about how we use Google. It explains the ways we have embraced Google and invited it into a wide variety of human activities. It also examines the resistance to and concern about Google, which is growing as its reach spreads across the globe. It explores the terms of the relationships between Google and its billions of users, and it considers the moral consequences of Google's actions and policies.

This book is much more about us—how we use Google, what we expect of it, and what we give to it—than about Google. My modest hope is that you will approach that screen with the friendly search box and clever logo with a keener sense of what happens when you type the name of the thing you're looking for. To search for something on the Web using Google is not unlike confessing your desires to a mysterious power. If nothing else, I hope to deflate hyperbole about the company, its services, and the Web in general, and to shift the tone of public conversation from one of blind faith and worship of the new to one of sober concern about the wrenching changes we have invited and unleashed. Most of all, I hope we will all approach the future of human knowledge with wisdom and trepidation rather than naive, dazzled awe.

INTRODUCTION

THE GOSPEL OF GOOGLE

In the beginning, the World Wide Web was an intimidating collection, interlinked yet unindexed. Clutter and confusion reigned. It was impossible to sift the valuable from the trashy, the reliable from the exploitative, and the true from the false. The Web was exciting and democratic—to the point of anarchy. As it expanded and became unimaginably vast, its darker corners grew more remote and more obscure. Some had tried to map its most useful features to guide searchers through the maelstrom. But their services were unwieldy and incomplete, and some early guides even accepted bribes for favoring one source over another. It all seemed so hopeless and seedy. Too much that was precious but subtle and fresh was getting lost.

Then came Google. Google was clean. It was pure. It was simple. It accepted no money for ranking one page higher in a search than another.

And it offered what seemed to be neutral, democratic rankings: if one site was referred to more than another, it was deemed more relevant to users and would be listed above the rest. And so the biggest, if not the best, search engine was created.

This, in brief, was the genesis of the enterprise known as Google Inc. Like all theological texts, the Book of Google contains contradictions that leave us baffled, pondering whether we mere mortals are capable of understanding the nature of the system itself. Perhaps our role is not to doubt, but to believe. Perhaps we should just surf along in awe of the system that gives us such beautiful sunrises—or at least easily finds us digital images of sunrises with just a few keystrokes. Like all such narratives, it underwrites a kind of faith—faith in the goodwill of an enterprise whose motto is “Don’t be evil,” whose mission is “to organize the world’s information and make it universally accessible and useful,” and whose ambition is to create the perfect search engine.

On the basis of that faith—born of users’ experiences with the services that Google provides—since the search engine first appeared and spread through word of mouth for a dozen years, Google has permeated our culture. That’s what I mean by *Googlization*. It is a ubiquitous brand: *Google* is used as a noun and a verb everywhere from adolescent conversations to scripts for *Sex and the City*. It seems that even governments are being Googlized, or rendered part of the vast data storm that Google has taken as its challenge to organize and make available.¹

Google puts previously unimaginable resources at our fingertips—huge libraries, archives, warehouses of government records, troves of goods, the comings and goings of whole swaths of humanity. That is what I mean by the Googlization of “everything.” Googlization affects three large areas of human concern and conduct: “us” (through Google’s effects on our personal information, habits, opinions, and judgments); “the world” (through the globalization of a strange kind of surveillance and what I’ll call *infrastructural imperialism*); and “knowledge” (through its effects on the use of the great bodies of knowledge accumulated in books, online databases, and the Web).

Google consequently is far more than just the most interesting and successful Internet company of all time. As it catalogs our individual

and collective judgments, opinions, and (most important) desires, it has grown to be one of the most important global institutions as well. As we shift more of our Internet use to Google-branded services such as Gmail and YouTube, Google is on the verge of becoming indistinguishable from the Web itself. The Googlization of everything will likely have significant transformative effects in coming years, both good and bad. Google will affect the ways that organizations, firms, and governments act, both for and at times against their “users.”

To understand this phenomenon, we need to temper our uncritical faith in Google and its corporate benevolence and adopt an agnostic stance. That is, we need to examine what Google has told us about itself, its means, and its motives as it makes the world anew in these ways, and to interrogate and evaluate both the consequences of Googlization and the ways we respond to it.

One way to begin is by realizing that we are not Google’s customers: we are its product. We—our fancies, fetishes, predilections, and preferences—are what Google sells to advertisers. When we use Google to find out things on the Web, Google uses our Web searches to find out things about us. Therefore, we need to understand Google and how it influences what we know and believe.

Because of our faith in Google and its claims of omniscience, omnipotence, and benevolence, we tend to grant Google’s search results inordinate and undeserved power.² These results offer the illusion of precision, accuracy, and relevance. Psychologists at the University of California at Berkeley have even published a study claiming that Google’s Web-search technique mimics the way human brains recall information.³ So it is understandable that we have come to believe that Google’s search rankings are a proxy for quality of information, simply an extension of our collective judgment. But this belief is unhealthy and wrong. The rules of the game are rigged in certain ways, and we need a much clearer idea of how this is done.

If I can convince you that we should be concerned about the ease with which we have allowed everything to be Googlized, I hope I can lead you to consider some remedies as well. I am confident we can find ways to live more wisely with Google. My argument comes from a

perspective that is too often lost in accounts of the details of technological innovations and their effects on our daily lives: the pursuit of global civic responsibility and the public good. Hopes for a more enlightened future rest in our ability both to recognize the assumptions embedded in our faith in Google and to harness public resources to correct for them. So this book is also overtly political. It calls for a reimagination of what we might build to preserve quality information and deliver it to everyone. It examines the prospects for the creation of a global public sphere, a space between the particular domestic spheres where we live most of our lives and the massive state institutions that loom over us—a space where we can meet, deliberate, and transform both the domestic and the political. We can't depend on one or even a dozen companies to do that equitably and justly. Google seems to offer us everything so cheaply, easily, and quickly. But nothing truly meaningful is cheap, easy, or quick.

After years of immersion in details of Google's growth, I can come to only one clear judgment about the company and our relationship with it: Google is not evil, but neither is it morally good. Nor is it simply neutral—far from it. Google does not make us smarter. Nor does it make us dumber, as at least one writer has claimed.⁴ It's a publicly traded, revenue-driven firm that offers us set of tools we can use intelligently or dumbly. But Google is not uniformly and unequivocally good for us. In fact, it's dangerous in many subtle ways. It's dangerous because of our increasing, uncritical faith in and dependence on it, and because of the way it fractures and disrupts almost every market or activity it enters—usually for the better, but sometimes for the worse. Google is simultaneously new, wealthy, and powerful. This rare combination means that we have not yet assessed or come to terms with the changes it brings to our habits, perspectives, judgments, transactions, and imaginations.⁵

Faith in Google is thus dangerous as the airplane and the automobile have proved dangerous in ways their pioneers did not anticipate in the 1920s. These technologies of mobility and discovery are dangerous not just because they physically endanger their users but because we use them recklessly, use them too much, and design daily life around them. Thus we have done tremendous harm to ourselves and our world. As early as 1910, the technologies of motorized transportation

were impressive and clearly revolutionary. It was not hard to see that human life would soon be radically transformed by the ability to move people and goods across continents and oceans in a matter of hours. Only a few years later, life on earth was unimaginable without these systems, and by the close of the twentieth century, the entire world was reorganized around them.

The dangers arose because we let the automobile companies and airlines dictate both public discourse and policy. The rules of the road were worked out rather quickly and almost entirely in favor of the automobile: more people became motorists, and fewer were pedestrians. Soon after World War II, flying and driving became elements of daily life for most of the developed world. Yet the externalities of both these transport systems—from global climate change to global terrorism to global pandemics—have left us wondering how we made so many bad decisions about both of them. We did not acknowledge all the hazards created by our rush to move and connect goods and people, and so we did not plan. We did not limit. We did not deliberate. We did not deploy wisdom and caution in the face of the new and powerful. We did not come to terms with how dangerous planes and cars really are. Even had we acknowledged the range of threats that they generate, we would not have wished for a world without them. But we might well have demanded better training, safeguards, rules, and systems early on and thus curbed the pernicious results while embracing the positive, liberating effects they have on our lives.

We have designed our environments to serve cars and planes instead of people. Our political systems have been used to favor and subsidize these industries, even as they have been held up as models of free enterprise. And thus we have become dangerously dependent on them. We began to recognize the problems that they posed only in the 1960s and now are all too aware of them. But it's far too late. As Elvis warned us, "Fools rush in."⁶

Google and the Web it governs are nowhere near as dangerous as our automobile system. People aren't made ill or run over by Web pages. Nonetheless, blind faith in Google is dangerous because Google is so good at what it does and because it sets its own rules. Unlike the

automobile, which regularly kills people, Google causes damage mostly by crowding out other alternatives. Because of its ease and power, because it does things so cheaply and conveniently, it may cause us to miss opportunities to do things better. Google's presence in certain markets, such as advertising or book search, retards innovation and investment by potential competitors, because no one can realistically wrest attention or investment from Google. And when Google does something adequately and relatively cheaply in the service of the public, public institutions are relieved of pressure to perform their tasks well. This is an important and troubling phenomenon I call *public failure*.

The power of this young company is so impressive, and its apparent cost to its users so low (close to free), that the strongest negative emotion it generates in the United States is unease; anger at Google (as well as use of and dependence on Google) is much stronger in Europe. We see so clearly how it makes our lives better, our projects easier, and our world smaller that we fail to consider the costs, risks, options, and long-term consequences of our optimistic embrace. That is what the following chapters set out to do.

