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NOVEMBER/DECEMBER 2013

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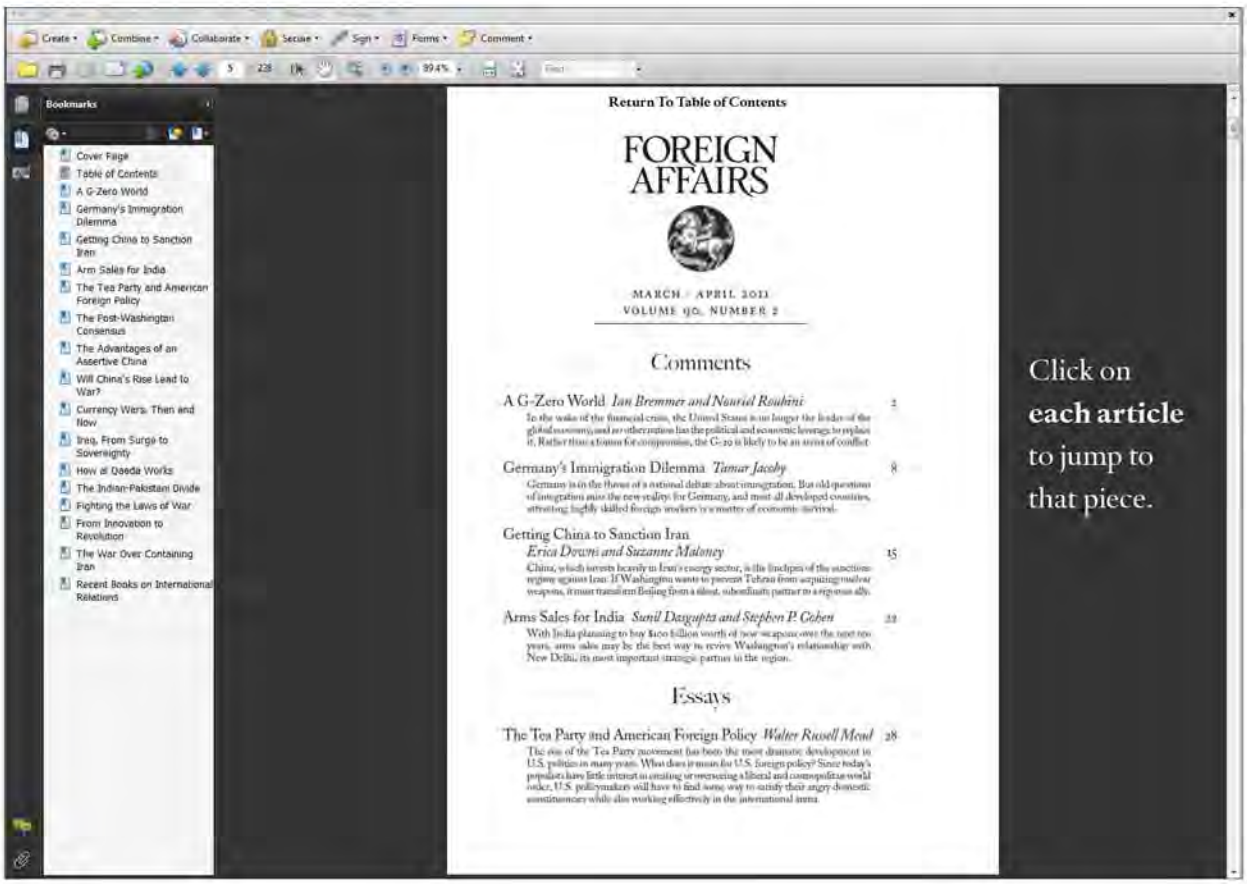

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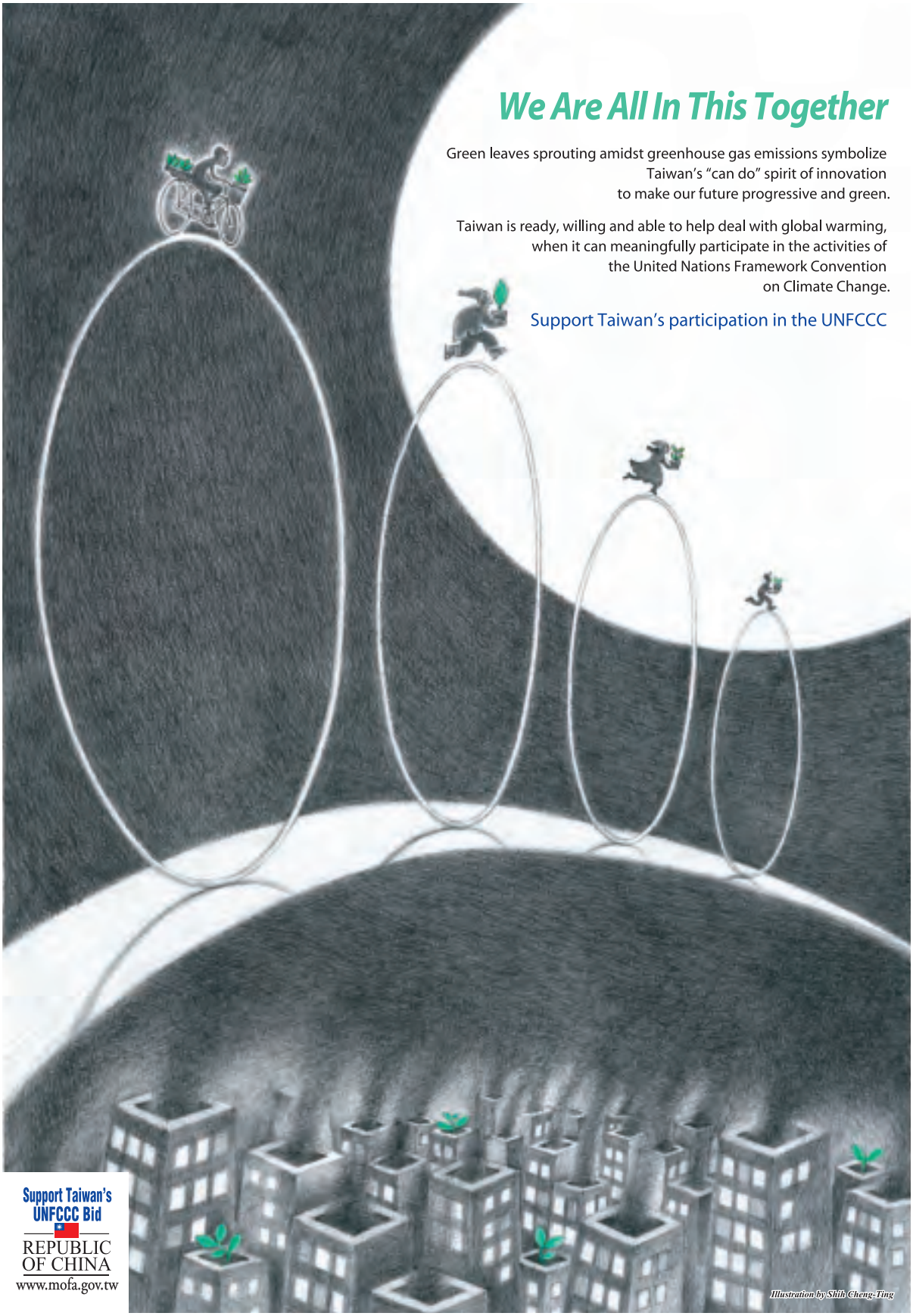
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November/December 2013 · Volume 92, Number 6

Published by the Council on Foreign Relations

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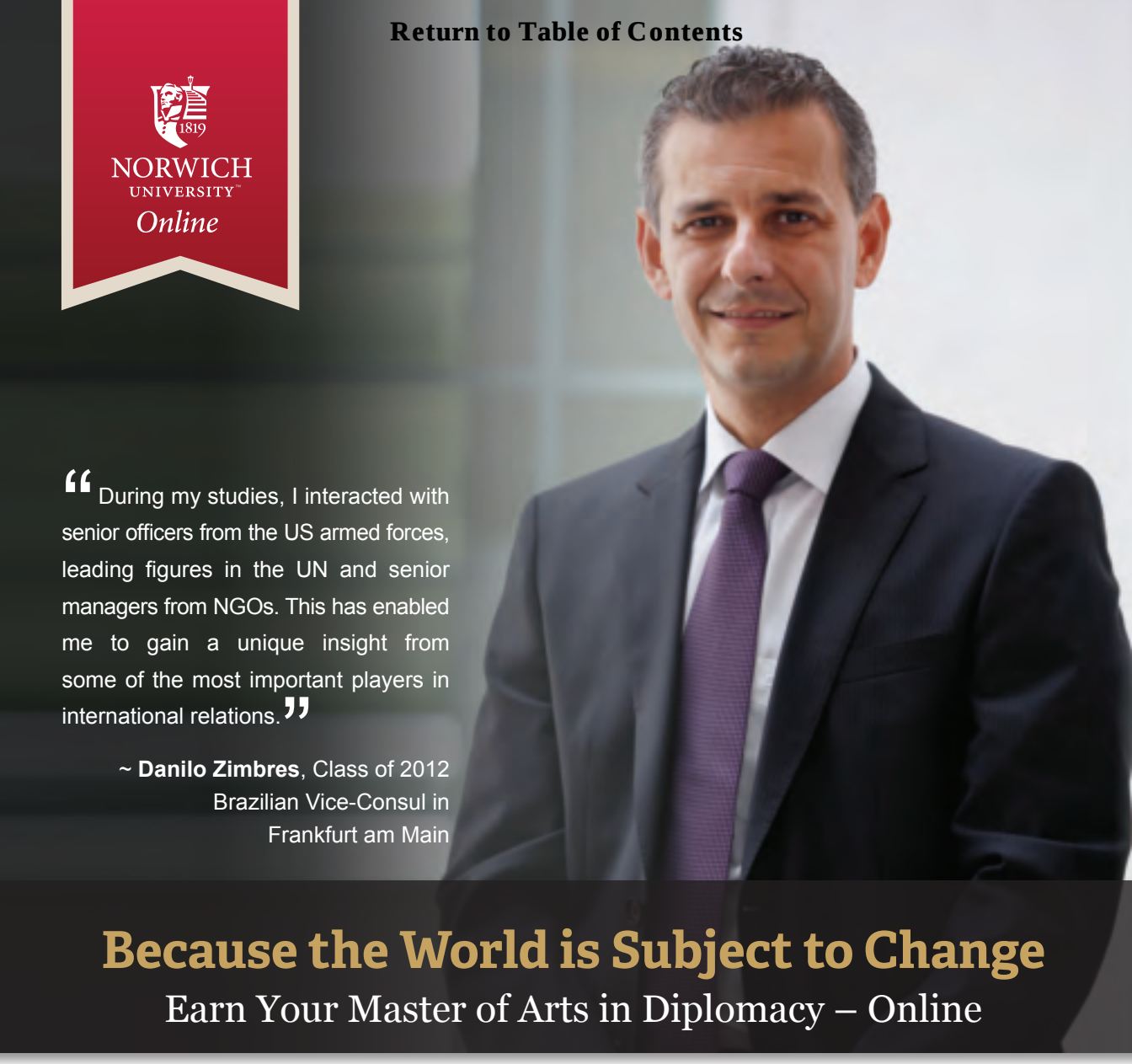

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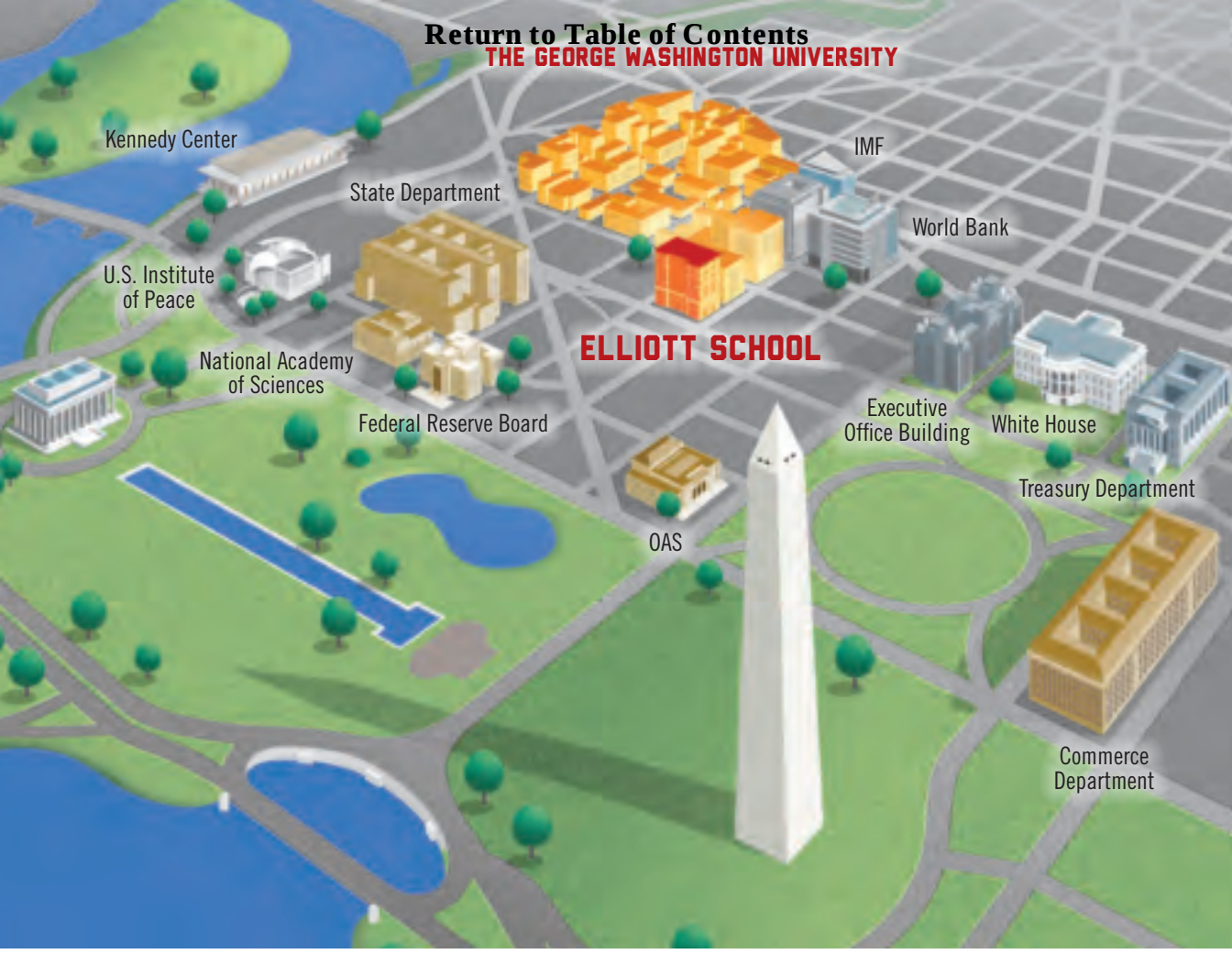
RONALD NOBLE has spent his career breaking barriers: in 1994, at 38, he was sworn in as U.S. undersecretary of the treasury for enforcement, making him the highest-ranking African American in the history of U.S. federal law enforcement. Then, in 2000, he was elected secretary general of Interpol, becoming the first American to head the global policing organization. Under Noble, Interpol has tackled emerging threats as well as traditional ones, and in "Keeping Science in the Right Hands" (page 47), he outlines a global response for dealing with new biological advances.