LIVING AND THINKING WITH GOOGLE

As with any system of belief, ideologies underlying the rise of Google have helped shape the worldview of those who created it as well as those who use and believe in it. For some, seeking wisdom and guidance in navigating the world in the early years of the twenty-first century, Google looks like the model for everything and the solution to every problem.⁷ To most people, Google seems helpful and benevolent. For some would-be reformers, particular practices of the company demand scrutiny within the faith. For apostates, Google has fallen from its heights of moral authority.⁸

Google's ideological roots are well documented.⁹ Google's founders and early employees believe deeply in the power of information technology to transform human consciousness, collective and individual. Less well understood are the theories that inform how Google interacts with

us and how we interact with Google. Increasingly, Google is the lens through which we view the world. Google refracts, more than reflects, what we think is true and important. It filters and focuses our queries and explorations through the world of digitized information. It ranks and links so quickly and succinctly, reducing the boiling tempest of human expression into such a clean and navigable list, that it generates the comforting and perhaps necessary illusion of both comprehensiveness and precision. Its process of collecting, ranking, linking, and displaying knowledge determines what we consider to be good, true, valuable, and relevant. The stakes could not be higher.

For those of us who trudge through torrents of data, words, sounds, and images, Google has become a blessing.¹⁰ More than guiding us to answers and opportunities, it filters out noise: it prevents us from being distracted by the millions of documents that *might* serve our needs by guessing fairly accurately what we *do* need. So it's almost impossible to imagine living a privileged, connected, relevant life in the early twenty-first century without Google. It has become a necessary—seemingly natural—part of our daily lives. How and why did this happen? What are the ramifications of such widespread dependence?

To answer those questions, we must ask some other hard questions about how Google is not only “creatively destroying” established players in various markets but also altering the very ways we see our world and ourselves.¹¹ If Google is the dominant way we navigate the Internet, and thus the primary lens through which we experience both the local and the global, then it has remarkable power to set agendas and alter perceptions. Its biases (valuing popularity over accuracy, established sites over new, and rough rankings over more fluid or multidimensional models of presentation) are built into its algorithms.¹² And those biases affect how we value things, perceive things, and navigate the worlds of culture and ideas. In other words, we are folding the interface and structures of Google into our very perceptions. Does anything (or anyone) matter if it (or she) does not show up on the first page of a Google search?

Here are some of the big questions facing us in the coming years: Who—if not Google—will control, judge, rank, filter, and deliver to us essential information? What is the nature of the transaction between

Google's computer algorithms and its millions of human users? How have people been using Google to enhance their lives? Is it the best possible starting point (or end point) for information seeking? What is the future of expertise in an age dominated by Google, bloggers, and Wikipedia? Are we headed down the path toward a more enlightened age and enriching global economy, or are we approaching a dystopia of social control and surveillance?

IMAGINEERING GOOGLIZATION

This book employs what I call a "technocultural imagination."¹³ A person who relies on a technocultural imagination asks these sorts of questions: Which members of a society get to decide which technologies are developed, bought, sold, and used? What sorts of historical factors influence why one technology "succeeds" and another fails? What are the cultural and economic assumptions that influence the ways a technology works in the world, and what unintended consequences can arise from such assumptions? Technology studies in general tend to address several core questions about technology and its effects on society (and vice versa): To what extent do technologies guide, influence, or determine history? To what extent do social conditions and phenomena mold technologies? Do technologies spark revolutions, or do concepts like *revolution* raise expectations and levels of effects of technologies?

The chapters that follow attempt to answer such questions. The first two chapters explore the moral universe of Google and its users. I don't really care if Google commits good or evil. In fact, as I explain below, the slogan "Don't be evil" distracts us from carefully examining the effects of Google's presence and activity in our lives. The first chapter argues that we must consider the extent to which Google regulates the Web, and thus the extent to which we have relinquished that duty to one company. The company itself takes a technocratic approach to any larger ethical and social questions in its way. It is run by and for engineers, after all. Every potential problem is either a bug in the system, yet to be fixed, or a feature in its efforts to provide better service. This attitude masks the

fact that Google is not a neutral tool or a nondistorting lens: it is an actor and a stakeholder in itself. And, more important, as a publicly traded company, it must act in its shareholders' short-term interests, despite its altruistic proclamations. More important yet, Google is changing. Each week brings a new initiative, a new focus (or a new distraction) for the company, and a new enemy or challenge. Such rapid changes, and the imperatives of corporate existence, are the subjects of chapter 2.

One of the great attractions of Google is that it appears to offer so many powerful services for free—that is, for no remuneration.¹⁴ But there is an implicit nonmonetary transaction between Google and its users. Google gives us Web search, e-mail, Blogger platforms, and YouTube videos. In return, Google gets information about our habits and predilections so that it can more efficiently target advertisements at us. Google's core business is consumer profiling. It generates dossiers on many of us. It stores "cookies" in our Web browsers to track our clicks and curiosities. Yet we have no idea how substantial or accurate these digital portraits are. This book generates a fuller picture of what is at stake in this apparently costless transaction and a new account of surveillance that goes beyond the now-trite Panopticon model. Google is a black box. It knows a tremendous amount about us, and we know far too little about it. The third chapter explains how we fail to manage the flows of our personal information and how Google fails to make the nature of the transaction clear and explicit.

Google is simultaneously very American in its ideologies and explicitly global in its vision and orientation. That's not unusual for successful multinational corporations. Microsoft is just as important a cultural and economic force in India as it is in the United States. Google, however, explicitly structures and ranks knowledge with a universal vision for itself and its activities. This comprehensiveness generates a tremendous amount of friction around the world—not least in the People's Republic of China. Between 2005 and 2010 the Chinese government regularly shut down portions of Google's services because the company just barely managed to remain in the good graces of the Communist Party. Yet for all its deftness in dealing with China, Google for years drew criticism from global human rights groups for being part of the problem, rather

than part of the solution, in China. Then, in early 2010, the company surprised the world by giving the Chinese government exactly what it wanted: Google shut down its Chinese-based search engine while leaving intact those portions of its business that supply jobs and revenue to Chinese nationals. This move left Chinese Internet users with fewer sources of information, did nothing to reduce the stifling level of censorship, and put government-backed search engines in firm control of the Web in China. This was an empty and counterproductive gesture. By choosing to be a passive, rather than active, partner in Chinese censorship, somehow the company drew applause from human rights organizations. The fourth chapter covers the trials of Google as it has tried to apply a single vision of information commerce to a wide array of cultural and political contexts across the globe.

In chapters 5 and 6 the book considers the consequences of Google's official mission statement: "To organize the world's information and make it universally accessible." In chapter 5 I assess the controversial Google Books program. This program, launched in 2004, was meant to help fulfill the mission of organizing the world's information, but it served several engineering and commercial goals as well. The audacity of the program, which aimed to copy millions of copyrighted books from university libraries and offer them in low-quality formats to a broad market of readers, was the first case in which Google clearly moved beyond its previously venerated status. Because of the mistakes Google made in the Books program, federal regulators and many important segments of the reading public grew concerned with the scope of Google's ambitions.¹⁵

In the public mind, Google's informal motto, "Don't be evil," resonates more than its formal mission statement. But the mission statement is far more interesting. It is a stunning statement. What other institution would define changing the world as its unifying task? The Web-using public has adopted Google services at an astounding rate, and Google has expanded to master widely used Internet functions such as Web search, e-mail, personal "cloud computing," and online advertising. Chapter 6 and the conclusion consider how Google is changing and challenging both the technologies and the companies that govern human

communication. The book concludes with a call for more explicitly public governance of the Internet. Such governance might take the form of greater privacy guarantees for Web users or strong antitrust scrutiny of companies like Google. The particular forms and instruments of governance are not as important as the general idea that what Google does is too important to be left to one company. But any criticisms and calls for regulation should be tempered with an honest and full account of Google's remarkable and largely beneficial contributions to our lives. Google figured out how to manage abundance while every other media company in the world was trying to manufacture scarcity, and for that we should be grateful.

As I finished this book, it seemed that the instruments that traditionally supply knowledge for public deliberation were collapsing all around us. Newspapers in the United States and Europe were closing at a startling rate. Many newspaper leaders blamed Google because it alone seemed to be making money. Book publishers were also panicking, as readers suffering from a recession steadily held back their disposable cash, and moves by Amazon, Apple, and Google to serve as cheap-book vendors generated as much anxiety as opportunity. After weighing the various claims and arguments about the fate of journalism and publishing during a crippling global recession, I conclude that we should invest heavily in a global library of digital knowledge, with universal access and maximum freedoms of use. This proposal does not entail a simple bailout or subsidy to any industry or institution. It means that we should embark on a global, long-term plan to enhance and extend the functions of libraries in our lives. So the concluding chapter of this book proposes what I call a Human Knowledge Project. It takes a broad, ecological approach to the idea that we need to infuse the public sphere with resources, energy, and incentives. It is based on the premise that we can do better than hand over so many essential aspects of human endeavor to one American company that has yet to reach even its adolescence.

The youth and inexperience of Google lie at the root of my concerns. Among our major institutions, global information-technology corporations change and adapt faster than any others. This is generally good for them and good for us. But when we grant one—or even two or

three—firms inordinate influence over essential aspects of our lives, we risk being jolted by sudden changes of direction, burned by the heat, and blinded by the light. The one thing we can't assume about such companies is that they will remain the same. The Google of 2021 will not resemble the Google of 2001—or even of 2011. Much of what we find comforting about Google may be gone very soon. The imperatives of a company that relies on fostering Web use and encouraging Web commerce for its revenue may understandably morph into a system that privileges consumption over exploration, shopping over learning, and distracting over disturbing. That, if nothing else, is a reason to worry.

ONE RENDER UNTO CAESAR

HOW GOOGLE CAME TO RULE THE WEB

Google dominates the World Wide Web. There was never an election to determine the Web's rulers. No state appointed Google its proxy, its proconsul, or its viceroy. Google just stepped into the void when no other authority was willing or able to make the Web stable, usable, and trustworthy. This was a quite necessary step at the time. The question is whether Google's dominance is the best situation for the future of our information ecosystem.

In the early days it was easy to assume that the Web, and the Internet of which the Web is a part, was ungoverned and ungovernable. It was supposed to be a perfect libertarian space, free and open to all voices, unconstrained by the conventions and norms of the real world, and certainly beyond the scope of traditional powers of the state.¹ But we now know that the Internet is not as wild and ungoverned as we might

vast majority of people using them are not aware of their pitfalls the techniques by which users can master them. Settings only help you if you know enough to care about them. Defaults matter all the time. Google's great trick is to make everyone feel satisfied with the possibility of choice, without actually exercising it to change the system's default settings. But as I show in the next chapter, for people living in illiberal political contexts, different vulnerabilities exist.

THE GOOGLIZATION OF THE WORLD

PROSPECTS FOR A GLOBAL PUBLIC SPHERE

In early 2009, the leaders of Eu, a small town in the north of France, decided to change its official name. It seems that Google searches for "Eu" generated too many results for Europe in general, largely because the European Union is colloquially known as "EU" and because there is a general European Web domain name ".eu." Even some results pointing to the chemical element Europium outranked those for the little town. Voters in the town were asked to choose among longer strings of text such as "Eu-en-Normandie" or "la Ville d'Eu." And municipal leaders considered purchasing ads on Google and hiring a firm that specializes in optimizing search-engine ranks to raise the profile of the town.¹ It seems that if a town—or anyone or anything—can't be found with Google, it might as well not exist.

As Google steadily expands and globalizes its services, localities and nations deal with it in very different ways. Instead of pandering to the

biases of Google searches, as the town of Eu did, other European entities have taken a more hostile stance. In February 2010 Google's top lawyer, David Drummond, and three other top Google executives were convicted in Italy on privacy-violation charges for failing to prevent the posting to YouTube of a video of an autistic child being bullied. The video remained on the Italian version of YouTube for two months in 2006. Under widely agreed practice and most European law, Google and its executives should have been free from risk of suit or prosecution. In this case, Google did what it always does, and what every Web service provider does: it removed the illegal content as soon as authorities notified the company. But for some reason Italian prosecutors were not satisfied with that move. Instead, they pursued the Google executives for more than a year, convicting three of the four. Google immediately appealed the ruling and proclaimed—with justification—that if Web service companies were to be held responsible for the content their users upload, then none would host such content. The risks would be too high. If more countries were to prosecute such cases, the Web would not be as free, open, or interesting as it could be.²

In a very different situation, the government of Iran in February 2010 blocked access to Google's e-mail system, Gmail, and instituted a national e-mail system to take its place. This occurred just before the celebration of the thirtieth anniversary of the Iranian revolution of 1979 and a few months after massive protests against the government over a stolen election that resulted in thousands of cases of imprisonment, torture, rape, and murder of government critics. The Iranian government had already infiltrated social networking systems such as Facebook and Twitter to monitor protest plans. When activists turned to using Gmail, largely because it can be encrypted, the government took action against the service.³ Not coincidentally, just three weeks earlier Google had activated Gmail encryption by default in reaction to the news that hackers from China had breached the security of several Gmail users who were considered troublesome dissidents by the Chinese government. Google had immediately threatened to dismantle aspects of its carefully designed operation in China and said it would consider pulling out of providing services to China entirely.⁴

Such cases demonstrate the extent to which the world has been Google-ized. Even cities, towns, and universities obsess about their visibility, rankings, and reputations on Google and bend to the biases of this powerful search service. At the same time, more and more people around the world have been resisting the universalizing tendencies of Google. They are demanding exceptions and reconsiderations. Thus Google is struggling to maintain its vision and principles while itself bending slightly to the wills of states, institutions, and communities in a diverse world. And increasingly, the company devoted to liberating information and connecting the world has to deal with life-and-death consequences of its investments and activities.

In 2009, Google faced a conflict that put it between two countries with nuclear powers and the world's most important growing economies, China and India. For more than fifty years, the two countries have been contesting their shared border between Tibet and the Indian state of Arunachal Pradesh, occasionally to the point of combat. Google Maps originally depicted the territory as Indian. As of late 2009, Google Maps users in China saw the area marked as part of Tibet; those in India still saw it designated as part of India. Google Maps applied the same treatment to disputed areas of the Indian states of Jammu and Kashmir, which have majority Muslim populations and have been claimed by Pakistan since the two nations were divided in 1947.⁵ As its influence and operations expand around the world, Google is finding it difficult to keep everyone happy and stay true to its mission.

THE CHINA SYNDROME

Of all the issues that have tangled and troubled Google, none is as serious and complex as the company's relationship with the People's Republic of China. The story of Google in China started around 2004 and seemed to end with a whimper in 2010. In the summer of 2009, the Chinese government had deployed all its technologies of Internet censorship to block its residents' access to social networking services such as Twitter

and Facebook, and it has also blocked access to many Google services such as Blogger and YouTube.

All of this tension was put into sharp relief in January 2010 in an incident that revealed to the world the level of insecurity in global online systems and the extent to which the Chinese government was willing to go in order to hunt down its critics. Just a week before U.S. secretary of state Hillary Clinton was scheduled to make a major speech emphasizing her country's commitment to freedom of communication in digital networks, Google announced that servers located far from China had been breached by someone operating within the People's Republic. Many assumed that the hackers were working at the behest of the Chinese security services, as several of the Gmail accounts that had been compromised belonged to dissidents and critics of the government. But that assumption was impossible to prove, and the Chinese government denied it. In the days that followed, Google made it clear that at least thirty U.S. companies had also had their servers breached by the same attackers from China. Realizing that its security was inadequate, Google immediately bolstered some features. It also announced that China had made it impossible to continue to operate as it had been doing. Google would no longer cooperate with the government in its efforts to censor search results, the company pledged. Instead of facing a major scandal and stories of the dangerous lack of security among major Internet companies, Google managed to turn the story into a defense of human rights and free speech.

Google risked quite a bit by taking a stand against the breaches of security by someone in China. For its action, the company received much applause and an affirmation of support from the U.S. government. Clinton specifically mentioned Google and China in her speech on Internet freedom, thus embarrassing China and heightening tensions. Google also received praise from the same human rights groups that had been criticizing Google's longtime arrangement with China, despite the fact that Google merely expressed a desire to stop censoring Web searches and did nothing to ensure that people in China were able to fight or evade censorship. Then, after more than two months of stasis, Google announced in March 2010 that it would no longer offer Google

the Mandarin-language search service operated within China under critical eye of Chinese censors.⁶

The Google move was mischaracterized as a "pullout" and celebrated as a victory for human rights by activists in the United States. But it was never Google merely redirected users in China to its Hong Kong-based search service, which was not actively censored by Google. However, the Chinese government itself censors and often blocks access to the Hong Kong-based Chinese-language version of Google. So no one in China can see an uncensored version of Google search results. In addition, Google retained its partnerships with Chinese firms to produce mobile phones. It also maintained its research activities and offices in China. There was no "pullout," merely a redirection of data and a misdirection of public understanding.

In closing down Google.cn, Google made the decision to abandon any millions of users—and thus potential advertising revenue. For decades, American companies have been weighing the risks and benefits of engaging with China for manufacturing and marketing, despite risking worldwide shame for colluding with a brutal regime. Companies have realized that China has the potential to generate many important ideas, technologies, and scientific breakthroughs. More immediately, the importance of a population of 1.3 billion people as a source of labor and a market for products and services is undeniable.⁷

Ultimately, Google's concessions gave the government of the People's Republic of China exactly what it wanted—to be rid of a troublesome company that was never comfortable operating under Chinese law. In its efforts to enlist the Obama administration and Secretary of State Hillary Clinton to its cause, Google managed to get itself tarred by nationalists in China and the Chinese government as a puppet of the U.S. government, thus undermining at least some of the goodwill it had built up as a cosmopolitan, apolitical technology company. Web users in China now must use one of the homegrown, completely controlled search engines or the censored, Hong Kong-based version of Google. The company lost out in this move, and the people of China gained nothing. And the Chinese government can rest easier now that

Google will not be the source of troublesome influences leaking into the country.

Human rights and free-speech advocates had argued for years that in its relations with the Chinese government, Google was rendering itself a part of that government's structures of oppression. They argued that it abrogated the duties and obligations of corporate responsibility. As the Harvard computer science professor Harry Lewis put it in the debate on National Public Radio in November 2008 (see chapter 2), Google violated its "Don't be evil" motto by creating Google.cn along the very lines that the Chinese government demanded: Google merely "chose the more profitable of the two evils," passively allowing censorship rather than actively engaging in it. The results for the Chinese people are, of course, the same.⁸

From the point of view of both promarket neoliberals and technofundamentalists, however, Google's presence in China improved transparency and offered aid to those who struggle for basic human rights; it thus worked to reform a corrupt system by allowing a little bit of light into an otherwise dark environment. Esther Dyson, one of the visionaries of the information age, responded to Lewis by arguing for the transformative, perhaps revolutionary power of information technology. "The great virtue of the Internet is that it erodes power, it sucks power out of the center, and takes it to the periphery, it erodes the power of institutions over people while giving to individuals the power to run their own lives," she said. "Google by its very presence and its operation, even if it's incomplete, creates increasing expectations for transparency, it starts people answering questions. It gets them to expect to be able to find out stuff."⁹

In fact, Google played no role in actively oppressing the Chinese people—and almost no role in their potential liberation either. These two diametric positions—that Google is part of the problem in China and that it is part of the solution—emerge from a lack of understanding of both the Internet in general and Google's policies and services in China. If the People's Republic of China ever opens itself up to the turmoil of free speech and democratic accountability, it will not be merely because the Internet was free and open or because Google

and not help the government limit access to certain sites. Nothing is that simple.