A mathematician by training, **CINDY WILLIAMS** has studied U.S. defense spending from inside and outside the government. Now a principal research scientist in the Security Studies Program at MIT, she worked at the RAND Corporation and the Pentagon before serving as assistant director of the Congressional Budget Office, where she led the office's National Security Division. In her essay "Accepting Austerity" (page 54), she argues that spending cuts are here to stay, and so defense officials must figure out how to live with them, reshaping the U.S. military without hollowing it out.

PANKAJ MISHRA began writing professionally at age 23, when he moved to a small Himalayan village in northern India and started producing literary essays. He has since written widely on India and globalization, using history, fiction, memoir, travelogue, journalism, and pretty much any other literary form available. In "India and Ideology" (page 139), Mishra critiques Perry Anderson's new book, *The Indian Ideology*, which argues that modern India fails to live up to its own democratic ideals.



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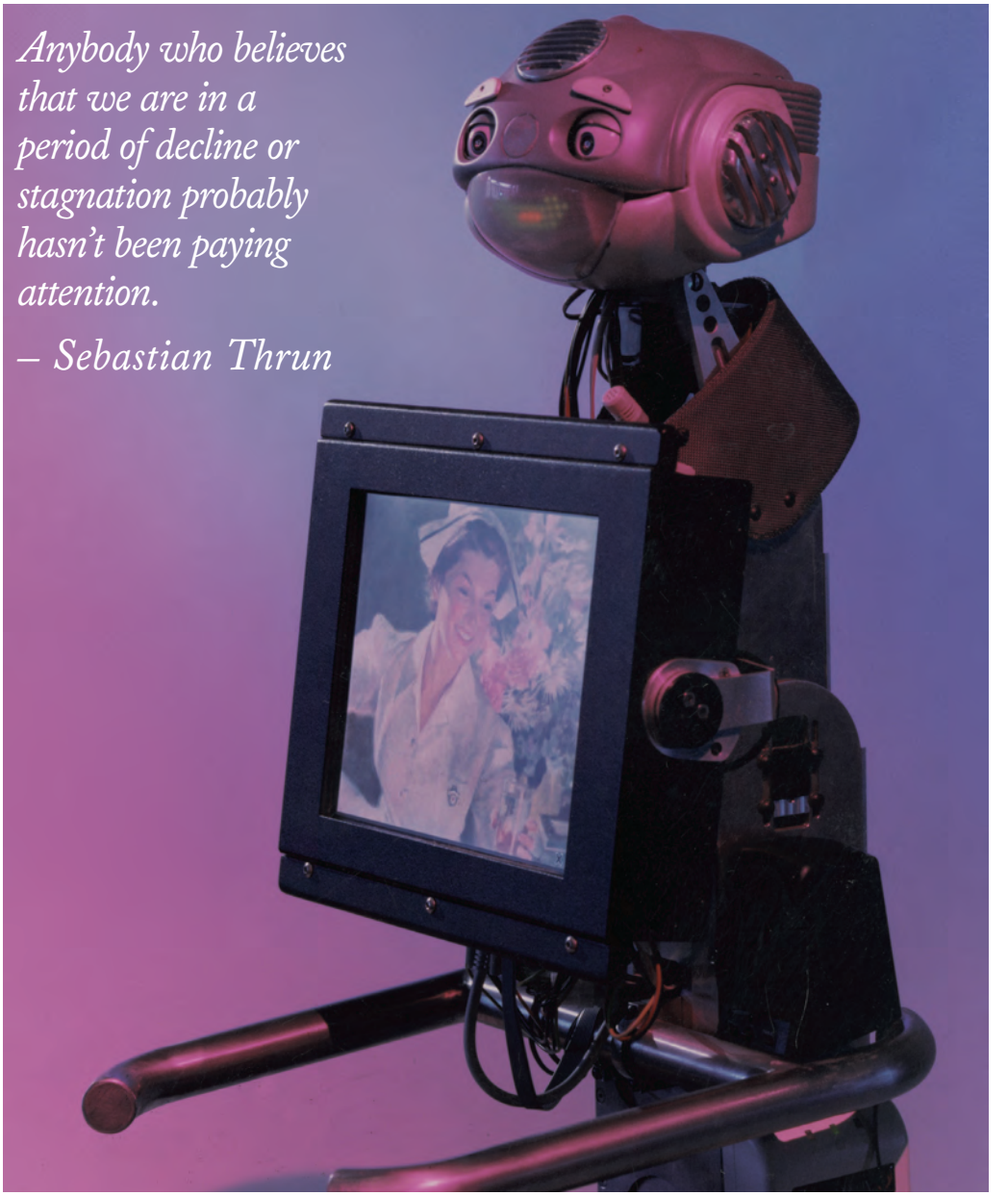

REUTERS / LUKE MACGREGOR

Google's Original X-Man

A Conversation With Sebastian Thrun

Sebastian Thrun is one of the world's leading experts on robotics and artificial intelligence. Born in Solingen, Germany, in 1967, he received his undergraduate education at the University of Hildesheim and his graduate education at the University of Bonn. He joined the computer science department at Carnegie Mellon University in 1995 and moved to Stanford University in 2003. Thrun led the team that won the 2005 DARPA Grand Challenge, a driverless car competition sponsored by the U.S. Defense Department, and in 2007, he joined the staff of Google, eventually becoming the first head of Google X, the company's secretive big-think research lab. He co-founded the online-education start-up Udacity in 2012. In late August, he spoke to *Foreign Affairs* editor Gideon Rose in the Udacity offices. The full interview is available at www.foreignaffairs.com/interviews/thrun; excerpts appear below.

Why robotics?

I ultimately got into robotics because for me, it was the best way to study intelligence. When you program a robot to be intelligent, you learn a number of things. You become very humble and develop enormous respect for natural intelligence, because even if you work day and night for several years, your robot isn't that smart after all. But since every element of its behavior is something that you created, you can actually understand it.

How did you get involved with driverless cars?

In 2004, my CMU colleague Red Whittaker engaged in an epic race called the DARPA Grand Challenge. The U.S. government had put up a million bucks as prize money for whoever could build a car that could drive itself. The original mission was to go from Los Angeles to Las Vegas, but that was quickly found not to be safe, so the race moved to going from Barstow, California, to Primm, Nevada, along a 140-mile premarked desert route. In the first race, which I did not participate in, Red had the best-performing team, but his robot went less than eight miles. DARPA scheduled a second race for the following year, and having come freshly to Stanford and having nothing to do because it was a new job, I decided, why not give it a try?

So we put together a team to build a robot car, Stanley, that could drive by itself in desert terrain. We started with a class of about 20 students. Some of them stayed on, some of them went as far away as they could when they realized what a consuming experience it is to build a robot of that proportion. And over the next several months, I spent most of my time in the Mojave Desert, behind the steering wheel, writing computer code on my laptop together with my graduate students.

What was the result?

Well, we were lucky. Five teams finished that year, and in my book, they all won equally. But we happened to be the fastest by 11 minutes, so we got the $2 million check. [DARPA had doubled the prize for the second race.]

GETTY IMAGES / BLOOMBERG

Sebastian Thrun in San Francisco, September 2013

Why did your project end up working so well?

Many of the people who participated in the race had a strong hardware focus, so a lot of teams ended up building their own robots. Our calculus was that this was not about the strength of the robot or the design of the chassis. Humans could drive those trails perfectly; it was not complicated off-road terrain. It was really just desert trails. So we decided it was purely a matter of artificial intelligence. All we had to do was put a computer inside the car, give it the appropriate eyes and ears, and make it smart.

In trying to make it smart, we found that driving is really governed not by two or three rules but by tens of thousands of rules. There are so many different contingencies. We had a day when birds were sitting on the road and flew up as our vehicle approached. And we learned that to a robot eye, a bird looks exactly the same as a rock. So we had to make the machine smart enough to distinguish birds from rocks.

In the end, we started relying on what we call machine learning, or big data. That is, instead of trying to program all these rules by hand, we taught our robot the same way we would teach a human driver. We would go into the desert, and I would drive, and the robot would watch me and try to emulate the behaviors involved. Or we would let the robot drive, and it would make a mistake, and we would go back to the data and explain to the robot why this was a mistake and give the robot a chance to adjust.

So you developed a robot that could learn?

Yes. Our robot was learning. It was learning before the race, and it was learning in the race.

It was at that event that you met Larry Page?

Yes. Larry had a long-standing interest in many things and chose to come to the DARPA Grand Challenges. He came unnoticed, wearing sunglasses, but we hooked up during the morning. In most races that I've participated in, during the race you sweat a lot. In this race, there was nothing to do. We were just sitting on the sidelines and letting our creations compete on our behalf. So we started talking about robotics.

Why driverless cars?

It's a no-brainer. If you look at the twentieth century, the car has transformed society more than pretty much any other invention. But cars today are vastly unsafe. It's estimated that more than a million people die every year because of traffic accidents. And driving cars consumes immense amounts of time. For the average American worker, it's about 52 minutes a day. And they tie up resources. Most cars are parked at any point in time; my estimate is that I use my car about three percent of the time.

But if the car could drive itself, you could be much safer, and you could achieve something during your commute. You can also envision a futuristic society in which we share cars much better. Cars could come to you when you need them; you wouldn't have to have private car ownership, which means no need for a garage, no need for a driveway, no need for your workplace to have as many parking spots.

Is this personal for you?
Absolutely. When I was 18, my best friend lost his life when his friend made a split-second poor decision to speed on ice and lost control of the vehicle and crashed into a truck. And one morning, when I myself was working on driverless cars, when we were expecting a government delegation to be briefed on my progress, my head administrator at Stanford went out to get breakfast for us and never came back. She was hit by a speeding car at a traffic light, and she went into a coma, never to wake up. This is extremely personal for me.

These moments make clear to me that while the car is a beautiful invention of society, there's so much space for improvement. It's really hard to find meaning in the loss of a life in a traffic accident, but I carry this with me every day. I feel that any single life saved in traffic is worth my work.

We are now at a point where the car drives about 50,000 miles between what I would call critical incidents, moments when a human driver has to take over, otherwise something bad might happen. At this point, most of us believe the car drives better than the best human drivers. It keeps the lane better, it keeps the systems better, it drives more smoothly, it drives more defensively. My wife tells me, "When you are in the self-driving car, can you please let the car take over?"

Another big project at Google X, where you were working on the driverless car, was Google Glass. How did that come about, and how does it relate to the lab's other projects?
One of the things that has excited me in working at Google and with Google leadership is thinking about big, audacious problems. We often call them "moonshot" problems.

The self-driving car was a first instance of this, where we set ourselves a target that we believed could not be met. When the project started, we decided to carve out a thousand miles of specific streets in California that were really hard for humans to drive, including Lombard Street in San Francisco and Highway 1, the coastal route from San Francisco to Los Angeles. Even I believed this was hard to do.

So we set this audacious goal, and it took less than two years to achieve it. And what it took to get there was a committed team of the world's best people basically left alone to do whatever it took to reach the goal.

I wanted to test that recipe in other areas. So Google entrusted me with the founding of a new group called Google X. (The "X" was originally a placeholder until a correct name could be found.) We looked at a number of other audacious projects, and one of them was, can we bring computation closer to our own perception?

We hired an ingenious professor from the University of Washington, Babak Parviz, who became the project leader. And under his leadership, we developed early prototypes of Google Glass and shaped up the concept into something that people know today—that is, a very lightweight computer that is equipped with a camera, display, trackpad, speaker, Bluetooth, WiFi, a head-tracking unit. It's a full computer, not dissimilar to the PCs I was playing with when I was a teenager, but it weighs only 45 grams.

How did you get from there into online education?

I went into education because I learned from my friends at Google how important it is to aim high. Ever since I started working at Google, I have felt I should spend my time on things that really matter when they are successful. I believe online education can make a difference in the world, more so than almost anything else I've done in my life.

Access to high-quality education is way too limited. The United States has the world's most admirable higher education system, and yet it is very restrictive. It's so hard to get into. I never got into it as a student. There are also fascinating opportunities that exist today that did not exist even 20 years ago.

The conventional paradigm in education is based on synchronicity. We know for a fact that students learn best if they're paired one-on-one with a mentor, a tutor. Unfortunately, we can't afford a tutor for every student. Therefore, we put students into groups. And in these groups, we force students, by and large, to progress at the same speed. Progression at the same speed can cause some students—like me, when I was young—to feel a bit underwhelmed. But it can also cause a lot of students to drop out.

A lot of students, when they aren't quite up to the speed that's been given to them, get a grade like a C. But instead of giving them more time to get to the mastery it would take to get an A, they get put into the next cohort, where they start with a disadvantage, with low self-esteem. And they often end up at that level for the rest of their student career.

Salman Khan, whom I admire, has made this point very clearly by showing that he can bring C-level math students to an A+ level if he lets them go at their own pace. So what digital media allow us to do is to invent a medium where students can learn at their own pace, and that is a very powerful idea. When you go at your own pace, we can move instruction toward exploration and play-based learning.

When I enter a video game, I learn something about a fictitious world. And in that video game, I'm allowed to go at my own pace. I'm constantly assessed—assessment becomes my friend. I feel good when I master the next level. If you could only take that experience of a video game back into student learning, we could make learning addictive. My deep, deep desire is to find a magic formula for learning in the online age that would make it as addictive as playing video games.

Your projects are extraordinarily radical. Is that what attracts you to them?

I aspire to work on subjects where a number of things have to be the case. One is they have to really change the world if they succeed. I need to be able to tell myself a story that, no matter how slim the chances of success, if it succeeds, it is going to massively change society for the better. I think that's the case for safety in driving and transportation. It's the case for bringing the Internet to everybody. And it's the case for education.

I love to work on problems that are hard, because I love to learn. And all these problems have their own dimension of hardness. Some of them are more technological, some are more societal. When these things come together, I

get very excited.

What drives or generates innovation? What creates a Sebastian Thrun?
I feel like I'm overrated. Most of what I do is just listen carefully to people. But truly great innovators, like Larry Page and Sergey Brin, or Elon Musk, or Mir Imran, bring to bear really great visions of where society should be, often fearless visions. And then just a good chunk of logical thinking—as Elon Musk puts it, "thinking by first principles." Not thinking by analogy, whereby we end up confining our thought to what's the case today, but thinking about what should be the case, and how we should get there, and whether it is feasible to do it.

Once you have the vision and the clear thought together, what's missing is just really good execution. And execution to me is all about the way you would climb a mountain you've never climbed before. If you waver along the way, if you debate, if you become uncertain about the objective, then you're not going to make it. It's important that you keep climbing. And it's important that you acknowledge that you don't have all the answers. So you will make mistakes, and you will have to back up, learn, and improve. That is a normal component of the innovative process. But you should not change your goal.

Are there drivers of innovation at the societal and national level? You've said that you moved from Germany to the United States because the more open, less hierarchical system here was one in which you felt more able to thrive.
Yes. I think there's a genuine innovative element in America that you find in almost no other culture. And I believe it

goes back to the founding of this wonderful country, where the people who came over had to be innovative to make their own rules and clear the land and build society up from scratch. And I think that gene, that genuinely American gene that is behind the American dream, remains here today, more than in any other place I know of. And it's a wonderful thing, it makes me very happy to be part of such an amazing group of smart and driven entrepreneurs in Silicon Valley.

There are people who feel that the prospects of life are diminishing and that the next generation is not going to have a better life than the previous one. Do you think your child's life will be more interesting and exciting and filled with larger prospects than yours?
If you look at history, the fear that the next generation would be worse off than the previous one has been around for many centuries. It's not a new fear. And it's often due to the lack of imagination of people in understanding how innovation is moving forward. But if you graph progress and quality of life over time, and you zoom out a little and look at the centuries, it's gotten better and better and better and better.

Our ability to be at peace with each other has grown. Our ability to have cultural interchanges has improved. We have more global languages, we have faster travel, we have better communication, we have better health. I think these trends will be sustained going forward, absolutely no question. If you look at the type of things that are happening right now in leading research labs, I see so many great new technologies coming out in the next ten to 20 years. It ought to be great.