TECHNOLOGY AND REVOLUTION

When I started to research this book, I expected to berate Google for its lack of corporate accountability in taking an acquiescent stance toward the Chinese government. The prodemocracy events of 1989, in China and elsewhere, forged my political consciousness. As the journalism scholar Jay Rosen has said, "There are 1945 democrats. There are 1968 democrats. I am a 1989 democrat." I too am a 1989 democrat. On June 4, the day the Chinese military slaughtered hundreds of peaceful demonstrators in Beijing, the freshly legalized Polish labor union, Solidarity, unseated the Communist government in a fair election, thus sparking a series of democratic revolutions throughout the world. By October 1989, the East German dictator Erik Honecker had resigned, and Hungary had become a parliamentary republic. By November, the pro-apartheid National Party in South Africa had begun dismantling the racist system and inviting full political participation by the oppressed black majority. Also in November 1989, the "Velvet Revolution" began in Czechoslovakia, and the country's Communist Party announced it would hold free elections in December. The Czech poet Václav Havel later was elected president. Brazil also held its first free elections that December, after twenty-nine years of military rule. The year ended with the Romanian dictator Nicolae Ceaușescu being overthrown and executed in Romania. These and other events contributed to the dissolution of the Soviet empire and eventually the Soviet Union itself by late 1991.

In 1989, as a young man of twenty-three, I could not have been more optimistic about the prospects for justice and democracy in my country and the rest of the world. As accounts of these revolutions emerged, stories circulated of how new communication technologies had played a part in the successful resistance to oppression. The proliferation of fax machines in Eastern Europe and the Soviet Union, for instance, reportedly facilitated activism and awareness among networks of dissidents.¹⁰

One business writer voiced this common belief by boldly stating, "The fall of Communism in Eastern Europe is the direct result of new information technologies."¹¹ To a naive young American like me, fascinated by new technology and devoted to the belief that free speech can be deeply and positively transformative, this simple connection between a new technology and stunning historical events was irresistible. Such a techno-optimistic story accorded well with other views I held at that time: that the Reformation and Enlightenment were driven, or made necessary, by the emergence of the printing press in fifteenth-century Europe, and that mass-market pamphlets such as Thomas Paine's *Common Sense* were essential factors in the birth of the American republic.¹² Of course, this view was far too simple an explanation for the sudden (and, in many places, temporary) spread of democracy and free speech. Historians of both politics and technology knew the story was more complex.¹³

New communicative methods and technologies certainly play a role in rapid social and political change. But like many others, I put too much emphasis on them and discounted the remarkable human struggle, raw courage, and ideological effort that were more instrumental in the overthrow of oppressive regimes—especially in places like South Africa and Brazil. In *Postwar: A History of Europe since 1945*, the historian Tony Judt credits different factors for the success of liberation movements in each country of Eastern Europe. In Hungary, Judt explains, a youthful reform movement within the Hungarian Communist Party pushed the government at its weakest points. In East Germany, the decision to alter a solidly analog technology—the Berlin Wall—and allow Berliners to travel back and forth had by late 1989 created a political tide the Communist Party could not withstand. All of this change in the satellite nations was reinforced by the progressive weakening of the Soviet state, caused in part by its futile war in Afghanistan.

In addition, change was rapid within Soviet society itself. The Soviet leader Mikhail Gorbachev invited the growth of a nascent public sphere, Judt writes, by engaging in glasnost, or a policy of openness, thus allowing dissent to be expressed through clubs, meetings, and publications. Glasnost even liberalized what appeared on Soviet television—a far

more powerful and universal medium than the fax machine. Gorbachev himself decided to break the Communist Party's monopoly on news and information. Once Moscow was weakened, dozens of other factors—including the efforts of labor unions, religious leaders, poets, and criminals—could chip away at the foundation of Communist oppression across the Soviet Union and its satellites.¹⁴

Judt acknowledges that the most surprising thing about the revolutions of 1989 (in Europe, anyway) is that they all happened within such a short period, despite the distinct causes and conditions in each nation. He concludes that communication technology did play an important role in the speed and spread of the revolutionary spirit, but it was not the fax machine that motivated people to rise up: it was television. When viewers in Czechoslovakia and Germany could see local uprisings on television in their own living rooms, they encountered what Judt calls "instant political education, drumming home a double message: 'they are powerless,' and 'we did it.'" Just as important, Eastern Europeans, along with the rest of the world, watched the events in Tiananmen Square. They were struck, as I was, by the bravery of the protesters and the brutality of the state. They were no doubt inspired by the peaceful revolts that seemed to spring forth almost simultaneously all over the world. Global television, which relayed these events instantly, gave them both inspiration and a set of models to emulate. For the first time, they knew they were not alone.¹⁵

By focusing on the novelty of communicative technologies and assuming that their arrival in a place causes—rather than coincides with or aids—rapid change, we tend to downgrade the importance of factors as obvious and powerful as changing a government policy, opening a gate, or waging a disastrous and debilitating war in Central Asia. The introduction of a powerful and efficient mode of communication such as the fax machine or the Internet can amplify or accelerate a movement, provided that the movement already has form, support, substance, and momentum. Technologies are far from neutral, but neither do they inherently support either freedom or oppression. The same technologies, as we have already seen, can be used both to monitor and oppress a group of people and to connect them in powerful ways.¹⁶ The way a society

or a state uses a technology is as important as the design and capacities of that technology.

Communicative technologies certainly matter to the struggle for freedom, but how and how much? In any oppressed society, dissenting ideas and criticisms exist and flow, even when impeded by technology and law. They seep through the cracks in the system, and every system has cracks. As Robert Darnton writes about systems of censorship and their flaws before the French Revolution, "It was not simply a story that pitted liberty against oppression but rather one of complicity and collaboration."¹⁷ Recent events in China demonstrate how the complex relations of technology with oppressive regimes and liberation movements play out, and the ways in which technological innovations, such as those offered by Google, function in collaboration and complicity with both the forces of repression and the forces of liberation.

THE MYTH OF THE "GREAT FIREWALL"

Despite common perceptions, China is hardly sealed off from the rest of the world. It never has been, even during the brutal Cultural Revolution of the late 1960s and early 1970s. The outside world was shocked to discover, after the fact, that millions of Chinese had starved during the economic "reforms" of the Great Leap Forward in the late 1950s and that Chinese society had been fractured right down to the level of the family during the Cultural Revolution. But there had been hints and indications all along that life in China during these periods was intolerable for many. Only the scale was hidden.

The standard views of China vacillate between a rising and dynamic economic giant and a brutal totalitarian society that forces its citizens to curb their associations and imaginations. Neither of these models is accurate. China has a thriving market economy whose macroeconomic and large-scale investment policies are significantly guided by the central state. It has a state apparatus that is just as corrupt and incompetent as it is vicious—although it displays its brutal effectiveness without hesitation when it needs to, as events in Tibet in 2008 demonstrated.¹⁸

China is still authoritarian, tolerating little overt dissent over certain policies, such as treatment of dissident religious groups, pornography, its efforts to destroy Tibetan culture, or the protests in Tiananmen Square on June 4, 1989.¹⁹ Yet despite these repressive and restrictive measures, China has plugged itself into the world's social, economic, and technological flows. It has more Internet users than any other country, despite the fact that only 16 percent of the population was online regularly as of 2009.²⁰

The style of state censorship in China thus is complex. There is no "Great Firewall," as many of those reporting on China have asserted.²¹ China's Internet filtering and blocking policy is not sturdy and impenetrable: it's fluid and situational, more like the dystopian model described in Aldous Huxley's *Brave New World* than that of George Orwell's *Nineteen Eighty-Four*. Distraction and consumerism crowd out meaningful dissent and troublesome expression.²² China has ways of blocking, however imperfectly, most of the sites and messages to which it objects, but for most people in China, site censorship affects daily life very little.

China cranks up the tools of censorship during times of potential social unrest, such as the 2008 Olympics, the twentieth anniversary of the June 4 massacre, and protests in Tibet. When they do block access to a site or a service, Chinese censors mask the nature of the disruption by indicating that a connection has failed or been reset, rather than blocked or forbidden. This subtle tactic serves to frustrate the general user in China without generating clear and targeted resentment against the state.

Forbidden material is not completely unavailable to Chinese Internet users. It's just a challenge to get it, and searching for it puts users at risk of state reprisal if their usage is being monitored. Those adept at technology may find their way through the cracks in the system by using encrypted messages or proxy servers to hide or fool the government's censoring and surveillance technologies. The Chinese Internet censorship project does not pretend to seal China off completely from certain sources or ideas. It just hopes to marginalize and track potential dissidents. The Chinese government has a strong interest in deterring those who would use the Internet to coordinate trouble or unrest and in

generating fear among them, but it has just as strong an interest in ensuring that commerce flowers in China. Global commerce depends on a reliable and malleable communication infrastructure such as the Internet. Commerce also requires tools such as strong encryption and virtual private networks (VPNs) to protect sensitive data and trade secrets. So China will not outlaw use of the Internet or enforce restrictions on methods of protecting information.

As a result, China has built a fascinating and flexible system that simultaneously allows it to grant private firms the ability to exploit the Internet with almost as much freedom as American and European companies have, to distract the greater population with the prospects of consumption and entertainment, and yet to hamper political and religious dissidents enough to limit their influence on daily life. That's not to say that China's Internet is "open" or "free"—far from it.²³ Elites, as always, can wangle more freedom than the rest of Chinese society. As the journalist James Fallow has explained, the most effective aspect of Chinese Internet policy is its unpredictability. China has harnessed the power of inconvenience as its most effective weapon in stifling political dissent and even awareness.²⁴

The result of this unpredictability is that global technology companies operating in China simultaneously enable new forms of dissent and the repression of it. It's in this more subtle way that Internet technology companies are simultaneously complicit with repressive regimes and subversive of them.