So you disagree with the notion that innovation is dead, or that we're in a great stagnation, or a period of decline?
I think anybody who believes that we are in a period of decline or stagnation probably hasn't been paying attention. If you look at the way society has transformed itself in the last 20 years, it's more fundamental than the 50 years before and maybe even bigger than the 200 years before.

I'll give an example. With the advent of digital information, the recording, storage, and dissemination of information has become practically free. The previous time there was such a significant change in the cost structure for the dissemination of information was when the book became popular. Printing was invented in the fifteenth century, became popular a few centuries later, and had a huge impact in that we were able to move cultural knowledge from the human brain into a printed form. We have the same sort of revolution happening right now, on steroids, and it is affecting every dimension of human life.

I believe we live in an age where most interesting inventions have not yet been made, where there are enormous opportunities to move society forward. I'm excited to live right now. But I would rather live 20 years from now or 50 years from now than live today. It's going to be better and better.

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Oliver Petzold, IR/PS Graduate '08, Program Officer, Asia Foundation

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A Kinder, Gentler Immigration Policy

Forget Comprehensive Reform—Let the States Compete

Jagdish Bhagwati and Francisco Rivera-Batiz

Ever since Congress passed the Immigration Reform and Control Act, in 1986, attempts at a similar comprehensive reform of U.S. immigration policies have failed. Yet today, as the Republican Party smarts from its poor performance among Hispanic voters in 2012 and such influential Republicans as former Florida Governor Jeb Bush have come out in favor of a new approach, the day for comprehensive immigration reform may seem close at hand. President Barack Obama was so confident about its prospects that he asked for it in his State of the Union address in February 2013. Now, the U.S. Senate looks poised to offer illegal immigrants a pathway to citizenship.

But a top-down legislative approach to immigration could nonetheless easily die in Congress, just as the last serious one did, in 2007. Indeed, the president's domestic problems with health care and foreign problems with Syria have already cast a shadow over the prospects for reform.

Even if a bill did manage to pass, the sad fact is that it would work no better than the 1986 law did. That act was based on the assumption that punishments, such as sanctions on employers and heightened border security, and incentives, such as an increase in the number of legal immigrants allowed to enter the country and amnesty for illegal immigrants already there, could eliminate illegal immigration altogether. That assumption proved illusory: the offer of amnesty may have temporarily reduced the stock of illegal immigrants, but it was not enough to eliminate it. Nor did employer sanctions and border enforcement reduce the flow of new illegal immigrants.

The challenges to eliminating illegal immigration are, if anything, greater today than they were in 1986. For one thing, in order to make today's proposals politically feasible, their authors decided to offer illegal immigrants not immediate unconditional amnesty but a protracted process of legalization. Confronted with this approach, a large share of the estimated 11 million illegal immigrants now living in the United States would likely choose to remain illegal rather than gamble on the distant promise of naturalization.

Nor would reform dissuade new illegal immigrants from joining those already in the country. Extrapolating from the recent drop in apprehensions near the Rio Grande, some analysts have argued that since the flow of illegal immigrants has already slowed to a trickle, the issue has lost its urgency. This notion is misguided. One cannot focus just on the area around the Rio Grande, since only half of all illegal immigrants residing in the

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United States entered the country by unlawfully crossing the U.S.-Mexican border, according to a 2006 study by the Pew Research Center. Moreover, whatever drop-off has occurred is mostly the result of the recent economic slowdown in the United States and will not prove permanent. As long as wages in the United States greatly outstrip those in poor countries, the United States will remain a mecca for potential immigrants, legal and illegal.

Not only would immigration reform fail to achieve its goal of eliminating illegal immigrants; it would also lead to increasingly draconian treatment of them. In order to appease anti-immigrant groups, the Senate's immigration reform bill provides for stricter enforcement of the U.S.-Mexican border, along with $40 billion in funding. But past experience suggests that such regulations are an exercise in futility: they do little to slow the influx of illegal immigrants while greatly increasing the risk to their lives as they try to cross the border over more dangerous terrain, aided by unscrupulous smugglers who may abandon them mid-journey.

Given these realities, the United States should stop attempting to eliminate illegal immigrants—since that will never work—and focus instead on policies that treat them with humanity. Doing so would mean adopting a variety of measures to diminish the public's hostility to illegal immigrants. Principal among them would be a shift from a top-down approach to a bottom-up one: letting states compete for illegal immigrants. States with laws that were unfriendly to illegal immigrants would lose them and their badly needed labor to states that were more welcoming. The result would be a competition that would do far more to improve the treatment of illegal immigrants than anything coming from Washington.

IMPOSSIBLE DIFFICULTIES

Americans can be schizophrenic when it comes to illegal immigration, suffering from a sort of right-brain, left-brain problem. The right brain sympathizes with illegal immigrants, since they are immigrants, after all, and the United States was founded on immigration. But the left brain fixates on their illegality, which offends Americans' respect for the rule of law. Negotiating a viable compromise between those who wish to throw illegal immigrants out and those who wish to embrace them has always proved exceptionally difficult. As the historian Mae Ngai has shown, U.S. immigration policy in the 1920s and 1930s was as conflicted as it is today, with proponents of deportations pitted against pro-immigrant humanitarian groups.

Further complicating matters is Americans' sense of fairness. Liberals have called on Congress to offer illegal immigrants a path to citizenship, but unlike most other countries, the United States has an enormous backlog of potential immigrants who have dutifully lined up for entry—an issue that Spain, for example, did not face when it granted its illegal immigrants amnesty in 2005. Many Americans consider it unfair to let immigrants who have broken the law join the same line that those who followed the rules are in. The proponents of amnesty have, in consequence, cluttered up their proposed policy with various restrictions and requirements that make it far less attractive than a forthright granting of full citizenship.

Welcome to America: arresting an illegal immigrant, California, April 2011

REUTERS / LUCY NICHOLSON

Like past reform proposals, the current one offers illegal immigrants a long road to legality. But the longer the process, the greater the risk that a new Congress will reverse the old. Many illegal immigrants may prefer not to accept that risk and instead stay illegal. Furthermore, as the immigration scholars Mark Rosenzweig, Guillermina Jasso, Douglas Massey, and James Smith have shown, around 30 percent of U.S. immigrants achieve legal status despite having violating immigration laws in the past. Taking these factors into account, it is reasonable to predict that of the estimated 11 million illegal immigrants, only half would take an offer of amnesty, perhaps less.

Just like the chimera of legalizing away the stock of illegal immigrants, the notion that the flow of new illegal immigrants can be shut off is also deeply impractical. For instance, attempts at expanding legal immigration in the hope that it will reduce the incentive for illegal immigration would require, at minimum, vastly expanded legal admissions. Yet even though trade unions have given up their long-standing opposition to legalizing illegal immigrants—which they figure will boost their membership—they oppose significantly expanding legal admissions. Unions have long blamed immigration for the stagnation of workers' wages, just as they have blamed outsourcing and trade liberalization. In fact, the AFL-CIO recently suggested that it should be involved in determining how many legal guest workers the United States will admit in the future. When President George W. Bush proposed a more expansive guest-

worker program, unions helped kill the measure, and they would fiercely fight any efforts to liberalize legal immigration this time, too.

It is also dubious that draconian enforcement measures, at the border or internally, would actually intimidate would-be illegal immigrants, no matter what mix of punishments and inducements Congress legislates. Unlike in 1986, almost every U.S. immigrant is now more secure: their ethnic compatriots will, as they already do, go to bat for better treatment, raising their voices against such measures.

But the biggest hurdle that immigration reform faces is that as long as immigration restrictions exist, people will continue to enter the United States illegally. The government can send as many Eliot Nesses to Chicago to nab as many Al Capones as it wants, but the bootlegged liquor will keep flowing across the Canadian border as long as Prohibition remains in place.

IMMIGRATION INHUMANITY

Short of dismantling all border restrictions, then, no policy could magically eliminate illegal immigration. Yet not only would a reform bill be ineffective; it could also be harmful. If a comprehensive reform bill were passed, there is a serious danger that policymakers, operating on the flawed assumption that there should then be no reason for illegal immigrants to exist, might enact even harsher measures against them.

In fact, merely attempting to secure support for a reform bill is certain to harm illegal immigrants. Their experiences under President Bill Clinton and Obama have not been reassuring. Although Democrats have generally been more sympathetic to illegal immigrants than have Republicans, both Clinton and Obama, in their attempts to secure bipartisan consensus on immigration reform, implemented ruthless measures against illegal immigrants.

In the wake of the Immigration Reform and Control Act, the U.S. government ramped up enforcement at the border, which reached new heights during the Clinton administration. Ditches were built and fences constructed. To seal off common routes of entry into the United States, the government mounted military-style actions with names that seemed straight out of a war room: Operation Blockade, in El Paso in 1993; Operation Gatekeeper, in San Diego in 1994; and many more. The border security budget skyrocketed, rising from $326 million in 1992 to $1.1 billion by the time President George W. Bush took office, in 2001. The number of U.S. Border Patrol agents stationed at the southwestern border nearly tripled. In the end, these measures did little to stem the inflow. The demographer Jeffrey Passel of the Pew Research Center has estimated that the average net annual influx of illegal immigrants crossing the Rio Grande rose from 324,000 in the first half of the 1990s to 654,800 in the second half of the decade.

What stricter enforcement did do was force illegal immigrants to bypass safer crossing points and travel through the desert instead. Desperate immigrants made no secret of their desire to keep trying to sneak across the border despite heightened enforcement, often attempting again and again until they got through. But crossing the desert meant that they had to pay smugglers, known as coyotes,

who left carloads of illegal immigrants for dead when they feared apprehension by U.S. Border Patrol personnel. At best, the Clinton administration's policies had a marginal impact on illegal border traffic and led to a major decline in the welfare of those trying to enter the country illegally. They also failed to achieve their larger objective of getting legislation through Congress; the "keep them out" and "throw them out" lobbies were too strongly opposed to any compromise.

Obama has ramped up border enforcement, too, but he has also deported record numbers of illegal immigrants already living in the United States. In 2011, he expanded the Secure Communities initiative, a joint effort between state and local governments—the federal authorities have even ordered uncooperative states, such as New York, to fall in line—that uses integrated databases to track down illegal immigrants. According to official statistics, the number of deportations (excluding apprehensions at the border itself) has risen under Obama, to 395,000 in 2009. In 2001, under George W. Bush, deportations numbered only 189,000.

The focus on border enforcement is misguided. In part, it owes to the false equation of lax border control with the influx of terrorists. There is little evidence of that link: even the 9/11 hijackers entered the United States legally. Moreover, correcting for the effect of the recession on attempted crossings, it is clear that the impact of Obama's policies has been far from dramatic in deterring illegal immigration. But the distress caused to illegal immigrants has been great. As a 2011 report from Human Rights Watch

detailed, tens of thousands of immigrants are shuffled from jail to jail awaiting deportation. Once again, the country has gained little and lost much.

RACE TO THE TOP

With top-down immigration reform unworkable and inhumane, Americans need to shift their focus to treating their inevitable neighbors with humanity. That objective cannot be pursued through Washington. It must come from elsewhere: competition among states. States that harass illegal immigrants, such as Alabama, Arizona, Georgia, Indiana, and South Carolina, will drive illegal immigrants to more welcoming states, such as Maryland, New York, Utah, and Washington. As the former lose badly needed cheap labor to the latter, the political equilibrium will shift toward those who favor policies that help retain and attract illegal immigrants.

Of course, states cannot intrude on the parts of immigration enforcement over which the federal government has exclusive authority, such as border control and civil rights. But there are a number of steps states can take to make life easier for illegal immigrants, such as issuing them driver's licenses and making accessible to them everything from health care to university scholarships.

Illegal immigrants are already voting with their feet, leaving or bypassing states that treat them harshly and flocking to those with more benign policies. In 2011, hours after a federal judge in Alabama upheld most of the state's strict immigration law, illegal immigrants began fleeing. Frightened families, *The New York Times* reported, "left behind mobile homes, sold fully furnished for a thousand dollars or even less." The article continued: "Two, 5, 10 years of living here, and then gone in a matter of days, to Tennessee, Illinois, Oregon, Florida, Arkansas, Mexico—who knows? Anywhere but Alabama."

Ample statistical evidence demonstrates this pattern. From 1990 to 2010, when tough border-enforcement policies (which naturally focused on the border states) were in vogue, Arizona, California, New Mexico, and Texas saw their collective share of illegal immigrants decline by 17 percent. In California alone, the percentage of all illegal immigrants residing there fell from 43 percent to 23 percent. Similarly, the economists Sarah Bohn, Magnus Lofstrom, and Steven Raphael have calculated that Arizona's 2007 Legal Arizona Workers Act, which banned businesses from hiring illegal immigrants, led to a notable decline in the proportion of the state's foreign-born Hispanic population.

The resulting blow to economic activity has often been drastic; employers in agriculture and construction, for example, regularly complain about the absence of workers. Fortunately, however, as business interests begin to agitate in favor of easing up on illegal immigrants, state capitals will start taking note. Already, many groups in the unwelcoming states have begun to question their states' draconian immigration enforcement laws and argue for more modest measures. After Alabama passed its immigration law, for example, business leaders complained to lawmakers about the resulting labor shortages. After the Legal Arizona Workers Act went into effect, in 2008, the state's contractors' trade association even joined civil rights groups in seeking the law's repeal. That same year, the U.S. Chamber of Commerce filed a lawsuit

challenging the constitutionality of an Oklahoma law that required employers to verify the work status of their employees.

As this dynamic plays out, states will begin to compete for illegal immigrants, who will then face less harassment and be able to better integrate into their communities. Democrats and Republicans who care about human rights should welcome this change. More important, so should Republicans who prize states' rights. A race to the top in the treatment of illegal immigrants is a viable path to reform that would greatly advance human rights in the United States.

There are other ways to improve the lives of illegal immigrants that also do not involve Washington. Consider the problem of Mexicans who risk their lives traveling through the desert while attempting to cross the border and who occasionally damage the property of Texan ranchers. With no method to recoup their losses, the affected ranchers found it tempting to join forces with the Minutemen vigilantes who used to patrol the border. To reduce ranchers' hostility toward illegal immigrants, the Mexican government should set up a fund that compensates ranchers who can establish credible claims of damage. Since the stories of such damages tend to outstrip the reality, the fund need not be particularly large to go a long way in defusing the hostility.

Another way to improve the plight of illegal immigrants would be for Mexico to help pay for the education and medical expenses of those illegal immigrants coming from Mexico that are otherwise borne by the U.S. government. Although a number of studies show that illegal immigrants represent a net contribution to U.S. government coffers, the common perception that American taxpayers must bear these costs and that Mexico should share some of the burden of its own citizens breeds resentment. Were the Mexican government to make such a contribution, it would serve as a gesture of goodwill that could help reduce the hostility toward illegal immigrants.

"Give me your tired, your poor, your huddled masses," reads the poem by Emma Lazarus that adorns the Statue of Liberty, which once welcomed the millions of immigrants arriving at Ellis Island. It is well past time to revive that sense of humanity, and the diverse recommendations outlined here can help the United States do just that. Whether or not they come with Washington's permission, immigrants to the United States nonetheless deserve the compassion Lazarus promised.

Left Out

How Europe's Social Democrats Can Fight Back

Henning Meyer

When the global financial crisis hit in 2008, social democrats in Europe believed that their moment had finally arrived. After a decade in which European politics had drifted toward the market-friendly policies of the right, the crisis represented an opportunity for the political center left's champions of more effective government regulation and greater social justice to reassert themselves.

After all, it was thanks to center-right policies that deregulated financial markets had devolved into a kind of black hole, detached from the wider global economy but exerting a powerful force on all kinds of economic activity. When the financial services industry finally collapsed, the effects went far beyond Wall Street and the U.S. economy, plunging financial markets and economies everywhere into a deep crisis that has still not been resolved.

But social democrats in Europe sensed a possible silver lining. For decades, they had argued for stiffer regulations to steady inherently unstable financial markets, to no avail. The crisis, it seemed, proved them right. Moreover, in the wake of a massive global recession, millions of people had to turn for support to the welfare systems that social democrats had built and sustained: yet another vindication, they believed.

And yet five years later, Europe's social democratic moment has yet to materialize. Social democrats have won victories at the national level in a number of countries, including Denmark, France, and Slovakia. But these relatively modest gains have been overshadowed by a sense that Europe has fallen into a period of political volatility, a permanent emergency of sorts brought on by the flaws revealed in the euro system and the European Union as the global financial crisis morphed into a eurozone crisis. Even though social democrats have not yet been able to fully capitalize on the situation, they still have a chance to do so, but only if they come to see how the mistakes they made during the previous two decades reduced their political capital and left them ill prepared to take advantage of a political environment that should play to their strengths.

ADOPTING, NOT ADAPTING

By the time the financial crisis began, Europe's social democratic parties had already lost momentum. From the late 1970s until the mid-1990s, they had suffered significant declines in electoral support in key countries, such as Germany and the United Kingdom. These declines prompted soul-searching on the European left, which took different forms in different countries. One common conclusion, however, was that as neoliberalism spread and economies around the world changed dramatically, traditional social democratic politics

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seemed outdated to many voters. Across the Atlantic, in the United States, the Democratic Party, led by President Bill Clinton, responded by shifting to the right, plotting a "third way" that accommodated market-friendly neoliberal policies. Impressed by Clinton's success, social democratic parties in Europe followed his lead. In the United Kingdom, Tony Blair won election as prime minister in 1997 by promising a more growth-friendly "New Labour" party. In Germany, Gerhard Schroeder followed suit, leading his Social Democratic Party to victory in 1998 promising to lead from the *Neue Mitte* (New Center), the label he chose to describe his version of Blair's approach.

The key intellectual shift shared by the many different third-way currents that emerged in the 1990s was their application of pro-market policies to almost every area of governing. Third-way proponents saw social security systems not primarily as insurance against major life risks, such as unemployment, illness, and infirmity, but rather as a means of economic reintegration. Their goal was to transform the social safety net into a trampoline, focused less on addressing the immediate needs of the poor and disadvantaged and more on helping such people rapidly rejoin the economy. In practice, these reforms increased the risk that the unemployed would face permanent downward mobility, with the government subsidizing their reentry into the very bottom end of the labor market.

Still, in electoral terms, the third way worked well, at least for a time. By the end of the 1990s, social democrats led most of the EU states. But although embracing more neoliberal policies led to success at the ballot box, social democrats soon suffered the consequences of abandoning their traditional political identities. All political movements can benefit from periods of reflection and renewal, and social democrats had—and still have—plenty of lessons to learn from conservatives, Greens, and liberals. But to many voters, the extent to which social democrats had changed their stripes represented an opportunistic betrayal of their core beliefs that left them almost indistinguishable from their political competitors.

Such accusations took their toll, but the weakness of the third way became undeniable only after the financial crisis. Suddenly, traditional social democratic warnings about the inherent instability of markets—the kind of talk that third-way leaders such as Blair had left behind—seemed prescient, not old-fashioned. But because social democratic leaders had spent the previous two decades adopting, rather than adapting, neglecting to develop a true alternative to neoliberalism's insistence on unfettered markets, the crisis found them intellectually unprepared. Even worse, many social democrats in government, including those in Germany and the United Kingdom, had pushed through various forms of financial deregulation, leading voters to view them as collaborators in a failed system.

THE CUSTOMER IS NOT ALWAYS RIGHT

The self-inflicted political wounds of the social democrats have proved so deep that even five years after the financial crisis exposed the flaws of the third way, they have still not figured out how to move past their embrace of neoliberal economic

policy and present a coherent political alternative. Today, while they should be riding high, the social democrats appear overwhelmed by the rapid change that is taking place around them—just like almost every other group in the European political ecosystem.

The eurozone crisis requires bold decisions and steps toward further European integration that would have been unthinkable only a few years ago. The European Union's usual course of action—muddling through—has reached its limits, and Europe's citizens, many of whom are suffering severe economic hardship, are confused and disillusioned. To have any chance of leading their countries out of this morass, Europe's social democrats must redefine their political identities and rebuild their credibility—and they must do so quickly.

To accomplish those goals in the midst of a continent-wide political crisis, social democrats must abandon their recent obsession with short-term electoral tactics and return to their political and ideological roots, offering voters in their countries a vision of a "good society." The core social democratic values of freedom, equality, and social justice should be the guiding ideals for a good society that recalibrates the relationship among citizens, the economy, and the state. A dynamic and sustainable economy must be not an end in itself but a means to improve the lives of all citizens, not just a few at the top. The allocation of income and wealth in many places today has little to do with people's performance; it is mostly the result of power and influence. A good society would reinstate the performance principle. And in an era in which an increasing number of citizens feel alienated from the political process, it is important to offer new opportunities for people to shape the societies they live in.

In addition to ending the social democrats' ill-fated detour into neoliberal policies, moving toward a good-society approach would require a break with the political techniques of the third way. During the last two decades, social democratic politics took on a transactional character. Based on the findings of opinion polls and focus groups, third-way adherents developed policies and rhetoric they hoped would cater to the preexisting preferences of small segments of electoral "customers."

It should have come as no surprise that retrofitting the techniques of retail marketing to electoral strategy would not make for coherent politics—it rarely makes for good business, either. Steve Jobs, the visionary founder of Apple, understood this well. When asked by his biographer, Walter Isaacson, why he refused to rely on traditional market research, Jobs replied, "Some people say, 'Give the customers what they want.' But that's not my approach. Our job is to figure out what they're going to want before they do. . . . People don't know what they want until you show it to them." Europe's social democrats should heed Jobs' advice and craft a new and convincing political agenda that reflects their core values, rather than trying to reverse-engineer a platform that just reflects what opinion research suggests the public wants to hear.

An electoral strategy based on articulating core social democratic values would also offer a tactical advantage. As European societies become more culturally and socially fragmented,

Brushed aside: pasting posters of candidates in Germany's election, September 2013

REUTERS / THOMAS PETER

trying to target particular groups of voters with tailored messages means chasing ever-smaller segments of society with ever-narrower messages. This divide-and-conquer approach served third-way politicians well during the years of stability and prosperity. But during a crisis or a prolonged period of instability, it has prevented social democratic parties from putting forward broad-based platforms that could unite otherwise diverse social groups around a single economic and political vision. Opting for a clear, consistent message based on core values would help social democrats differentiate themselves and their ideas in the chaotic political environment of today's Europe.

BUILDING A GOOD SOCIETY

Of course, redefining social democracy will be a slow process, constrained by the limits of day-to-day politics. The task will also be complicated by the fact that social democrats' competitors can also adapt. Indeed, some center-right leaders, such as German Chancellor Angela Merkel, have taken a page from the third-way strategists and begun making populist appeals based on ideas from the social democratic tradition. In stark contrast to the austerity measures Merkel wants the EU to apply to other member states, Merkel's domestic agenda promises rent control, increased benefits for couples with children, and more government investment in education and infrastructure. Merkel's support for such policies helped prevent Germany's opposition Social Democratic Party from making a strong showing in the national elections in September. The election results also demonstrated that simply being in opposition does not

necessarily mean social democrats will gain significant ground; between 2009 and 2013, Merkel's party increased its share of the votes for parliamentary seats by 7.7 percent, whereas the Social Democratic Party's increase was a mere 2.7 percent. The lesson is that it can take more than just spending a term in opposition for social democrats to figure out how to improve their political fortunes.

And even in the rare cases in which social democrats have regained power, such as in France, they are learning that winning an election is not the same as governing successfully. François Hollande's victory was an important step for Europe's social democrats. But the French president's rocky first year in office, during which he saw his popular approval ratings plummet, demonstrated that winning an election is not the same as governing effectively and that leaders should not mistake the weakness of their political opposition for their own strength. European social democracy is not just a platform for winning elections but a political philosophy that aims to transform society for the better based on an agenda that can command broad support.

Nevertheless, social democrats will have to stage an electoral comeback in order to effect the changes they seek. The coming year will witness important elections for the European Parliament and a national election in Sweden; social democrats have a realistic shot at doing well in both contests. The following year, national elections in the United Kingdom will offer social democrats perhaps their best chance to retake power in a major European country.

But if Europe's social democrats are to have a real shot at winning office and governing successfully, they need to think big. Rhetorical adjustments will not suffice, nor will simply rebranding third-way ideas for the current situation. To finally seize the moment, social democrats need to return to their roots and offer Europeans a vision of a good society, one that can redeem the promise of social justice and a prosperous economy.

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The End of Hypocrisy

American Foreign Policy in the Age of Leaks

Henry Farrell and Martha Finnemore

The U.S. government seems outraged that people are leaking classified materials about its less attractive behavior. It certainly acts that way: three years ago, after Chelsea Manning, an army private then known as Bradley Manning, turned over hundreds of thousands of classified cables to the anti-secrecy group WikiLeaks, U.S. authorities imprisoned the soldier under conditions that the UN special rapporteur on torture deemed cruel and inhumane. The Senate's top Republican, Mitch McConnell, appearing on *Meet the Press* shortly thereafter, called WikiLeaks' founder, Julian Assange, "a high-tech terrorist."

More recently, following the disclosures about U.S. spying programs by Edward Snowden, a former National Security Agency analyst, U.S. officials spent a great deal of diplomatic capital trying to convince other countries to deny Snowden refuge. And U.S. President Barack Obama canceled a long-anticipated summit with Russian President Vladimir Putin when he refused to comply.

Despite such efforts, however, the U.S. establishment has often struggled to explain exactly why these leakers pose such an enormous threat. Indeed, nothing in the Manning and Snowden leaks should have shocked those who were paying attention. Former Defense Secretary Robert Gates, who dissented from the WikiLeaks panic, suggested as much when he told reporters in 2010 that the leaked information had had only a "fairly modest" impact and had not compromised intelligence sources or methods. Snowden has most certainly compromised sources and methods, but he has revealed nothing that was really unexpected. Before his disclosures, most experts already assumed that the United States conducted cyberattacks against China, bugged European institutions, and monitored global Internet communications. Even his most explosive revelation—that the United States and the United Kingdom have compromised key communications software and encryption systems designed to protect online privacy and security—merely confirmed what knowledgeable observers have long suspected.

The deeper threat that leakers such as Manning and Snowden pose is more subtle than a direct assault on U.S. national security: they undermine Washington's ability to act hypocritically and get away with it. Their danger lies not in the new information that they reveal but in the documented confirmation they provide of what the United States is actually doing and why. When these deeds turn out to clash with the government's public rhetoric, as they so often do, it becomes harder for U.S.

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allies to overlook Washington's covert behavior and easier for U.S. adversaries to justify their own.

Few U.S. officials think of their ability to act hypocritically as a key strategic resource. Indeed, one of the reasons American hypocrisy is so effective is that it stems from sincerity: most U.S. politicians do not recognize just how two-faced their country is. Yet as the United States finds itself less able to deny the gaps between its actions and its words, it will face increasingly difficult choices—and may ultimately be compelled to start practicing what it preaches.

A HYPOCRITICAL HEGEMON

Hypocrisy is central to Washington's soft power—its ability to get other countries to accept the legitimacy of its actions—yet few Americans appreciate its role. Liberals tend to believe that other countries cooperate with the United States because American ideals are attractive and the U.S.-led international system is fair. Realists may be more cynical, yet if they think about Washington's hypocrisy at all, they consider it irrelevant. For them, it is Washington's cold, hard power, not its ideals, that encourages other countries to partner with the United States.

Of course, the United States is far from the only hypocrite in international politics. But the United States' hypocrisy matters more than that of other countries. That's because most of the world today lives within an order that the United States built, one that is both underwritten by U.S. power and legitimated by liberal ideas. American commitments to the rule of law, democracy, and free trade are embedded in the multilateral institutions that the country helped establish after World War II, including the World Bank, the International Monetary Fund, the United Nations, and later the World Trade Organization. Despite recent challenges to U.S. preeminence,

from the Iraq war to the financial crisis, the international order remains an American one.

This system needs the lubricating oil of hypocrisy to keep its gears turning. To ensure that the world order continues to be seen as legitimate, U.S. officials must regularly promote and claim fealty to its core liberal principles; the United States cannot impose its hegemony through force alone. But as the recent leaks have shown, Washington is also unable to consistently abide by the values that it trumpets. This disconnect creates the risk that other states might decide that the U.S.-led order is fundamentally illegitimate.

Of course, the United States has gotten away with hypocrisy for some time now. It has long preached the virtues of nuclear nonproliferation, for example, and has coerced some states into abandoning their atomic ambitions. At the same time, it tacitly accepted Israel's nuclearization and, in 2004, signed a formal deal affirming India's right to civilian nuclear energy despite its having flouted the Nuclear Nonproliferation Treaty by acquiring nuclear weapons. In a similar vein, Washington talks a good game on democracy, yet it stood by as the Egyptian military overthrew an elected government in July, refusing to call a coup a coup. Then there's the "war on terror": Washington pushes foreign governments hard on human rights but claims sweeping exceptions for its own behavior when it feels its safety is threatened.

The reason the United States has until now suffered few consequences for such hypocrisy is that other states have a strong interest in turning a blind eye. Given how much they benefit from the global public goods Washington provides, they have little interest in calling the hegemon on its bad behavior. Public criticism risks pushing the U.S. government toward self-interested positions that would undermine the larger world order. Moreover, the United States can punish those who point out the inconsistency in its actions by downgrading trade relations or through other forms of direct retaliation. Allies thus usually air their concerns in private. Adversaries may point fingers, but few can convincingly occupy the moral high ground. Complaints by China and Russia hardly inspire admiration for their purer policies.

The ease with which the United States has been able to act inconsistently has bred complacency among its leaders. Since few countries ever point out the nakedness of U.S. hypocrisy, and since those that do can usually be ignored, American politicians have become desensitized to their country's double standards. But thanks to Manning and Snowden, such double standards are getting harder and harder to ignore.

THE IMPORTANCE OF BEING EARNEST

To see how this dynamic will play out, consider the implications of Snowden's revelations for U.S. cybersecurity policy. Until very recently, U.S. officials did not talk about their country's offensive capabilities in cyberspace, instead emphasizing their strategies to defend against foreign attacks. At the same time, they have made increasingly direct warnings about Chinese hacking, detailing the threat to U.S. computer networks and the potential damage to U.S.-Chinese relations.

But the United States has been surreptitiously waging its own major offensive against China's computers—and those of other adversaries—for some time now. The U.S. government has quietly poured billions of dollars into developing offensive, as well as defensive, capacities in cyberspace. (Indeed, the two are often interchangeable—programmers who are good at crafting defenses for their own systems know how to penetrate other people's computers, too.) And Snowden confirmed that the U.S. military has hacked not only the Chinese military's computers but also those belonging to Chinese cell-phone companies and the country's most prestigious university.

Although prior to Snowden's disclosures, many experts were aware—or at least reasonably certain—that the U.S. government was involved in hacking against China, Washington was able to maintain official deniability. Protected from major criticism, U.S. officials were planning a major public relations campaign to pressure China into tamping down its illicit activities in cyberspace, starting with threats and perhaps culminating in legal indictments of Chinese hackers. Chinese officials, although well aware that the Americans were acting hypocritically, avoided calling them out directly in order to prevent further damage to the relationship.