China's Internet is penetrable by technologically adept dissidents and others who seek to communicate the truth about the regime; it is also a means of conducting surveillance of them. Amnesty International reminds us that China has imprisoned more journalists and bloggers than any other state.²⁵ Chinese officials can use Internet surveillance techniques to crack down on anyone who crosses an invisible and unpredictably shifting line. China's Internet is more centralized than most of the world's networks. All traffic flows through three fiber-optic cable nodes and then to the rest of the world. This architecture allows the government to block access to certain sources of data.²⁶ China also employs several thousand officials who share the duty of policing Internet use,

mostly in cafes. The government sponsors several important Internet firms, such as the search-engine company Baidu. And China extracts important provisions and promises from foreign companies that offer Internet services in China.²⁷

China offers foreign companies, including Internet technology companies, vast opportunities for growth in market share, revenue, and human capital. The lure is irresistible. But as Yahoo discovered, the technology a company provides in China can serve contradictory ends. When an activist named Wang Xiaoning used his Yahoo e-mail account to distribute some anonymous writings criticizing the Chinese government's handling of the events of May and June 1989, he was arrested; he began serving a ten-year sentence in 2003. During his trial, prosecutors introduced evidence obtained from Yahoo's China branch identifying Wang as the distributor of the incriminating messages.²⁸ Then, in 2003, Chinese authorities arrested a dissident named Li Zhi and sentenced him to eight years for "inciting subversion." Again, Yahoo supplied the information needed to track Li's messages.²⁹ Another, more famous case involved a poet and journalist named Shi Tao, who had sent an e-mail revealing a Communist Party directive concerning Tiananmen Square dissidents to someone in the United States. Shi was well known to Chinese authorities for his criticisms of human rights abuses. So when Yahoo revealed his e-mail account information to Chinese authorities, they were able to track Shi as the source of the offending e-mail. Shi was sentenced to ten years in prison in April 2005.³⁰

Once word reached the United States that Yahoo was complicit in the persecution of political dissidents, a furor ensued. Yahoo has faced a lawsuit filed by human rights organizations, widespread criticism among bloggers and activists, shareholder objections, and a grilling by a U.S. congressional committee examining the roles of American companies such as Yahoo, Cisco (which supplies the servers that facilitate much of the surveillance and site blocking in China), and Google. Yahoo, of course, defended its actions by saying that it cannot violate the laws of a country in which it does business, and it cannot be held responsible if its users violate laws. It also claimed that its American affiliate owned only 40 percent of Yahoo China. The majority owner was another Chinese

search-engine and service provider, Alibaba.com. Since 2005, Alibaba.com has assumed complete control over Yahoo in China.

In every discussion about the role and responsibilities of Internet companies in China, the plight of dissidents has played a central role. These cases have generated calls for American companies to forge a set of best practices or a code of conduct that would limit the extent to which their resources could be used by the Chinese government to violate basic human rights. In the 1980s, many American and European companies signed the Sullivan Principles, which established a code of just conduct when the South African government practiced brutal oppression against its black majority. So far, foreign companies have failed to outline such provisions for China.

The Yahoo saga has cast a shadow over Google as well, even though Google has operated in a very different way in China. The application of Internet technology in China shows an inevitable interplay between complicity with repression and the potential for liberation. Contrary to the assertions of techno-fundamentalists, such technology does not inherently further either liberal democratic or neoliberal economic and political ends. There is no "Great Firewall" in China, but neither has Internet technology led to the ends that its proponents predicted. China certainly embraces Internet technology, but it uses it in its own way.

CHINA AND RESISTANCE TO INFRASTRUCTURAL IMPERIALISM

Google never put itself in a position to turn over information about Chinese dissidents' e-mail accounts to the government, because the company decided years ago not to host e-mail or any other service that might require such revelations within China. But because of the nature of its relations with China, Google could not escape complicity with the repressive policies of the Chinese regime. Google.cn offered only a filtered version of Google's search engine to Chinese users. To do business there, it had to compromise its avowed commitment to providing access to everything by everybody. Rather than impose its own values, it had to accede to the way the Chinese regime does things.

Before 2006, Google did not have servers or services located in the People's Republic of China. Chinese users could reach Google by connecting to Google.com and its servers in the United States. Of course, this meant that the Chinese censors could block all Google services if they decided that something offended or troubled them. This happened often between 2002 and 2006. Moreover, having Google's data pass through China's three central nodes and filters meant that Google was significantly slower than search engines with servers based inside China. Google was facing the prospect of becoming irrelevant to Chinese users, excluded from gathering advertising revenue from one of the fastest-growing consumer economies in history, and facing irregular and arbitrary blackouts of its service for which the company would most likely be blamed.

Consequently, by late 2002, it became clear that Google was not going to be able to gain purchase in the Chinese market if it retained its public commitment to universal access to free thought and expression. "We faced a choice at that point," Google vice president Elliot Schrage told a congressional subcommittee in 2006. "Hold fast to our commitment to free speech and risk a long-term cut-off from our Chinese users, or compromise our principles by entering the Chinese market directly and subjecting ourselves to Chinese laws and regulations." For a while, at least, Google actually stayed out of China. Then, in 2005 the company began a series of discussions with government and human rights leaders in an effort to construct a model that would allow Google to offer dependable service in China without putting itself or its users in danger.³¹

The company launched a new service, Google.cn, in 2006. Because it was based in China, it worked quickly and was tailored to local needs and search habits. In addition, it included a feature that revealed to users whether certain sites had been blocked or removed by the state. Most important, Google has refused to operate any services that could put users in jeopardy. Chinese users of Gmail and Blogger must sign in through the U.S.-based Chinese-language sites of Google.com. And search results generated by Google.com remain unfiltered and uncensored by Google, though not by China itself. As a result, of course,

the Chinese government still frequently blocks access to YouTube and Blogger with mysterious messages that "the connection has timed out."

China's ability to resist the values of infrastructural imperialism, as espoused by Google in its formats of distribution and terms of access and use, stems in part from Google's status as an international corporation. Google would be foolish to abandon the Chinese market. In fact, it would commit something close to commercial malpractice to avoid or vacate China. Google is not a free-speech engine: it is an advertising company. It is also a publicly traded corporation with a duty to provide returns to its shareholders, and access to the Chinese market is potentially very profitable. And although both the company and its critics in the human rights community profess a shared commitment to free speech, Google can't possibly rise to the level of its own rhetoric on such matters.³³

In many areas of speech and in many places in the world, Google similarly compromises its principles, usually to conform to local laws. In Germany and France, Google limits access to sites that promote anti-Semitism. In most of the world, Google limits access to images that display significant amounts of human skin. In the United States, Google quickly removes videos from YouTube if a just few people flag them as inappropriate. And because United States copyright law makes it easy for a company to remove a digital file from any Web server if it potentially infringes on copyright, such claims can be an effective tool of censorship as well.

It's hardly fair to compare the practice of conforming to standards of decency and copyright laws in relatively liberal nations with the participation in widespread practices of political censorship in places like China. But the company invites such a comparison by consistently asserting—no matter the context or issue—that it conforms to local laws and standards in matters of censorship. If you have a problem, the company is saying, take it up with local officials.³⁴

Even so, Google officials continue to insist that the company is committed to the principles of free speech and that instances of censorship by the company are exceptions, rather than standards.³⁵ This contradiction creates a point of friction between Google's public philosophy—that is, what it says and believes about itself—and how it negotiates its

tions and practices around the world. Certainly, Google is bound to conform to the laws of the countries in which it operates; so if Chinese officials demand that Google remove access to certain sites or subjects, the company claims it must obey. Human rights groups counter that Google is obliged to obey *all* of Chinese law and point out that the constitution of the People's Republic of China guarantees free speech. So Google, they say, is choosing to conform to Chinese law only in a way that causes it the least trouble and inconvenience.

China's ability to resist the values of infrastructural imperialism stems in part from its sheer size and geopolitical power. The contradiction between Google's principles and practices and the public outcry over the Yahoo decision to expose activists to persecution have generated a firm call for a shared code of conduct for global Internet corporations that deal with China. However, it's not clear whether pressure by liberal groups in North America and Western Europe is sufficient to counter the potential revenue that companies stand to gain from operating in China with the government's approval. Holding fast to principle might be easier in a smaller, poorer, and more oppressive country, such as Burma or Saudi Arabia.³⁶

In recent decades, as global corporations have grown in influence, lawyers and theorists have been working to expand the reach of human rights law to cover corporate actors as well as states. The roles of the diamond industry in the slaughters and civil wars of Central Africa, of petroleum companies such as Shell in the support of the totalitarian junta in Burma, and of mining companies in the degradation of places such as Irian Jaya in Indonesia have sparked strong reactions. The connection between the interests of these companies and the brutality that exists in these places is impossible to deny. So far, however, this effort has not yielded tangible results. There is scant legal foundation for sanctioning companies for cooperating with states in the oppression of their own people. In addition, states sign human rights treaties; companies do not. Because current law does not hold companies liable for complicity in human rights violations, legal reformers are pushing for changes to international law that would treat such complicity as a crime.³⁷

In fact, Google's role in China never precipitated a serious human rights showdown, because the company lacked leverage to either open up China or make it more oppressive. In 2009, Google controlled less than 21 percent of the China search market (as defined by the share of total searches; its share of search-based advertising revenue was higher at 29.8 percent). That figure was more than two points lower than in the last quarter of 2008, so Google's market share was actually falling slightly in China in 2008–9. Because the number of searches within China rose 41.2 percent between the first quarter of 2008 and the first quarter of 2009, even a 21 percent share of the searches represented a lot of business to be done and money to be made. Nonetheless, Google was hardly the cultural and political factor in China that it is in North America and Europe.³⁸