But Beijing's logic changed after Snowden's leaks. China suddenly had every reason to push back publicly against U.S. hypocrisy. After all, Washington could hardly take umbrage with Beijing for calling out U.S. behavior confirmed by official U.S. documents. Indeed, the disclosures left China with little choice but to respond publicly. If it did not point out U.S. hypocrisy, its reticence would be interpreted as weakness. At a news conference after the revelations, a spokesperson for the Chinese Ministry of National Defense insisted that the scandal "reveal[ed] the true face and hypocritical conduct regarding Internet security" of the United States.

The United States has found itself flatfooted. It may attempt, as the former head of U.S. counterintelligence Joel Brenner has urged, to draw distinctions between China's allegedly unacceptable hacking, aimed at stealing commercial secrets, and its own perfectly legitimate hacking of military or other security-related targets. But those distinctions will likely fall on deaf ears. Washington has been forced to abandon its naming-and-shaming campaign against Chinese hacking.

Manning's and Snowden's leaks mark the beginning of a new era in which the U.S. government can no longer count on keeping its secret behavior secret. Hundreds of thousands of Americans today have access to classified documents that would embarrass the country if they were publicly circulated. As the recent revelations show, in the age of the cell-phone camera and the flash drive, even the most draconian laws and reprisals will not prevent this information from leaking out. As a result, Washington faces what can be described as an accelerating hypocrisy collapse—a dramatic narrowing of the country's room to maneuver between its stated aspirations and its sometimes sordid pursuit of self-interest. The U.S. government, its friends, and its foes can no longer plausibly deny the dark side of U.S. foreign policy and will have to address it head-on.

SUIT THE ACTION TO THE WORD, THE WORD TO THE ACTION

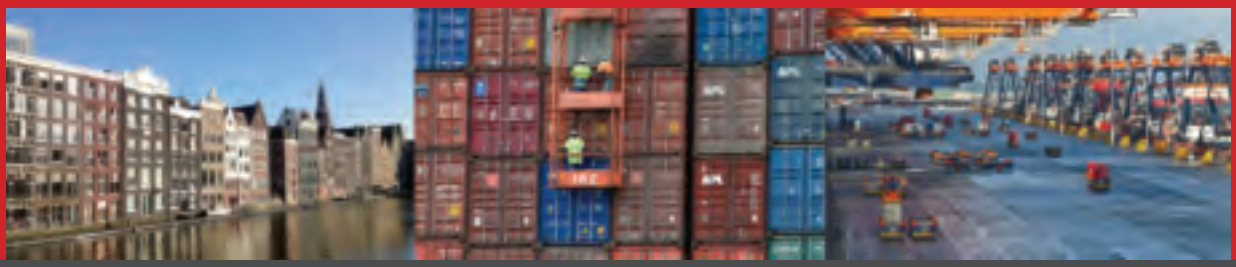
The collapse of hypocrisy presents the United States with uncomfortable choices. One way or another, its policy and its rhetoric will have to move closer to each other.

The easiest course for the U.S. government to take would be to forgo hypocritical rhetoric altogether and acknowledge the narrowly self-interested goals of many of its actions. Leaks would be much less embarrassing—and less damaging—if they only confirmed what Washington had already stated its policies to be. Indeed, the United States could take a page out of China's and Russia's playbooks: instead of framing their behavior in terms of the common good, those countries decry anything that they see as infringing on their national sovereignty and assert their prerogative to pursue their interests at will. Washington could do the same, while continuing to punish leakers with harsh prison sentences and threatening countries that might give them refuge.

The problem with this course, however, is that U.S. national interests are inextricably bound up with a global system of multilateral ties and relative openness. Washington has already undermined its commitment to liberalism by suggesting that it will retaliate economically against countries that offer safe haven to leakers. If the United States abandoned the rhetoric of mutual good, it would signal to the world that it was no longer committed to the order it leads. As other countries followed its example and retreated to the defense of naked self-interest, the bonds of trade and cooperation that Washington has spent decades building could unravel. The United States would not prosper in a world where everyone thought about international cooperation in the way that Putin does.

A better alternative would be for Washington to pivot in the opposite direction, acting in ways more compatible with its rhetoric. This approach would also be costly and imperfect, for in international politics, ideals and interests will often clash. But the U.S. government can certainly afford to roll back some of its hypocritical behavior without compromising national security. A double standard on torture, a near indifference to casualties among non-American civilians, the gross expansion of the surveillance state—none of these is crucial to the country's well-being, and in some cases, they undermine it. Although the current administration has curtailed some of the abuses of its predecessors, it still has a long way to go.

Secrecy can be defended as a policy in a democracy. Blatant hypocrisy is a tougher sell. Voters accept that they cannot know everything that their government does, but they do not like being lied to. If the United States is to reduce its dangerous dependence on doublespeak, it will have to submit to real oversight and an open democratic debate about its policies. The era of easy hypocrisy is over.



Handling the world's goods

The geographical size of the Netherlands, less than forty-two thousand square meters, belies its huge commanding position in global trade. To facilitate the movement of goods valued at trillions of dollars, the Netherlands has constantly expanded the Port of Rotterdam, the largest in Europe, as well as Schiphol Airport in Amsterdam, the world's fourth-busiest in passenger traffic.

"If you are looking for a foothold in continental Europe where business culture is similar to that in the United States, and for a global hub for the United States with excellent logistics possibilities for the rest of Europe and the world, then the Netherlands is the place to be," said Foreign Minister Frans Timmermans.

Foreign Minister Frans Timmermans of the Netherlands

Over fifty percent of all port activity in Europe is covered by the Netherlands, and the majority through Rotterdam.

"The country is a gateway to the European market, a market with over 500 million wealthy consumers. We have always been dependent on international trade and the business attitude is very much geared towards international business," explained Bas Pulles, commissioner of the Netherlands Foreign Investment Agency.

The Netherlands' global commercial success is evident in its economic ties with the United States.

From 2009 to 2012, the country has been the top destination for U.S. FDI with over 645 billion U.S. dollars, or 14 percent of total U.S. FDI, destined for the Netherlands last year.

"The United States has been by far the largest foreign investor in the Netherlands for the last thirty years. Of six thousand eight hundred companies investing in the Netherlands, there are about one thousand eight hundred from the United States. The Netherlands is the third-largest investor in the United States, providing about seven hundred thousand jobs. These are huge figures for both the Dutch and the U.S. economies," Pulles said.

The Dutch information technology and creative industries have emerged as strong contributors to the Dutch economy, as shown by the success of companies like TomTom and organizations like Appsterdam.

"I think we in the Netherlands have market leadership in computer vision and computer graphics technology. We're leveraging that knowledge base," said Pieter Aarts, CEO of Nedsense, a Dutch technology and design company responsible for the highly successful NedGraphics and the pioneering LOFT technology.

"The connection between the United States and the Netherlands is unique. The United States brings scale, success, and leadership in e-commerce, as well as leadership in winning omnichannel strategies. What we provide is leadership in technology. That's why I think that this relationship between the Netherlands and the United States is successful," Aarts added.

Nedsense recently launched its LOFT technology, a 3D experience tool that allows users to customize existing living and office spaces on their computers, tablets, or mobile devices.

Through LOFT, Nedsense brings together home furnishing makers, real estate companies, and consumers, diversifying sales channels and enhancing customer experience. Naturally, Nedsense looked to the United States as a launching point for their pioneering technology. *(See related article.)*

"The U.S. market is our primary market to sell LOFT technology. In terms of ecommerce, the U.S. market has been successful, and it's still growing rapidly, especially in home furnishing," Aarts said.

Innovation in the Netherlands' biggest and fastest-growing sectors has showed no signs of slowing down.

Given the collobarative culture among government, education, and industry, the country has remained a preferred destination for business and investment, particularly for U.S. firms.

Virtual showrooms open 24/7

Dutch high-technology developer Nedsense has enhanced the house-hunting experience and removed the guesswork in furniture shopping through a platform that allows customers to furnish apartments or office spaces to their individual style from the convenience of their computer, tablet, or mobile device.

"From the start, we imagined LOFT as 3-D technology that could convert photos of a room into a 3-D rendition very easily. LOFT should also be able to model interior furnishing products in 3-D in order to place them in a virtual space," explained Nedsense CEO Pieter Aarts.

"We launched the first prototype of LOFT in September 2009 and made sure that the technology was ready when we engaged Crate and Barrel in December 2011. That was our breakthrough in the United States and found that it was the perfect launching platform in retail in the U.S. market," Aarts added.

The real estate sector also benefits from LOFT technology by allowing potential buyers to personalize empty apartments virtually.

Nedsense CEO Pieter Aarts

"Equity Residential from the U.S. has more than six hundred thousand unique monthly visitors to its website. It deals with tens of thousands of new leases every year. Once LOFT is integrated into their website, customers will be able to view their rooms in 3-D and virtually place furniture from the Nedsense-LOFT database," Aarts said.

"During the first phase of the Equity Residential rollout, we will also include at least five hundred stock-keeping units of three retail brands," he added.

Retailers will have the opportunity to bring their products to customers at the precise moment they are considering a new home or office. This pioneering LOFT technology is successfully opening sales channels between the real estate and retail sectors.

"We're the market leader at the moment. There's no competition yet, but that will surely change. So, we have to stay ahead of the competition and win this race in 3-D visualization in home furnishing," Aarts stressed.

LOFT.

www.loft-nedsense.com

ESSAYS

Synthetic genomics has spawned a dizzying array of new possibilities, challenges, and security threats.
– Laurie Garrett

Biology's Brave New World

The Promise and Perils of the Synbio Revolution

Laurie Garrett

In May 2010, the richest, most powerful man in biotechnology made a new creature. J. Craig Venter and his private-company team started with DNA and constructed a novel genetic sequence of more than one million coded bits of information known as nucleotides. Seven years earlier, Venter had been the first person in history to make a functioning creature from information. Looking at the strings of letters representing the DNA sequence for a virus called phi X174, which infects bacteria, he thought to himself, "I can assemble real DNA based on that computer information." And so he did, creating a virus based on the phi X174 genomic code. He followed the same recipe later on to generate the DNA for his larger and more sophisticated creature. Venter and his team figured out how to make an artificial bacterial cell, inserted their man-made DNA genome inside, and watched as the organic life form they had synthesized moved, ate, breathed, and replicated itself.

As he was doing this, Venter tried to warn a largely oblivious humanity about what was coming. He cautioned in a 2009 interview, for example, that "we think once we do activate a genome that yes, it probably will impact people's thinking about life." Venter defined his new technology as "synthetic genomics," which would "start in the computer in the digital world from digitized biology and make new DNA constructs for very specific purposes. . . . It can mean that as we learn the rules of life we will be able to develop robotics and computational systems that are self-learning systems." "It's the beginning of the new era of very rapid learning,"

LAURIE GARRETT is Senior Fellow for Global Health at the Council on Foreign Relations.

he continued. "There's not a single aspect of human life that doesn't have the potential to be totally transformed by these technologies in the future."

Today, some call work such as Venter's novel bacterial creation an example of "4-D printing." 2-D printing is what we do everyday by hitting "print" on our keyboards, causing a hard copy of an article or the like to spew from our old-fashioned ink-printing devices. Manufacturers, architects, artists, and others are now doing 3-D printing, using computer-generated designs to command devices loaded with plastics, carbon, graphite, and even food materials to construct three-dimensional products. With 4-D printing, manufacturers take the next crucial step: self-assembly or self-replication. What begins as a human idea, hammered out intellectually on a computer, is then sent to a 3-D printer, resulting in a creation capable of making copies of and transforming itself. In solid materials, Skylar Tibbits of the Massachusetts Institute of Technology creates complex physical substances that he calls "programmable materials that build themselves." Venter and hundreds of synthetic biologists argue that 4-D printing is best accomplished by making life using life's own building blocks, DNA.

When Venter's team first created the phi X174 viral genome, Venter commissioned a large analysis of the implications of synthetic genomics for national security and public health. The resulting report warned that two issues were impeding appropriate governance of the new science. The first problem was that work on synthetic biology, or synbio, had become so cheap and easy that its practitioners were no longer classically trained biologists. This meant that there were no shared assumptions regarding the new field's ethics, professional standards, or safety. The second problem was that existing standards, in some cases regulated by government agencies in the United States and other developed countries, were a generation old, therefore outdated, and also largely unknown to many younger practitioners.

Venter's team predicted that as the cost of synthetic biology continued to drop, interest in the field would increase, and the ethical and practical concerns it raised would come increasingly to the fore. They were even more prescient than they guessed. Combined with breakthroughs in another area of biology, "gain-of-function" (GOF) research, the synthetic genomics field has spawned a dizzying array of new possibilities, challenges, and national security threats. As the scientific community

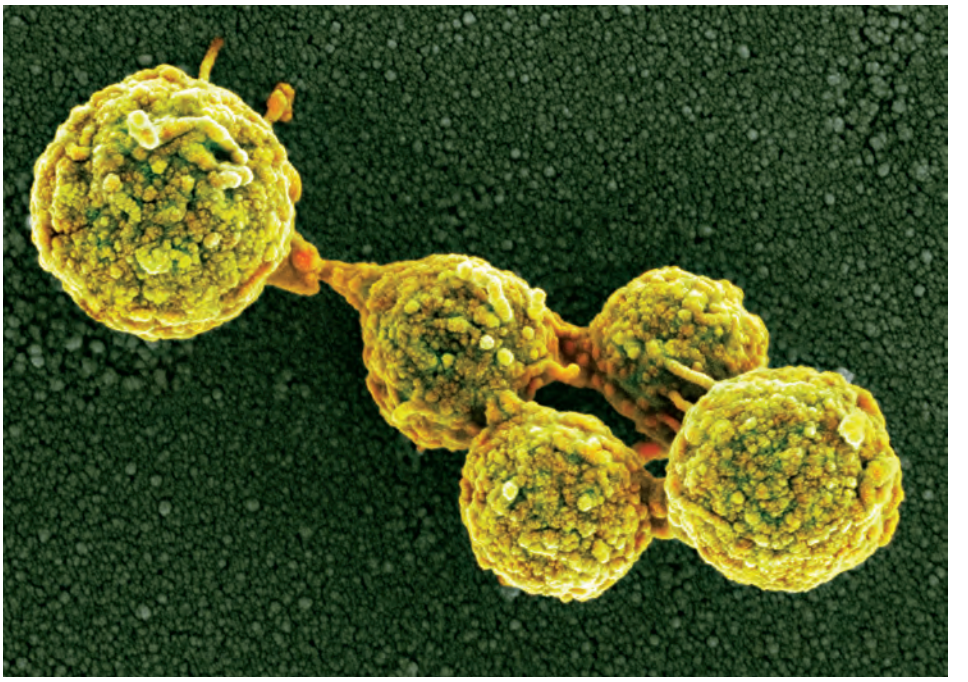
has started debating "human-directed evolution" and the merits of experiments that give relatively benign germs dangerous capacities for disease, the global bioterrorism and biosecurity establishment remains well behind the curve, mired in antiquated notions about what threats are important and how best to counter them.

In the United States, Congress and the executive branch have tried to prepare by creating finite lists of known pathogens and toxins and developing measures to surveil, police, and counter them; foreign governments and multilateral institutions, such as the UN and the Biological Weapons Convention, have been even less ambitious. Governance, in short, is focused on the old world of biology, in which scientists observed life from the outside, puzzling over its details and behavior by tinkering with its environment and then watching what happened. But in the new biology world, scientists can now create life themselves and learn about it from the inside. As Venter put it back in 2009, "What we have done so far is going to blow your freakin' mind."