The Chinese search site Baidu.com controls more than 74 percent of the search market.³⁹ There are many reasons for its dominance. First and foremost, its early lead in market share gave Baidu more data with which to customize search results and services. Second, as of mid-2009, Google.cn offered fewer search services and features than Baidu did: while Google holds back from China many of its most attractive services to avoid human rights dilemmas, Baidu offers a wide array of locally based (and thus fast) services (online chat, children's material searches, legal searches, and access to government websites). Baidu also appeals to the growing nationalistic spirit in China, because many young people are wary of the influence of multinational corporations and proud that a Chinese firm can best one of the most powerful and popular in the world. Baidu also has the advantage of building its code from the ground up to serve searches in simplified Mandarin, whereas Google has had to translate many of its tools and services into Mandarin. Perhaps most important, for several years Baidu has taken advantage of China's notoriously lax copyright enforcement to allow its users to find unauthorized audio and video files easily. In early 2009 Google announced a deal with major global music companies to offer free, authorized music downloads to users in China to compete with Baidu.⁴⁰

Google has been most popular among the cosmopolitan elite and international businesspeople in China, rather than the young and poor

people who make up both the vast majority of the Chinese population in general and—more important—most of the potential market for Internet services. Given Baidu's much greater overall popularity, there is no reason to believe that Google's market share would have grown significantly over the next few years. But by commanding a valuable slice of the market—those who buy and travel more—Google had the potential to continue increasing its revenues and share of total revenues, even if its total market share continued to shrink.⁴¹

If we consider the wide array of tools that the Chinese government uses for security, surveillance, and censorship on the Internet and also consider how small are Google's market share and thus its influence in China, we can't help but conclude that Google has never mattered much in issues of commerce, politics, or justice in China. If that is the case, Esther Dyson was wrong to believe that Google's compromise with Chinese laws and standards could generate any measurable benefit to Chinese dissidents or promoters of religious freedom and democracy. The elites in China, those most likely to find value in Google, are also most likely to be aware of the global criticism of the Chinese stance on human rights, the technologies of censorship and surveillance, and the fate of the leaders of the uprisings in 1989. The vast majority of people in China, however, are satisfied with the commercial and entertainment services that Baidu offers. Even if Google.cn had offered access to somewhat more of the complicating and troublesome political information available in the world, there might not have been a demand for it. Web search is inherently conservative: the key to providing effective and attractive search services is to limit the number of surprises users will encounter. Largely because of Google's expertise, such services now deliver to users almost exactly what they think they want. If they don't want to look for trouble, they don't find it. Powerful and effective Web search thus inhibits rather than promotes social and political change.

Political change in China and elsewhere can only arrive when Chinese public culture demands it and presses the state at its points of greatest weakness.⁴² We make a grave mistake by relying on technologies to change societies. Technologies are embedded in societies and cultures. They are not distinct and independent drivers.⁴³

GOOGLE AND THE PROSPECTS FOR A GLOBAL CIVIL SOCIETY

Resistance to infrastructural imperialism and the spread of the values espoused by techno-fundamentalists is scarcely limited to oppressive regimes. China is hardly the sole example of a state that effectively censors Internet traffic and thwarts political dissent. As the Internet scholar Rebecca MacKinnon wrote during the June 2009 crackdown on Google and other Internet services in China, "The Internet censorship club is expanding and now includes a growing number of democracies. Legislators are under growing pressure from family groups to 'do something' in the face of all the threats sloshing around the Internet, and the risk of overstepping is high." Germany was considering a national censorship system through which Internet service providers would be required to block a secret list of sites. Australia and the United Kingdom have for a number of years maintained a similar national censorship list.⁴⁴ While none of these states censor as pervasively, disruptively, or effectively as China does, it's clear that China has strong partners in efforts to restrict the use of the Internet.

In each of these countries, Google follows orders from the state and thus actively (albeit tangentially and grudgingly) participates in the censorship of the Internet. Even in the United States, digital copyright laws have forced Google to aid the Church of Scientology in its efforts to squelch Web critics. In addition, the United States has for a decade been requiring libraries and schools to install Web filter software similar to the software that the Chinese government attempted to mandate for all Chinese computers for the same overt reason: to restrict access to sites suspected of supplying pornography. Such software, of course, also restricts material of political significance. As I have stated above, measuring by scale or effect, it's improper to compare the Chinese efforts to restrict the flow of information with those of the United States and other democracies. But it's a mistake to single out China as the only significant place where Web censorship is a matter of policy.⁴⁵

The liberal values espoused by techno-fundamentalists and corporations such as Google encounter resistance when they meet the realities of corporate and nation-state behavior. The struggle to speak freely on

the global network of networks illustrates the daunting challenges of forging a "global civil society" or a media environment in which citizens around the world can organize, communicate, and participate openly and equally. What, then, are the potentials for actually realizing those ideals?

In part, the answer lies in the development of entities that lie outside state sovereignty and outside the economic imperatives and constraints of the corporation. As communication and transportation technologies have connected people in more efficient ways over the past three decades, we have seen the rise in importance of organizations and social networks that operate across borders and outside state control. Paradigmatic civil-society organizations include Amnesty International, Oxfam, Falun Gong, the Catholic Church, the International Olympic Committee, FIFA, and the International Red Cross. But this category also includes smaller and more diverse collections of people who come together temporarily to support protesters against the government of Iran, Swedish Internet hackers who enable massive file sharing, and advocates of a violent, bigoted brand of Hinduism.

"Civil society" is a messy and not always benevolent construct.⁴⁶ The political theorist John Keane defines global civil society as "a vast, interconnected and multi-layered non-governmental space that comprises many hundreds of thousands of self-directing institutions and ways of life."⁴⁷ Certainly, global civil society already exists. Elements of it are divergently global, civil, and societal, and most of these institutions antedate the Web. An ideal global civil society, different from the actual civil society we have now, would foster a cosmopolitan sense of identity and a commitment to the common good of the whole planet. So we must ask to what extent and in what ways Google can help create and support such a society, to what extent and in what ways it hinders it, and what we can do to promote the common good on a global scale.⁴⁸

A "public sphere," according to the German philosopher Jürgen Habermas, is "a realm of our social life in which something approaching public opinion can be formed. Access is guaranteed to all citizens. A portion of the public sphere comes into being in every conversation in which private individuals assemble to form a public body."⁴⁹

According to Habermas, early examples of public spheres emerged in Europe soon after the rise of nation-states and a commercial middle class in the eighteenth century. The tragedy of the public sphere, Habermas argues, is that its core institutions, such as newspapers and broadcasting, became so rampantly commercialized in the nineteenth and twentieth centuries that they failed to support the goals of keeping a republic informed and engaged. When it comes to the Web and the influence of Google on the Web, we can see a case study in which Habermas's narrative of the collapse of the public sphere has unfolded in a very short time.⁵⁰

The global network of networks that we call the Internet represents the first major revolution in communications to occur since Habermas's influential historical work, *The Structural Transformation of the Public Sphere*, was first published in 1962.⁵¹ Habermas described a moment in the social and political history of Europe in which a rising bourgeoisie was able to gather in salons and cafes to discuss matters of public concern. The public sphere represented a set of sites and conventions in the eighteenth century in which (almost exclusively male) members of the bourgeoisie could forge a third space between the domestic sphere and the sphere of formal state power. It was a social phenomenon assisted by a communicative development: the spread of literacy and the rise of cheap printing in Europe.

Habermas asserts that such a space had not existed in Europe in a strong form before the eighteenth century and that by the end of the nineteenth century it had undergone some profound changes. On the one hand, the democratic revolutions in the United States and France, parliamentary reform efforts in England, and the unsteady lurches toward republics in Germany and other parts of Europe eventually codified many of the democratic aspirations of the public sphere: openness, inclusiveness, and fairness. On the other, by the dawn of the twentieth century, the corporatization of communicative functions across nation-states had drained the bourgeois public sphere of its deliberative potential and much of its purpose.

Habermas leaves those of us who worry about the health of democratic practice with a nostalgic model of rational discourse with liberatory

potential. It's been a powerful and useful model. Habermas's book has influenced media-reform efforts and—to a much lesser extent—media policy. Exhausted by trying to rebuild the classical Greek agora, we have set about trying to build a better coffeehouse.⁵²

It's no surprise, then, that as soon as the Internet entered public consciousness in the 1990s, cultural and communication theorists started asking whether it would enable the generation of a "global public sphere," or, in the words of Yochai Benkler, a "networked public sphere."⁵³ Influenced perhaps too much by Marshall McLuhan's model of a global village, scholars, journalists, and activists drove Habermasian terms into mainstream discussions of Internet policy and its political potential.⁵⁴

Alas, the public sphere is not the best model to idealize when we think globally and dream democratically. Habermas's public sphere is as temporally and geographically specific as Benedict Anderson's notion of "imagined communities" and has been similarly misapplied to disparate experiences that don't correspond to the specific historical situation examined by the original work. In Habermas's story of the emergence and deflation of the public sphere, both nationalism (with the rise of the nation-state) and capitalism play a major role. Concern for the fate of the nation or local affairs, he argues, drove people to assemble and deliberate. A global public sphere, however, is necessarily cosmopolitan in temperament. Therefore, members of a global public sphere must culturally cohere in some way. Either they must share a language, or they must share a value system and a common notion of truth and validity. We are far from having such a system, and it's not clear that it's in everyone's interest to create one.⁵⁵

In addition, any consideration of the potential for a global public sphere enabled by the Internet must confront the discrepancies of access and skills across the world. Often discussions of the effects of Internet and other communicative technologies take on the shallowest analysis of access. Either they assume something close to universal access to the network of networks or they assume that people everywhere experience electronic networks the same way that most Americans do: as fast, cheap, and out of control. In fact, fewer than one in five people in the world have domestic access to the Internet at speeds that allow the viewing

of the simplest YouTube video. As late as 2009, only ten countries had high-speed Internet access that reached at least 80 percent of their populations; and those ten countries account for less than 2 percent of the world's population. In countries where high-speed Internet is available in public cafes and libraries, many users have to deal with significant filtering, censorship, and surveillance. So they already have a suboptimal Internet experience.⁵⁶

But the most significant gap separating potential citizens of the world is not necessarily access to Internet technologies and networks. It is the skills needed to participate in the emerging global conversation. Being able to use a search engine, click on a link, and even post to Facebook does not require much skill or investment, but producing video, running an influential blog, participating in the Wikipedia community, hosting a proxy server, and even navigating between links and information sources on the Internet demand much more money and knowledge than most people in the world have. To acquire such skills, people need at least minimal free time and significant means, and many with disabilities are excluded regardless of education or means. The barriers to entry for such productions are lower than ever in human history, but they are far from free, open, and universal.⁵⁷

To consider the prospects for a cosmopolitan global civil society or its cousin, a global public sphere, and the role that Google might play in it, we should consider the role of powerful and flexible communicative technologies in places as dynamic and diverse as China, Russia, and India. Doing so will also allow us to assess the degree to which Google is now inseparable from the Web in general.

Despite its global and universalizing ambitions and cosmopolitan outlook, Google's search functions are not effective in connecting and unifying a diverse world of Web users. Instead, its carefully customized services and search results reinforce the fragmentary state of knowledge that has marked global consciousness for centuries. Over time, as users in a diverse array of countries train Google's algorithms to respond to specialized queries with localized results, each place in the world will have a different list of what is important, true, or "relevant" in response to any query. Already, a search done using the Indian version of Google,

google.in, while seated at a computer in Charlottesville, Virginia, generates a different set of search results from the same search run in New Delhi, India. Google knows the general location of the searcher and structures the results to reflect the habits expressed by others in that location. As Google continues to localize, personalize, and particularize its services and results, it fractures a sense of common knowledge or common priorities rather than enhances it. Google might indeed be "organizing the world's information and making it universally accessible," but it is not making universal knowledge universally accessible. Everything might eventually be available to everyone (although we are far from that state of affairs, and Google is not necessarily contributing to that mission equally across the world), but essential information could be highly ranked on Google searches in Sydney and buried on the ninth page of results in São Paulo. There might be significant differences in results (and thus effective access to knowledge) between Kiev and St. Petersburg, or Tel Aviv and Hebron.

Just as important, the Internet itself does not simply or automatically universalize experience, knowledge, or communication. Although it connects along certain axes, it severs along others. In Bangalore, India, a growing and technologically sophisticated upper middle class has been turning this once sleepy southern university city into a hub of investment, research, and technological expertise. The standard story of Bangalore's transformation describes the city's shiny new buildings, dependable electricity, and burgeoning taste for consumer goods.⁵⁸ As the city has grown over the past two decades, it has served the infrastructural and lifestyle desires of global corporations and the workers and investors who support them. However, it has not necessarily served the needs of the vast majority of those who live in and around Bangalore—the very poor. The Bangalore lawyer and media researcher Lawrence Liang describes this and other major cities in India, such as Hyderabad and New Delhi: "This urbanism in India has become a significant theatre of elite engagement with claims of globalization. . . . Imprints of the media industry like multiplexes, malls, and lifestyle suburbia go hand-in-hand with the cries of urban decay and pollution, and managing populations that are increasingly restless in the new arrangements."⁵⁹ And as

the media scholar Ravi Sundaram has said, "Cities are being actively remapped" in India. "You have sections of the city that are meant only for the elite, with their own power supply, air conditioning, and private security."⁶⁰ So although a small, but growing segment of Indian society is firmly embedded in the cosmopolitan flows of culture, knowledge, and power as a result of the remarkable investments of the past twenty years in India, the poor pay a disproportionate price and receive an inadequate return.

If there is a cosmopolitan civil society in India, it is composed of the few and the elite. Indian elites both contribute to and benefit from being members of global civil society and contributors to its commercial wings. And in many ways, the members of the global, cosmopolitan, technological Indian elites have more in common (and thus feel stronger communal ties) with American and European society and similar elites in Bahrain or Brazil. "This space is generating an elite hybrid culture that is emancipated from any dialogue with issues such as public space and is securely anchored on the West," Sundaram has said.⁶¹ However, as members of India's technological elites converse and connect with expatriate Indians in the United States, Canada, and Europe, they rarely work to forge a sense of cosmopolitan justice. They are cosmopolitan in style, but not in politics.

At the same time, the Internet has provided ample space and occasion for the development of affinity groups, which may be simultaneously parochial and international. Radical Hindu fundamentalism, which has contributed to the rapes and deaths of thousands of Muslim Indians in the past two decades, has been aided greatly by the rise of global Internet communities devoted to developing a "pure" and portable sense of Hindu identity and thus eroding the eclectic and tolerant traditions of India. The Internet has thus fomented political and religious hatred and violence. Millions of poor people have been able to access Internet services in recent years, thanks to the proliferation of cafes and hot spots in urban India, and they have generated what Liang calls significant "illegal information cities" by using pirated software, discarded or hacked hardware, and stolen electricity. But the marginal improvements to their lives have been trivial compared with the environmental and civic costs they

have incurred and the outlandish benefits rendered to the elites. The major effects of the Internet on India thus far have been incivility and inequality, not the makings of a global civil society.⁶²

Linguistic differences are, of course, another barrier to the creation of a genuinely global civil society. Here, too, although the Internet connects along certain axes, it divides along others. One exceptional aspect of Google's global role is its automatic translation tool, which enables people to read very rough translations of documents written in other languages. It works very well for simple documents, such as most Web pages. However, complex and long documents remain beyond its expertise. My recent attempt to read the Italian-language book *Luci e ombre di Google: Futuro e passato dell'industria dei metadati*, composed by an Italian collective, was frustrated by the poor quality of Google's translation.⁶³ But as Google imports more text into its linguistic-analysis computers and obtains feedback from users, it is certain to improve. In the meantime, Google is striving to add new languages to its translator software as events demand. When the protests over the disputed June 2009 elections in Iran broke out, Google rolled out a Farsi translation tool within a week.⁶⁴

Even so, because language skills differ markedly throughout the world, Google has different effects and influence in different regions. The current trends in Web search and Web use point toward the evolution of at least two Webs with very little interaction: one using the Latin alphabet (with English dominating that realm) and another in simple Mandarin (but with as global a reach as the Chinese diaspora itself). The utility and universality of English on the Web in general, according to some scholars, have been reinforcing its position as the dominant language of commerce in the world. But two factors have complicated this trajectory: the rise of Mandarin as the fastest-growing language area of the Web, and the ability of Google to customize, search, and translate elements of the Web into dozens of languages. So the next ten years of the Web might see the domination of two languages on the Internet, or of none.⁶⁵

Google is most dominant in Latvia, Lithuania, Hungary, Poland, Romania, Belgium, and the Netherlands, where it controls more than 95

percent of the Web search market. Venezuela, Switzerland, Spain, Portugal, Italy, Germany, France, Finland, Denmark, Colombia, Chile, Brazil, Argentina, and the United Kingdom are close behind, with Google controlling between 90 and 95 percent of their Web search traffic, according to various search industry reports in 2009.⁶⁶ In examining the linguistic characteristics of countries where Google leads the pack, it's hard to find a common denominator. Most of them use the Latin alphabet, but several, including Latvia, Lithuania, Hungary, and Finland, use a script heavily marked with diacritics and thus differ significantly from the Latinate languages of Western Europe.

Because Google does not handle diacritics well, it's surprising that some new local search engine has not challenged Google in Eastern Europe and the Baltic states.⁶⁷ Most countries that use Asian syllabic scripts and non-Latin alphabets find locally developed search engines better suited for their needs. Google is far behind the local competition in China, Hong Kong, Japan, Taiwan, South Korea, and Russia. Each of these nation-states grants Google less than 40 percent of the search market. And each of these countries has major languages that use scripts that are very different from Latin.

Linguistic diversity does not explain everything, of course. As of 2009, most of the major Web search services worked better in English and the languages of Western Europe than they did in other languages. In addition, regardless of the local language of the search engine, the legacy strength of English-language websites (the greater traffic they receive as a result of having been up longer) biases most search engines in favor of English sites.⁶⁸ The world, and thus the set of markets that promise greatest growth, is hardly biased toward English and is highly diverse. Web-search and portal companies certainly understand this. So it's clear that linguistic diversification is central to the long-term success of any Web company.⁶⁹

There are also important differences between countries using non-Latin languages. Google actually does worse in Taiwan, with just 18 percent of market share, than in mainland China, with 21 percent. So technologies of censorship might not be the most important factor to searchers. In South Korea (which now has a rich commitment to democ-

acy and high-speed Internet services accessible to 70 percent of the population), Google has only 3 percent of the search market.⁷⁰ Naver, the search leader in South Korea, exploits local knowledge generated by generous Web users to tailor search results, resulting in a sort of blend of Wikipedia and Google. And the fact that few Google users use Korean text means that Google's computers have not been able to master the data in Korea the way they have in other parts of the world. Naver got in early on this market, so Google has had nothing but trouble and frustration in South Korea.⁷¹ Moreover, the Korean government has been pressuring Google to adopt a system by which users must identify themselves truthfully when posting videos or comments on YouTube, a policy that Google does not want to enforce. Google has been limiting access to some services for South Korean users rather than abandon the protection of user anonymity.⁷²

Google has offered its service in Arabic since 2005, but I have not been able to find any information on its market shares in Arab countries. Google does have offices in Amman, Jordan, and Cairo, Egypt. It offers Gmail to users in Egypt, despite the fact that the Egyptian government is just as aggressive as China in tracking down, jailing, and torturing political dissidents and critics. Google has not been as forthcoming about its concerns for the fate of its users in Egypt as it has in China, and no one in the U.S. Congress or major human rights groups seems to have raised the issue of Google's policies in other oppressive regimes.