CODING LIFE

Shortly after Venter's game-changing experiment was announced, the National Academy of Sciences' Institute of Medicine convened a special panel aimed at examining the brave new biology world's ethical, scientific, and national security dimensions. Andrew Ellington and Jared Ellefson of the University of Texas at Austin argued that a new breed of biologists was taking over the frontiers of science—a breed that views life forms and DNA much the way the technology wizards who spawned IBM, Cisco, and Apple once looked at basic electronics, transistors, and circuits. These two fields, each with spectacular private-sector and academic engagement, are colliding, merging, and transforming one another, as computer scientists speak of "DNA-based computation" and synthetic biologists talk of "life circuit boards." The biologist has become an engineer, coding new life forms as desired.

Gerald Joyce of the Scripps Research Institute in La Jolla, California, frets that as the boundaries blur, biologists are now going to be directing evolution and that we are witnessing "the end of Darwinism." "Life on Earth," Joyce has noted, "has demonstrated extraordinary resiliency and inventiveness in adapting to highly disparate niches. Perhaps the most significant invention of life is a genetic system that has an extensible capacity for inventiveness, something that likely will not be achieved soon for synthetic biological systems. However, once informational



Germs 2.0: the first self-replicating bacteria made in a lab, May 2010

CORBIS / THOMAS J. DEERINCK / SCIENCE PHOTO LIBRARY

macromolecules are given the opportunity to inherit profitable variation through self-sustained Darwinian evolution, they just may take on a life of their own."

This is not hyperbole. All the key barriers to the artificial synthesis of viruses and bacteria have been overcome, at least on a proof-of-principle basis. In 2002, researchers at SUNY Stony Brook made a living polio virus, constructed from its genetic code. Three years later, scientists worried about pandemic influenza decided to re-create the devastating 1918 Spanish flu virus for research purposes, identifying key elements of the viral genes that gave that virus the ability to kill at least 50 million people in less than two years. What all this means is that the dual-use dilemma that first hit chemistry a century ago, and then hit physics a generation later, is now emerging with special force in contemporary biology.

Between 1894 and 1911, the German chemist Fritz Haber figured out how to mass-produce ammonia. This work revolutionized agriculture by generating the modern fertilizer industry. But the same research helped create chemical weapons for German use during World War I—and Haber was crucial to both the positive and the negative efforts. Three years after Haber won the Nobel Prize in Chemistry, his compatriot Albert Einstein won a Nobel Prize for his contributions to

physics. Einstein's revolutionary theories of relativity, gravity, mass, and energy helped unravel the secrets of the cosmos and paved the way for the harnessing of nuclear energy. They also led to the atom bomb.

The problem of "dual-use research of concern" (DURC)—work that could have both beneficial and dangerous consequences—was thus identified long ago for chemistry and physics, and it led to international treaties aimed at limiting the most worrisome applications of problematic work in each field. But in this respect, at least, biology lagged far behind, as the United States, the Soviet Union, and many other countries continued to pursue the development of biological weapons with relatively few restrictions. These efforts have not yielded much of military consequence, because those who aspire to use bioweapons have not found ways to transmit and disperse germs rapidly or to limit their effects to the intended targets alone. That could now be changing.

As the scientific community has started debating "human-directed evolution," the biosecurity establishment remains behind the curve.

Dual-use concerns in biology have gained widespread publicity in the last couple of years thanks to GOF research, which attempts to start combating potential horrors by first creating them artificially in the lab. On September 12, 2011, Ron Fouchier of the Erasmus Medical Center, in Rotterdam, took the stage at a meeting in Malta of the European Scientific Working Group on Influenza. He announced that he had found a way to turn H5N1, a virus that almost exclusively infected birds, into a possible human-to-human flu. At that time, only 565 people were known to have contracted H5N1 flu, presumably from contact with birds, of which 331, or 59 percent, had died. The 1918 influenza pandemic had a lethality rate of only 2.5 percent yet led to more than 50 million deaths, so H5N1 seemed potentially catastrophic. Its saving grace was that it had not yet evolved into a strain that could readily spread directly from one human to another. Fouchier told the scientists in Malta that his Dutch group, funded by the U.S. National Institutes of Health, had "mutated the hell out of H5N1," turning the bird flu into something that could infect ferrets (laboratory stand-ins for human beings). And then, Fouchier continued, he had done "something really, really stupid," swabbing the noses of the infected ferrets and using the gathered viruses to infect another round of animals, repeating the process until he had a form of H5N1 that could spread through the air from one mammal to another.

"This is a very dangerous virus," Fouchier told *Scientific American*. Then he asked, rhetorically, "Should these experiments be done?" His answer was yes, because the experiments might help identify the most dangerous strains of flu in nature, create targets for vaccine development, and alert the world to the possibility that H5N1 could become airborne. Shortly after Fouchier's bombshell announcement, Yoshihiro Kawaoka, a University of Wisconsin virologist, who also received funding from the National Institutes of Health, revealed that he had performed similar experiments, also producing forms of the bird flu H5N1 that could spread through the air between ferrets. Kawaoka had taken the precaution of altering his experimental H5N1 strain to make it less dangerous to human beings, and both researchers executed their experiments in very high-security facilities, designated Biosafety Level (BSL) 3+, just below the top of the scale.

Despite their precautions, Fouchier and Kawaoka drew the wrath of many national security and public health experts, who demanded to know how the deliberate creation of potential pandemic flu strains could possibly be justified. A virtually unknown advisory committee to the National Institutes of Health, the National Science Advisory Board for Biosecurity, was activated, and it convened a series of contentious meetings in 2011–12. The advisory board first sought to mitigate the fallout from the H5N1 experiments by ordering, in December 2011, that the methods used to create these new mammalian forms of H5N1 never be published. *Science* and *Nature* were asked to redact the how-to sections of Fouchier's and Kawaoka's papers, out of a stated concern on the part of some advisory board members that the information constituted a cookbook for terrorists.

Michael Osterholm, a public health expert at the University of Minnesota and a member of the advisory board, was particularly concerned. He felt that a tipping point had been reached and that scientists ought to pause and develop appropriate strategies to ensure that future work of this sort was safely executed by people with beneficial intentions. "This is an issue that really needs to be considered at the international level by many parties," Osterholm told journalists. "Influenza is virtually in a class by itself. Many other agents worked on within BSL-4 labs don't have that transmissibility that we see with influenza. There are many agents worked on in BSL-4 that we wouldn't want to escape. But I can't think of any that have the potential to be transmitted around the world as with influenza."

Paul Keim, a microbiologist at Northern Arizona University who was chair of the National Science Advisory Board for Biosecurity, had played a pivotal role in the FBI's pursuit of the culprit behind the 2001 anthrax mailings, developing novel genetic fingerprinting techniques to trace the origins of the spores that were inserted into envelopes and mailed to news organizations and political leaders. Keim shared many of Osterholm's concerns about public safety, and his anthrax experience gave him special anxiety about terrorism. "It's not clear that these particular [experiments] have created something that would destroy the world; maybe it'll be the next set of experiments that will be critical," Keim told reporters. "And that's what the world discussion needs to be about."

In the end, however, the December 2011 do-not-publish decision settled nothing and was reversed by the advisory board four months later. It was successfully challenged by Fouchier and Kawaoka, both papers were published in their entirety by *Science* and *Nature* in 2012, and a temporary moratorium on dual-use research on influenza viruses was eventually lifted. In early 2013, the National Institutes of Health issued a series of biosafety and clearance guidelines for GOF research on flu viruses, but the restrictions applied only to work on influenza. And Osterholm, Keim, and most of the vocal opponents of the work retreated, allowing the advisory board to step back into obscurity.

A GLOBAL REMEDY?

In the last two years, the World Health Organization has held two summits in the hopes of finding a global solution to the Pandora's box opened by the H5N1 experiments. The WHO's initial concern was that flu scientists not violate the delicately maintained agreements among nations regarding disease surveillance and the sharing of outbreak information—a very real concern, given that the 2005 International Health Regulations, which assign the WHO authority in the event of an epidemic and compel all nations to monitor infectious diseases and report any outbreaks, had taken 14 years to negotiate and had been challenged by some developing countries, such as Indonesia, from the day of their ratification.

Jakarta resisted sharing viral samples on the grounds that Western pharmaceutical companies would seek to patent products derived from them and ultimately reap large profits by selling vaccines and drugs back to poor countries at high prices. So Indonesia refused to share samples of the H5N1 flu virus that was spreading inside its borders; made

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wild accusations about the global health community in general, and the United States in particular; and even expelled the U.S. negotiator working on the issue. Eventually, a special pandemic-prevention agreement was hammered out and approved by the World Health Assembly (the decision-making body of the WHO) in 2011, serving as a companion to the International Health Regulations. But by 2012, fewer than 35 countries had managed to comply with the safety, surveillance, and research requirements of the regulations, and many samples of H5N1 and other pathogens of concern had yet to be shared with global authorities and databases. Public health experts worried that a pandemic might unfold before authorities knew what they were up against.

All the key barriers to the artificial synthesis of viruses and bacteria have been overcome.

The WHO knew that Egypt's primary public health laboratory in Cairo had been raided during the riots that ultimately toppled the Mubarak regime in early 2011 and that vials of germs had gone missing—including samples of the H5N1 virus. Egypt has a robust H5N1 problem, with the second-largest number of human cases of the disease (behind, you guessed it, Indonesia). Although it was assumed that the rioters had no idea what was in the test tubes and were merely interested in looting the lab's electronics and refrigeration equipment, nobody can say with certainty whether the flu vials were destroyed or taken.

From the WHO's perspective, the Egyptian episode demonstrated that the extensive security precautions taken by the Dutch to ensure the security of Fouchier's work and the ones that the Americans had adhered to regarding Kawaoka's were not going to be followed in biology labs in many other countries. Margaret Chan, the WHO's director general, and Keiji Fukuda, an assistant director general, remembered the SARS epidemic of 2003, during which Chinese leaders dissembled and dragged their feet for months, allowing the disease to spread to 29 countries. They knew that even in countries that claimed to have met all the standards of the International Health Regulations, there were no consistent dual-use safety regulations. Across most of Asia, the very concept of biosafety was a new one, and a source of confusion. Even in Europe, there were no consistent guidelines or definitions for any aspects of dual-use research, biosafety, or biosecurity. European countries were far more concerned about genetically modified food products than about pathogens and

microbes; they were preoccupied with enforcing the 2000 Cartagena Protocol on Biosafety, which despite its name has nothing to do with terrorism, national security, or the sorts of issues raised by dual-use research; its focus is genetically modified organisms.

The WHO's first dual-use summit, in February 2012, pushed Fouchier and Kawaoka to reveal the details of their experimental procedures and outcomes to their scientific colleagues. Fouchier's boasting about mutations seemed less worrying when the scientist indicated that he had not used synthetic biological techniques and that although his virus had spread between caged ferrets, it had not killed any of them. The technical consultation on H5N1, which was dominated by flu virologists, led the scientists to decide that the work was less dangerous than previously thought and that the moratorium on it could soon be lifted.

An exasperated Osterholm told the New York Academy of Sciences that the United States and the WHO had no clear protocols for DURC, no standards for determining safety, and no plans for a coordinated global response. But many other scientists engaged in the debate were less concerned, and they complained that the potential public health benefits of GOF research might be held back by excessive worries about its potential risks. In meeting after meeting, they claimed, the FBI, the CIA, and other intelligence agencies had proved unable to characterize or quantify the risk of bioweapons terrorism, GOF work, or synthetic biological research.

I BELIEVE THE CHILDREN ARE OUR FUTURE

Advocates for open, fast-paced synthetic biological research, such as Drew Endy of Stanford University and Todd Kuiken of the Wilson Center, the latter one of the leaders of a growing do-it-yourself international biology movement, insist that attention should be paid not just to the dangers of synthetic biology but also to its promise. Endy reckons that two percent of the U.S. economy is already derived from genetic engineering and synthetic biology and that the sector is growing by 12 percent annually. His bioengineering department at Stanford operates on a budget of half a billion dollars a year, and Endy predicts that synthetic biology will in the near future lead to an economic and technological boom like that of Internet and social media technologies during the earlier part of this century.

Many biology students these days see the genetic engineering of existing life forms and the creation of new ones as the cutting edge of

the field. Whether they are competing in science fairs or carrying out experiments, they have little time for debates surrounding dual-use research; they are simply plowing ahead. The International Genetically Engineered Machine contest, in which teams of college students compete to build new life forms, began at MIT in 2004; it was recently opened to high school teams as well. Last year's contest drew more than 190 entries by youngsters from 34 countries. What sounds like science fiction to one generation is already the norm for another.

In just a few years, synthetic biological research has become relatively cheap and easy. In 2003, the Human Genome Project completed the first full sequencing of human DNA. It cost several billion dollars, involved thousands of scientists and technicians toiling in more than 160 labs, and took more than ten years. A decade later, it was possible to buy a sequencing device for several thousand dollars and sequence one's entire genome at home in less than 24 hours. For even less, a private company will sequence your genome for you, and prices are still dropping. Sequencing costs have plummeted so far that the industry is no longer profitable in the developed world and has largely been outsourced to China. In vast lab warehouses outside Beijing, Shanghai, and Shenzhen, automated sequencers now decipher, and massive computers store, more genetic information every month than the sum total of the information amassed from James Watson and Francis Crick's 1953 discovery of DNA to Venter's 2003 synthesis of the phi X174 genome.

Einstein's revolutionary theories helped unravel the secrets of the cosmos. They also led to the atom bomb.

To understand how the field of synthetic biology works now, it helps to use a practical example. Imagine a legitimate public health problem—say, how to detect arsenic in drinking water in areas where ground-water supplies have been contaminated. Now imagine that a solution might be to create harmless bacteria that could be deposited in a water sample and would start to glow brightly in the presence of arsenic. No such creature exists in nature, but there are indeed creatures that glow (fireflies and some fish). In some cases, these creatures glow only when they are mating or feel threatened, so there are biological on-off switches. There are other microorganisms that can sense the presence of arsenic. And there are countless types of bacteria that are harmless to humans and easy to work with in the lab.

To combine these elements in your lab, you need to install an appropriate software program on your laptop and search the databases of relevant companies to locate and purchase the proper DNA units that code for luminescence, on-off switches, and arsenic sensing. Then, you need to purchase a supply of some sort of harmless bacteria. At that point, you just have to put the DNA components in a sensible sequence, insert the resulting DNA code into the bacterial DNA, and test to see if the bacteria are healthy and capable of replicating themselves. To test the results, all you have to do is drop some arsenic in a bottle of water, add some of your man-made bacteria, and shake: if the water starts to glow, bingo. (This slightly oversimplified scenario is based on one that was actually carried out by a team from the University of Edinburgh in the International Genetically Engineered Machine contest in 2006.)

The most difficult part of the process now is putting the DNA components in a sensible sequence, but that is unlikely to be true for long. The world of biosynthesis is hooking up with 3-D printing, so scientists can now load nucleotides into a 3-D "bioprinter" that generates genomes. And they can collaborate across the globe, with scientists in one city designing a genetic sequence on a computer and sending the code to a printer somewhere else—anywhere else connected to the Internet. The code might be for the creation of a life-saving medicine or vaccine. Or it might be information that turns the tiny phi X174 virus that Venter worked on a decade ago into something that kills human cells, or makes nasty bacteria resistant to antibiotics, or creates some entirely new viral strain.

INFORMATION, PLEASE

What stymies the very few national security and law enforcement experts closely following this biological revolution is the realization that the key component is simply information. While virtually all current laws in this field, both local and global, restrict and track organisms of concern (such as, say, the Ebola virus), tracking information is all but impossible. Code can be buried anywhere—al Qaeda operatives have hidden attack instructions inside porn videos, and a seemingly innocent tweet could direct readers to an obscure Internet location containing genomic code ready to be downloaded to a 3-D printer. Suddenly, what started as a biology problem has become a matter of information security.

When the WHO convened its second dual-use summit, therefore, in February 2013, about a third of the scientists and government officials in attendance were from the United States, representing at least 15 different agencies as diverse as the FBI, the Centers for Disease Control and Prevention, the Department of Defense, and the Office of the U.S. Trade Representative. Although other countries brought strong contingents, the message from the Obama administration was clear: we are worried.

Each country party to the Biological Weapons Convention is required to designate one agency to be responsible for guaranteeing compliance with the treaty's provisions. For the United States, that agency is the FBI. So now, a tiny office of the FBI, made even smaller through recent congressional budget cuts and sequestration, engages the scientific community and tries to spot DURC. But the FBI has nothing like the scientific expertise that the biologists themselves have, and so in practice, it must rely on the researchers to police themselves—an obviously problematic situation.

Other countries have tried to grapple with the dual-use problem in other ways. Denmark, for example, has a licensing procedure for both public- and private-sector research. It requires researchers to register their intentions before executing experiments. The labs and personnel are screened for possible security concerns and issued licenses that state the terms of their allowable work. Some of the applications and licenses are classified, guaranteeing the private sector trade secrecy. Such an effort is possible there, however, only because the scale of biological research in the country is so small: fewer than 100 licenses are currently being monitored.

The Dutch government sought to control Fouchier's publication of how he modified the H5N1 virus through the implementation of its export-control laws, with the information in question being the commodity deemed too sensitive to export. Although the government lifted the ban after the first WHO summit, a district court later ruled that Fouchier's publication violated EU law. Fouchier is appealing the decision, which could have profound implications across Europe for the exchange of similar research. Among the lessons of the recent U.S. intelligence leaks, however, is that it may well be impossible to have airtight controls over the transmission of digital information if the parties involved are sufficiently determined and creative.

In line with their emerging engineering perspective, many biologists now refer to their genomics work as "bar-coding." Just as manufacturers put bar codes on products in the supermarket to reveal the product's identity and price when scanned, so biologists are racing to genetically

sequence plants, animals, fish, birds, and microorganisms all over the world and taxonomically tag them with a DNA sequence that is unique to the species—its "bar code." It is possible to insert bar-code identifiers into synthesized or GOF-modified organisms, allowing law enforcement and public health officials to track and trace any use or accidental release of man-made or altered life forms. Such an approach has been used for genetically modified seeds and agricultural products, and there is no good reason not to mandate such labeling for potentially worrisome dual-use work. But bar-coding has to be incorporated by the original researchers, and it is not going to be implemented by those with malicious intentions. So there are no quick or easy technological fixes for the problem.

FROM WHO TO HAJ

The 2013 WHO summit failed to reach meaningful solutions to dual-use research problems. The financially strapped WHO couldn't find the resources to follow up on any of the recommendations produced by the summit. Worse, the attendees could not even manage to come up with a common framework for discussion of the issue. Poor nations felt it was an extremely low priority, with African representatives complaining that their countries didn't have the resources to implement biosafety guidelines. As one representative put it, speaking on the condition of anonymity, "We are the ones that actually suffer from all of these diseases. We are the ones that need this research. But we cannot do it. We do not have the facilities. We do not have the resources. And now, with all these DURC worries, our people cannot get into your laboratories to work by your side [in the United States or Europe] for security reasons. This whole DURC issue is simply holding us back, whether that is the intention or not."

Noticeably quiet at the three-day conference were the representatives from large developing countries such as Brazil, China, India, and South Africa. And when any of them did speak up, it was to emphasize their concerns about who would hold the patents on products made with dual-use research, to insist on the need for technology transfer, or to mouth platitudes about how their countries' researchers already operated under strict scrutiny. The Chinese delegates, in particular, were adamant: all necessary provisions to ensure biological safety, they assured the gathering, are in place in their country. Two months after the meeting, a team of scientists at China's National Avian Influenza Reference Laboratory at the Harbin Veterinary Research

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Environmental Commodities Markets and Emissions Trading

Towards a Low-Carbon Future

By **Blas Luis Pérez Henríquez**

Market-based solutions to environmental problems offer great promise, but require complex public policies that take into account the many institutional factors necessary for the market to work and that guard against the social forces that can derail good public policies. Using insights about markets from the new institutional economics, this book sheds light on the institutional history of the emissions trading concept as it has evolved across different contexts. It makes accessible the policy design and practical implementation aspects of a key tool for fighting climate change: emissions trading systems (ETS) for environmental control.

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Institute used GOF techniques to manufacture 127 forms of the influenza virus, all based on H5N1, combined with genetic attributes found in dozens of other types of flu. The Chinese team had taken the work of Fouchier and Kawaoka and built on it many times over, adding some synthetic biological spins to the work. And five of their man-made superflu strains proved capable of spreading through the air between guinea pigs, killing them.

Less than a decade ago, the international virology community went into an uproar when U.S. scientists contemplated inserting a gene into stockpiled smallpox viruses that would have made solutions containing the virus turn green, for rapid identification purposes. What the U.S. researchers thought would be a smart way to track the deadly virus was deemed a "crime against humanity."

Earlier this year, in contrast, when a new type of bird flu called H7N9 emerged in China, virologists called for GOF research as a matter of public health urgency. When the virus was subjected to genetic scrutiny, both Fouchier and Kawaoka declared it dangerous, noting that the very genetic changes they had made to H5N1 were already present in the H7N9 strain. In August, Fouchier's group published the results of experiments that showed that the H7N9 virus could infect ferrets and spread through the air from one animal to another. And Fouchier, Kawaoka, and 20 other virologists called for an extensive series of GOF experiments on the H7N9 virus, allowing genetic modifications sufficient to turn the bird flu into a clear human-to-human transmissible pathogen so as to better prepare for countering it.

As health research authorities in the relevant countries mull the scientists' request to manipulate the H7N9 virus, other microbes offer up mysteries that might be resolved using GOF techniques. The Middle East respiratory syndrome, or MERS, appeared seemingly out of nowhere in June 2012 in Saudi Arabia, and by September 2013, it had infected 132 people, killing almost half of them. Although the virus is similar to SARS, much about the disease and its origins is unknown. There were numerous cases of apparent human-to-human transmission of MERS, especially within hospitals, and Saudi health officials worried about the possible spread of MERS throughout the Islamic world. There is no vaccine or cure for MERS. If work to determine the transmissibility of H7N9 is to be permitted, shouldn't researchers do something similar to see what it would take to transform MERS into a casually transmitted form, likely to spread, for example, among haj pilgrims?

When HIV emerged in the early 1980s, nobody was sure just how the virus was transmitted, and many health-care workers feared that they could contract the then 99 percent lethal disease through contact with their patients. Schools all over the United States banned HIV-positive children, and most sports leagues forbade infected athletes from playing (until the NBA star Magic Johnson bravely revealed that he was infected, turning the tide against such bans). Had it been technically possible to do so, would it have been wise to deliberately alter the virus then, giving it the capacity to spread through the air or through casual contact?

WHAT NOW?

Scientists and security experts will never come to a consensus about the risks of dual-use research in synthetic biology. After all, almost 35 years after smallpox was eradicated, debates still rage over whether to destroy the last remaining samples of the virus. The benefits of synthetic biological research are difficult to assess. Its proponents believe it will transform the world as much as the ongoing revolution in information technology has, but some others are skeptical. Moving aggressively to contain the possible downsides of dual-use research could hamper scientific development. If it were to get truly seized by the issue, the U.S. government, for example, could start to weave a vast bureaucratic web of regulation and surveillance far exceeding that established elsewhere, succeeding only in setting its own national scientific efforts back while driving cutting-edge research to move abroad. Unilateral action by any government is destined to fail.

What this means is that political leaders should not wait for clarity and perfect information, nor rush to develop restrictive controls, nor rely on scientific self-regulation. Instead, they should accept that the synthetic biology revolution is here to stay, monitor it closely, and try to take appropriate actions to contain some of its most obvious risks, such as the accidental leaking or deliberate release of dangerous organisms.

The first step in this regard should be to strengthen national and global capacities for epidemiological surveillance. In the United States, such surveillance has been weakened by budget cuts and bureaucratic overstretch at the federal, state, and local levels. The Centers for Disease Control and the U.S. Department of Agriculture represent the United States' first line of defense against microbial threats to human health, plants, and livestock, but both agencies have been cut to the bone. The Centers for Disease Control's budget has been cut by 25 percent since

2010, and it recently dropped by a further five percent thanks to sequestration, with the cuts including funding that supported 50,000 state, territorial, city, and county public health officers. It should be a no-brainer for Congress to restore that funding and other support for the nation's public health army.

At the same time, the Centers for Disease Control and the Department of Agriculture must become better at what they do. In the coming age of novel microbes, focusing attention on a small list of special pathogens and toxins, such as the Ebola virus, anthrax, and botulinum, offers a false sense of security. Even the recent suggestion that H5N1 be added to the National Select Agent Registry, which keeps track of potentially dangerous biological agents and toxins, seems beside the point: a simple, ubiquitous microbe such as *E. coli*, a bacterium that resides in the guts of every human being, can now be transformed into a killer germ capable of wreaking far more havoc than anything on that registry.

Solving the puzzle of just what to watch for now and how to spot it will require cooperative thinking across national and professional boundaries. Within the United States, leaders of organizations such as the Centers for Disease Control, the FBI, the Department of Health and Human Services, the Department of Defense, and the intelligence agencies will need to collaborate and pool their information and expertise. And internationally, multilateral groups such as the WHO and its food and agriculture counterparts will need to work with agencies and institutions such as Interpol, the Association of Southeast Asian Nations, the Pan American Health Organization, and the African Union.

The Biological Weapons Convention process can serve as a multilateral basis for DURC-related dialogue. It offers a neutral platform accessible to nearly every government in the world. But that process is weak at present, unable to provide verification akin to that ensured by its nuclear and chemical weapons counterparts. Given their own problems, in fact, international institutions are currently ill equipped to handle the dual-use research issue. Grappling with severe budget constraints for the third year in a row, the WHO, for example, has shrunk in size and influence, and its epidemiological identification-and-response capacity has been particularly devastated.

It is in the United States' own interests, as well as those of other countries, to have a thriving global epidemiological response capability housed within the WHO, acting under the provisions of the International Health Regulations. U.S. disease sleuths may not be welcome

everywhere in the world, but WHO representatives, at least in principle, are allowed inside nearly every country. Congress should therefore appropriate $100 million a year for five years for direct support of the WHO's epidemiological surveillance-and-response system. To make sure U.S. underwriting doesn't become a meaningless crutch, Washington could make it clear to the WHO's World Health Assembly that some of that American support should be directed toward building indigenous epidemiological surveillance capabilities in developing countries, in order to bring them into compliance with the International Health Regulations. If U.S. legislators feared that such support for the WHO would morph into a multiyear entitlement program, they could have Washington's financing commitment start in 2014 and gradually decrease to zero by 2019, as other donor countries added their own assistance and recipient countries reached sustainable self-reliance. Congress should also continue the U.S. Agency for International Development's PREDICT Project, which is tasked with identifying new disease threats and to date has trained 1,500 people worldwide and discovered 200 previously unknown viruses.

Any global surveillance effort will require harmonized standards. At present, however, there are no agreed-on biosafety laboratory standards or definitions of various aspects of biosecurity, GOF research, or even DURC. So key U.S. agencies need to work closely with their foreign counterparts to hash out such standards and definitions and promulgate them. A model for emulation here might be the Codex Alimentarius, established by the UN Food and Agriculture Organization and the WHO in 1963 to standardize all food-safety guidelines worldwide.

In an era when e-mailed gene sequences have rendered test-tube transport obsolete, the proper boundaries of export and its control are increasingly difficult to define. At the core of the dual-use research problem is information, rather than microbes, and overregulating the flow of information risks stifling science and crippling international collaborative research. To deal with this problem, the U.S. Department of Commerce, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, and the Office of the U.S. Trade Representative must create a regulatory framework appropriate to dual-use research. Here, a model for regulation might draw from the experiences of the International Plant Protection Convention and the Animal and Plant Health Inspection Service's engagement through the U.S. Trade Representative's Office of Services and Investment. For

Internet traffic in genomes, many nucleotide distribution centers already monitor "sequences of concern," demanding special information on individuals seeking pathogen-related genetic details. This approach should be embraced by governments.

So what should governments and institutions be on the lookout for? Evidence of the covert deliberate alteration of a life form that turns a creature into a more dangerous entity. If governments permitted or supported such research, they would be accused of violating the Biological Weapons Convention. The United States is by far the largest funder of basic science and the world's powerhouse of biological research, and so it would be at the greatest risk of being the target of such accusations. But sunlight is a good disinfectant, and it is legitimate to ask for any such research to be explained and defended openly. The State Department, in concert with the Department of Health and Human Services' Office of Global Affairs, should develop briefing materials for diplomatic personnel, explaining synthetic biology, GOF work, and DURC and thus balancing the United States' image as the foremost center of biomedical research against concerns about the creation of man-made pathogens. The State Department should promote cooperation on detecting and controlling DURC and on managing the shared global risk of the inappropriate release of synthetic pathogens; it should also support assistance programs aimed at hardening the safety of labs and monitoring them worldwide.

Scientists and security experts will never come to a consensus about the risks of dual-use research in synthetic biology.

The tracking of novel DNA and life forms should be implemented on a voluntary or mandatory basis immediately. Private biotechnology companies and distributors of DNA components should assign biosecurity tags to all their man-made products. The trade in genomic sequences should be transparent and traceable, featuring nucleotide tags that can be monitored. The genomic industry should self-finance the necessary monitoring and enforcement of standards of practice and permit unrestricted government inspections in the event of breakdowns in biosafety or lab security.

Last year, Friends of the Earth, the International Center for Technology Assessment, and the ETC Group jointly issued a report called *The Principles for the Oversight of Synthetic Biology,* which called for the

insertion of suicide genes in man-made and GOF-altered organisms—sequences that can be activated through simple changes in the organisms' environs, terminating their function. Although such suicide signals may be technically difficult to implement at this time, dual-use research should strive to include this feature. The three organizations have also called on industry to carry damage and liability insurance covering all synthetic biological research and products, a seemingly obvious and wise precaution. The BioBricks Foundation, meanwhile, is the loudest proponent of synthetic biology today, proclaiming its mission as being "to ensure that the engineering of biology is conducted in an open and ethical manner to benefit all people and the planet. . . . We envision synthetic biology as a force for good in the world." Such ethics-based scientific organizations can drive awareness of the field and its problems and increase sensitivity among researchers to legitimate public concerns, and so their activities should be encouraged and expanded.

The controversies and concerns surrounding dual-use research in synthetic biology have arisen in less than four years, starting from the moment in 2010 when Venter announced his team's creation of a new life form described as "the first self-replicating species on the planet whose parent is a computer." Before Venter's group raced down such a godlike path, it went to the Obama White House, briefing officials on a range of policy and ethical issues the project raised. For a while, the administration considered classifying the effort, worrying that it might spawn grave dangers. Instead, much to Venter's delight, the White House opted for full transparency and publication. "Perhaps it's a giant philosophical change in how we view life," Venter said with a shrug at a Washington press conference. He wasn't sure. But he did feel confident that what he called "a very powerful set of tools" would lead to flu vaccines manufactured overnight, possibly a vaccine for the AIDS virus, and maybe microbes that consume carbon dioxide and emit a safe energy alternative to fossil fuels. Now that synthetic biology is here to stay, the challenge is how to ensure that future generations see its emergence as more boon than bane.