As Russia has lurched from fragile democracy to nationalist, authoritarian, one-party rule under the direction of Vladimir Putin, Google has been able to operate freely within the country. Although Putin's regime has stifled journalism deemed critical of the government (to put it mildly), it has kept the Web relatively open. We often assume that greater Internet use and freedom correspond with greater political liberty, but in Russia over the past ten years, a steady rise of Internet use and freedom has been accompanied by a harsh crackdown on dissent. It's as if the Russian regime believes that the Web is for shopping, and that whatever political organization might occur over it is a mere nuisance.⁷³

Despite the structural openness of the Russian Internet, Google has not been able to establish a significant or influential share of

the search market in the birthplace of its cofounder, Sergey Brin. Yandex, a Russian company with close connections to the state, had 44 percent of the search market in 2008; Google had only 34 percent. At the time, only about 25 percent of Russians were regular users of the Internet, so the potential for growth and change in that market was significant. Yandex also controls many wi-fi access locations and a popular photo-sharing site. Yandex and Rambler, the second most popular Russian search engine, have the advantage of being programmed natively in Russian, using the Cyrillic alphabet. Yandex specializes in offering Cyrillic-text sites in other related languages, such as Ukrainian and Belarusian.

Russian grammar is complex and very different from that of most European languages. Because search techniques now demand complex linguistic analysis, Google's lead in these areas of research for Western European languages is no help in the Russian market. What growth Google has experienced since its debut in Russia in 2006 can therefore be attributed to its influential ancillary services, such as YouTube and Google Maps. And in Russian markets, political connections and the support of the state can matter just as much as or more than the quality of the service. Because of this complex ecosystem, it's hard to imagine Google prevailing or even growing significantly if Russia becomes even more nationalistic than it already has. If, on the other hand, Russian society and government open up and liberalize, one could imagine Google playing an important role in that process. Once again, social and cultural conditions would drive the change in the media environment, rather than the other way around.⁷⁴

Perhaps Google does better in countries with more internal linguistic diversity. The United States, which is largely monolingual (although Spanish is America's second language), gives Google only about 72 percent of its Web-search business—although this number has been climbing steadily since 2005. Google does slightly better in bilingual Canada, with 78 percent of the market. India, the most multilingual of major economic powers (with twenty-one major languages in use), is a much better market for Google, with more than 81 percent of the search market.⁷⁵

Many of the searches in India are done in English, which is the standard language of commerce across the country of more than a billion people—more than 17 percent of the world's population. Unlike Korea, where mastery of one script and one language has been the key to success for Naver.com, India offers Google an ideal environment to demonstrate its flexibility, adaptability, and computational power. Google has invested much in automatic translation within and among Indian languages. As of mid-2009, Google offered its service in nine of India's languages: Hindi, Bengali, Telegu, Marathi, Tamil, Gujarati, Kannada, Malayalam, and Punjabi. Although India is a major high-technology incubator, its software engineers have yet to produce an effective local search engine that does anything more than mimic Google's look and feel.⁷⁶

LOCAL CULTURE AND THE RESISTANCE TO COSMOPOLITANISM

Although the Internet may have great potential to unite the world, it has done so unevenly over the past twenty years. Rather than act as a membrane that connects everyone with everyone and everyone with every piece of knowledge equally, the Internet allows for punctuated connections. It succeeds best at uniting diasporic communities and at forging political alliances both within and across borders. Google's role in these phenomena has been anything but simple. In its search functions, Google has increased the "tribalization" of the Web, letting Dutch football fans and people of Maori descent find each other and reinforce their shared opinions. It fractures the world in new ways even as it unites it in other new ways. One aspect of global civil society, what we might call "local-culture movements," has benefited greatly from this simultaneous aggregation and disaggregation of people and places. It demonstrates how global civil society and the potential global public sphere conflict rather than cohere.

Local-culture movements have little use for the global public sphere. In fact, they see it as a problem. These movements represent the interests of long-marginalized culture groups, particularly those that have struggled to assert and maintain identities under intense pressure from

illiberal, authoritarian, or totalitarian nation-states intent on eliding difference for the sake of a forged and coerced nationalism. Under these conditions, many of these culture groups were unable to transmit their traditions openly or teach their languages to their young members. For example, both Spain and France have sought to suppress the culture and language of the Basque country, which straddles their border. The Internet has allowed Basque nationalism to reassert itself, making connections between members of the Basque diaspora worldwide; disseminating Euskara, the ancient Basque language; and extending the concept of Basque identity to those who would embrace it via the Web, regardless of their actual ancestry.⁷⁷ Similar local-culture movements have flourished in places such as Wales and Cornwall.

However, because globalization has allowed the resurgence of such movements in many places (including generally liberal states such as Australia and Canada), these culture groups face a new threat: the corporate exploitation of their signs, stories, and cultural practices. In this view, a public sphere is merely an opportunity for others to cheapen their experiences, traditions, and beliefs by rapid repetition and distribution in new and often insulting contexts.⁷⁸ The local-culture movement thus opposes the torrent of proprietary media images and texts that pour out of multinational corporations via closed networks of satellite, cable, broadcast, and retail outlets.⁷⁹

The tension between the very liberal Web movements and more communitarian local-culture movements exposes the frustrations and limitations of efforts to generate a global public sphere that can wrestle with cultural, trade, health, or environmental questions. The public sphere in Habermas's model mediates between the private and the state. However, although local and even individual interests clearly can find expression on the Web, rarely does any supranational body have effective sovereignty over any global issue. Sometimes the World Trade Organization seems able to enforce its agenda, but its actions might just be a mask for the interests of a particular nation-state. At other times, UNESCO and the World Intellectual Property Organization (WIPO) may seem to have authority in their respective areas of concern. But again, such organizations might just be acting as instruments of a nation-state

seeking multilateral cover. Moreover, public spheres imply and perhaps require real, physical spaces for deliberation and debate.

The very marginality of a local-culture movement—its reason for being—renders it peripheral to global discussions of cultural policy. Only when represented by a friendly and supportive nation-state (again, such as Canada or Australia) do members of local-culture movements and their claims considered by policymaking officials. But this is action driven by the state, not by a global public sphere.⁸⁰

The Internet does not in itself provide the social space or norms that Habermas describes and prescribes for a healthy public sphere. It is not designed to be a force for civility. Paradoxically, the Internet does a better job of stimulating (or simulating) rational spaces and norms in illiberal contexts, as when it is employed by democratic dissident movements.⁸¹ Much Internet-mediated global political action is markedly uncivil. On the margins, "hactivism" (using disruptive communicative technology toward political ends) and cybervandalism have become important tools for the disaffected (including members of local-culture movements).⁸² The Internet is not enough. Perhaps some technology applied to the Internet—a filter such as Google, for instance—could "civilize" the networks.

For a time, Google appeared to offer uniformity and consistency of experience in the use of the Web, lending weight to the notion that technology could unite and connect people everywhere. By basing its search results on consensus choices, it promised to filter out the marginal and to contribute to the stability and universality of knowledge on the Web. But, as we have seen, recent moves to localize and customize search results have undermined that potential. And we now understand that the very nature of Google's search algorithms privilege highly organized, technologically savvy groups over others. Google in fact disrupts the prospects of building a global public sphere.

To understand why such disruptive behavior remains important in global politics, we must consider the peculiar role of culture in the postmodern global market economy. Culture is contentious. Seyla Benhabib argues that "culture" has traditionally been considered central to the maintenance of worldviews of dominant political structures, not a

distinct field or locus of symbolic generation and differentiation. The distinction of "culture" from the regimentation and reification of science, politics, economics, or militarism is a distinctly modern phenomenon, the result of a process that Max Weber called *Wertausdifferenzierung*, or "value differentiation." Weber claimed that culture under the modern state and capitalist economy tends to foster oppositional poses as much as legitimizing ones. Under the political canopy of the twentieth-century industrial and welfare state, cultural politics was merely an adjunct to questions of resource distribution, but calling for resource distribution in a neoliberal context seems futile and is dismissed as counterproductive. Consequently, in recent years, Benhabib explains, cultural groups have been employing political strategies to assert recognition, rather than redistribution, although there can be redistributive consequences of cultural recognition.⁸³ In a desperate, divided, Darwinian world economy, cultural recognition can seem as important as life itself.⁸⁴ Attempts at forging a global public sphere discount the importance of cultural recognition in favor of procedural equality. Not that there is anything wrong with that; but failing to consider the visceral power of specific cultural claims is likely to exclude and alienate much of the postcolonial world.

With its powerful trends toward localization in search results and thus the customization of knowledge, Google's search functions actually reinforce the interests of the local-culture movements and thus inhibit rather than further the expansion of a genuine global civil society. However, several major aspects of Google's business have influenced the expansion of global civil society in its present form and have offered a glimpse of what a global public sphere might look like: YouTube, Blogger, and Google News. These are some of the main factors in the Googlization of the world. If the development of a global public sphere is a good thing and a goal to be pursued—and despite the obstacles to such a development that I've been analyzing, there are people and forces that would assert that it is—we need to ponder ways in which we can influence the Googlization of the world to achieve that end. One way to do that is to analyze further another major aspect of the Googlization of everything: the Googlization of knowledge.

FIVE THE GOOGLIZATION OF KNOWLEDGE

THE FUTURE OF BOOKS

Those of us who take liberalism and Enlightenment values seriously often quote Sir Francis Bacon's aphorism that "knowledge is power." But, as the historian Stephen Gaukroger argues, this is not a claim about knowledge: it is a claim about power. "Knowledge plays a hitherto unrecognized role in power," Gaukroger writes. "The model is not Plato but Machiavelli."¹ Knowledge, in other words, is an instrument of the powerful. Access to knowledge gives access to that instrument of power, but merely having knowledge or using it does not automatically confer power. The powerful always have the ways and means to use knowledge toward their own ends.

However, expanding access to knowledge brings more people with more and different ends into the space where those ends can be made known, be advocated, and take their place on the agendas of nations and