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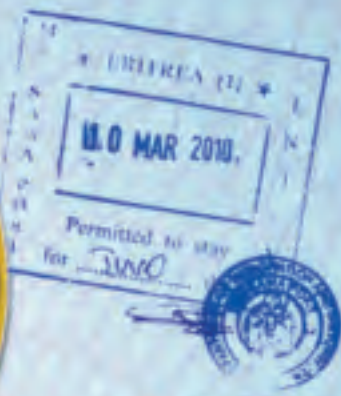

Keeping Science in the Right Hands

Policing the New Biological Frontier

Ronald K. Noble

Ongoing research and discoveries in the life sciences—the latest and most promising involving synthetic biology—have led to extraordinary advances that will benefit society. But criminals and terrorists could manipulate such advances to disrupt public safety and national security. Since its founding in 1923, Interpol has learned that the most effective way to keep up with a constantly changing world is by engaging law enforcement and consulting experts in its 190 member countries. Effective solutions to new global security threats require the exchange of information and intelligence. As the methods criminals employ have developed, so, too, has Interpol's capacity for deploying new strategies and offering assistance to stop them.

To reduce the risks associated with the potential abuse of scientific developments, researchers and the policymakers in national governments and international entities responsible for the oversight of such research have to understand how criminals could use these emerging technologies. Through innovations in the field of synthetic biology, scientists can now design and engineer new biological parts, devices, and systems and redesign existing ones for other purposes. But there is always the possibility that a person with malicious intentions could co-opt those same innovations, which carry no inherent danger, and use them to cause harm. In response, Interpol has developed strategies to assist law enforcement and experts in the health and scientific communities in confronting this threat and raise awareness of the stakes of criminal exploitation.

RONALD K. NOBLE is Secretary General of Interpol.

As the world's largest international police organization, Interpol knows from its past experience in combating cybercrime, the trafficking of illicit goods, maritime piracy, and other criminal activities that a strategy in one country is not necessarily right for another. Some countries have more advanced law enforcement methods and agencies; others have little or no synthetic biological activities to even regulate. Still, law enforcement officials around the world should learn how to gauge future threats and how to mitigate them and prepare for the consequences of a biological attack in a neighboring country or their entire region. A global policing strategy for dealing with synthetic biology should spread awareness of the potential threats but must not impede further scientific discovery.

A HISTORICAL PERSPECTIVE

The cutting-edge research field of synthetic biology combines elements of multiple scientific and engineering disciplines. It relies on chemically synthesized DNA to construct new biochemical production systems or organisms with novel or enhanced characteristics. Such innovations follow a half century of discovery that greatly expanded the knowledge of biological systems. Tremendous benefits have come from such research, such as more effective antibiotics. In 1953, James Watson and Francis Crick found that the building blocks of life are configured in a double-helix structure, a discovery that enabled scientists to gain a better grasp of biology at its most basic level. New techniques and better technologies have since been developed that allow scientists to understand how genes, or groups of DNA, function, interact, and control biological mechanisms.

Another innovation emerged in the 1970s, with genetic engineering, which made possible the manipulation and rearrangement of fragments of DNA from one or several organisms to produce new organisms with altered or new functions. In the middle of that decade, Paul Berg, a Nobel laureate, recognized and raised concerns about the potential safety of and ethical issues related to such scientific advancements. In 1975, he organized the Asilomar Conference on Recombinant DNA Molecules, which developed voluntary guidelines on implementing safety precautions for genetic engineering research, focusing primarily on the containment of research facilities.

The next big step in biotechnology took place between 1990 and 2003. At a cost of $2.7 billion, the United States funded and led the

international Human Genome Project, which produced a database containing approximately three billion letters—essentially the entire genomic sequence of one human being. Such a groundbreaking discovery has aided the treatment of many diseases; scientists have since identified more than 1,800 disease-related genes and developed more than 2,000 diagnostic tests and nearly 350 biotechnology-related products. DNA sequencing and improvements in the technology used to synthesize genes offer unprecedented scientific opportunities. Scientists have been able to artificially produce the genomes for diseases such as polio and the extinct 1918 Spanish flu, which killed an estimated 50 million people worldwide, allowing them to develop better vaccines to prevent future pandemics.

RISK REALIZATION

Increasingly rapid progress, however, can create new risks. The scientific benefits of synthetic biology and associated technological advancements have the potential for exploitation because of their "dual use"—a term that refers to the way in which scientific material, procedures, and knowledge gained from beneficial research can be misappropriated for harmful purposes. Nuclear material, for example, can be used to generate electricity, but it can also be made into weapons of mass destruction. Synthetic biology can help produce better medicines and cleaner manufacturing processes, but in criminal hands, it could also be used to intentionally modify an existing disease or create a novel, highly pathogenic biological agent.

In 2006, journalists from *The Guardian* ordered a small segment of the smallpox genome, which was modified to ensure its harmlessness, from a DNA synthesis company. At the time, the company did not realize what was being ordered and so did not ensure that the customer had a legitimate purpose for ordering the sequence; it shipped the material to a post office box for a little over $60, including postage. The reporting exercise revealed a gaping vulnerability. Policies and regulations simply cannot keep pace with scientific research and development, especially the risks associated with the potential dual use of synthetic biology and the resulting threats to national security. Terrorist and other criminal organizations around the world could benefit from this emerging vulnerability in order to perpetrate their malicious activities.

In addition, during the last few years, biological agents have increasingly been used in nefarious ways by individuals who did not belong to any specific terrorist or criminal organization. This worrying trend collides with the emerging concept of "do-it-yourself biology," or DIYbio, an "open science" movement whose proponents believe that scientific innovation, technology, and research should be available to all inquiring minds, be they amateurs or professionals, inside or outside traditional research laboratories. Although DIYbio's cross-disciplinary practitioners, including citizen scientists such as amateur bioengineers and biologists, have developed an operating principle of "no pathogens and no bioweapons," this new context of scientific research and development could lead to an infinite variety of potential dual-use biotechnologies that could eventually be misused.

A global policing strategy for dealing with synthetic biology should expand awareness of the potential threats but must not impede scientific discovery.

Fortunately, scientists at the forefront of the advances in synthetic biology are also helping lead the movement for its regulation. In 2009, the International Association Synthetic Biology and the International Gene Synthesis Consortium organized the first international scientific effort to address the potential risks. They created independent codes of conduct based on customer screening, gene-sequence screening, careful record keeping, and points of contact with law enforcement. The codes of conduct call for members to assess the risks posed by each new gene sequence manufactured, including by examining new sequencing data in the context of existing genetic databases and evaluating the national laws governing genes' manufacture and distribution. Vendors must also vet potential buyers of gene sequences and the nature of the orders themselves. Suspicious orders are referred to as "hits." This initiative encourages the industry to regulate itself and engage with other stakeholders in order to sustain the synthetic biology industry. It also highlights the need for law enforcement and the scientific community to work together to develop reporting mechanisms and mitigation strategies to prevent the misuse of biological material, technology, and expertise without restricting scientific progress.

The U.S. Department of Health and Human Services adopted these codes of conduct itself, implementing them on a national level in October 2010, at which time it issued customer- and sequence-screening guidelines for the sale of synthetic genes. If vendors become suspicious of an unusual order, they can contact the relevant law enforcement entity, such as the FBI's local weapons of mass destruction coordinator. The moment a vendor contacts the FBI, someone can speak directly with a specialist who understands the science and the risks involved. So far, this alerting system has proved effective.

AN INTEGRATED RESPONSE

Interpol, meanwhile, is not new to the world of biological threats. Back in March 2005, it recognized that "there is no criminal threat with greater potential danger to all countries, regions and people in the world than the threat of bio-terrorism. And there is no crime area where the police generally have as little training as they do as in preventing or responding to bio-terrorist attacks." This crucial lack of preparedness prompted Interpol's creation of a capacity-building initiative, the Bioterrorism Prevention Program. This program has assisted almost all of Interpol's member countries by raising awareness of biological threats and improving response capabilities and methodologies. Hundreds of law enforcement officials all over the world have participated in regional workshops, training courses, and exercises organized by the program to implement these efforts.

In 2010, Interpol established the CBRNE Terrorism Prevention Program ("CBRNE" stands for "chemical, biological, radiological, nuclear, and explosives"). To combat relevant threats, the program's BioTerrorism Prevention Unit (BTPU) has developed a comprehensive strategy that consists of three main pillars. First, it analyzes intelligence and evaluates risks and threats in collaboration with law enforcement agencies and experts. Daily assessments of data gathered from open sources in the media, from member countries, and from such activities as conferences and publications contribute to the monthly *INTERPOL CBRNE Intelligence Report*. The BTPU supplies commentary and analysis based on available data and conducts further research with other key national bodies and international organizations. It produces a bulletin that provides Interpol's member countries with a concise summary of the current global biological risks and threats.

Second, the BTPU focuses on the illegal acquisition, possession, development, and use of biological materials. It develops training programs and guidance documents for law enforcement officers, scientists, policymakers, regulators, and members of the private sector, including its *Laboratory Security Manual* and its *Incident Response Guide*. Through the unit, Interpol provides support, holds meetings, and organizes training to bolster regional and national biosecurity efforts. The BTPU also supports international agreements, such as the Biological Weapons Convention and UN Security Council Resolution 1540—which requires countries to secure their nuclear, chemical, and biological weapons—that are designed to prevent the illegitimate and nefarious use of biological material, technology, and expertise.

Scientists at the forefront of the advances in synthetic biology have also helped lead the movement for its regulation.

Finally, the BTPU supports ongoing international investigations and other operations to detect, deter, and disrupt the illegitimate use of pathogens and toxins. It also provides operational support to Interpol's international partners by helping establish procedures for dealing with new technologies, disease surveillance, amateur biology, and criminal or epidemiological investigations. In 2014, the BTPU will start focusing its efforts on a new initiative called Operation S^{3}oMMET (Safe, Secure Surveillance of Microbiological Material and Emerging Technologies), a collaboration among Interpol, the International Federation of Biosafety Associations, and Connecting Organizations for Regional Disease Surveillance.

The key to reducing the risks associated with synthetic biology, Interpol believes, is to encourage governments, academia, health professionals, and law enforcement agencies to work together and understand the implications of the misuse of such advances in science and how to prevent it. To achieve that goal, six multidisciplinary workshops coordinated by Interpol in 2014, in Africa, the Middle East, the Asia-Pacific region, eastern Europe, South America, and East Asia, will bring together law enforcement officials, academics, biosecurity professionals, scientists, and health professionals. The workshops will address such current issues as laboratory safety and security but also teach participants how to tackle future threats, for example through

the development of national disease surveillance strategies, and how to take further steps to reduce the risks associated with synthetic biology.

A GLOBAL RESPONSIBILITY

The misuse of synthetic biology and similar pioneering scientific technologies represents a multidimensional global threat that is becoming tomorrow's reality. Therefore, it requires a coordinated international response. Interpol is playing a vital role in meeting this threat through its commitment to supporting law enforcement authorities around the world. But law enforcement is far from the only factor in this equation. The development of partnerships among all the relevant disciplines, especially between the scientific and research community and public health entities, is essential for a more efficient prevention-and-response strategy.

But science still must proceed unhindered. If biological research and the development of new scientific techniques are not allowed to progress, the very fabric of human existence could be affected. Diseases will continue to mutate, and without robust scientific research to produce better vaccines, human health could be endangered. Therefore, all nations should safeguard their sciences and ensure that future scientific developments generate significant advances for the good of all.

Brazil Revisited

During the boom years, Brazil was often saved from making difficult decisions. Asian demand for commodities buoyed its external accounts, while domestic credit growth and a strong exchange rate saw import demand explode, especially for consumer goods.

But now the country is facing stagnant GDP growth—only 1 percent in 2012—as the engines that powered Brazil's ascendance in the last decade are scrambling for new sources of fuel.

Inflation had also been on the rise, and in June mass protests about poor public services and corruption ravaged President Dilma Rousseff's popularity. Investors are starting to turn to other successful markets in Latin America, such as Mexico and Colombia. With less room to maneuver, and a currency that has depreciated by 25 per cent from its peak, some say the government may need to take a back-to-basics approach. Investors say the government needs to provide a "credibility shock" to boost confidence.

As Alexandre Bertoldi, Senior Partner at Pinheiro Neto, one of the leading law firms in Brazil says, "Brazil has been on the right track a few times, but we always find a way to move backward and end up losing good opportunities when we are almost there. What is needed in Brazil is medium and long-term vision, not short-term planning that is dictated by electoral needs and does not prioritize much-needed basic reforms. Stability, when it comes to investment policies, is the key to investor confidence, especially in today's world. There is also excessive government intervention in some areas where the state should not interfere."

The government is focusing on boosting investment to drive the economy, after the consumption spree of the past decade. Brazil invests only 18 per cent of its GDP, compared to a regional average of 24 per cent.

Recent signs of this investment drive are airport privatizations, the auctioning of oil blocks and, most particularly, a massive infrastructure program to build new roads and railways via concessions. Brazil's government recently unveiled a promising agenda aimed at promoting a healthier business environment cutting payroll taxes for manufacturers and electricity tariffs, and rolling out a plan for privatizing infrastructure. While Brazil awaits the long-term results of these new policies, businesses are forced to operate under much less favorable circumstances-namely, the combination of red tape, heavy taxes, expensive credit and creaking infrastructure known as "custo Brasil."

One clear sign of a return to orthodoxy is that the central bank has cracked down on inflation, which is currently near the top of the target's 6.5 per cent ceiling, by increasing interest rates.

Another uncertainty is the temptation to loosen government spending before next year's election in October especially as the slide in Rousseff's approval ratings means she no longer looks to be the clear winner she seemed only a few months ago.

INNOVATION AND ECONOMIC GROWTH

The case studies of Contax and Fibria

Over the last decade, emerging economies have become productive sources for creativity and disruptive business , and the innovation revolution is alive both among start-ups and among the 21,500 multinationals currently located in emerging economies. While this is encouraging news, Latin America still has a poor record of productivity growth, mostly due to a large informal economy, heavy regulation, and poor urban planning. The region is also uncomfortably dependent on commodities. Latin American firms invest only 0.5% of gross revenues in research and development. Venture capital and private equity investments represent less than 2 percent of the global total.

However, important governmental and private-sector initiatives in Brazil and throughout Latin America are sprouting up, creating fresh opportunities to incubate the next generation of innovators and entrepreneurs. This has the potential not only to benefit the region's economic development but also to create new markets and expand global commerce.

Innovation and entrepreneurship have helped Brazil diversify beyond commodity and agricultural sectors to become a dominant economic power. Despite the famous "Brazil cost," the country's competitive advantages have led to growth in biotech, telecom, and high-tech manufacturing. But to stay in the game, companies must jumpstart their investment in R&D and policymakers must foster a mindset of innovation.

A good example of innovation is Contax: Latin America's largest consumer-relationship company, with operations in four countries, Brazil, Argentina, Colombia and Peru, in addition to its commercial presence in Chile, Spain and the United States, Contax Group has developed service lines for the entire relationship chain through remote and on-site solutions offering customized solutions to its clients in accordance with the needs of their businesses and seeking to understand their consumers in an integrated, multichannel manner. They provide services such as customer acquisition and support, expansion of relationships through new sales, debt collection, and nurturing of customers through retention and loyalty strategies, for which Contax relies on dedicated companies specializing in the creation of customized innovative solutions.

As Carlos Zanvettor, President of Contax Group points out "Innovation and technology are of fundamental importance for Contax's market leadership position. Of paramount significance is, how to apply this acquired technology, anticipate consumer demand, and remain a leader in this

very dynamic and competitive market. The contact center sector has evolved from primarily single-facility, low-technology environments to large, full-service organizations with multi-channel, large-volume contact centers that use sophisticated technology platforms to support such activities. Besides experiencing new challenges and expanding its know-how, each new phase undertaken has enabled Contax Group to get to know and better reach its customers in a broader manner, understanding and anticipating the changes in the market in which it operates. We keep a close eye on issues such as, new consumer behavior patterns, sustainable and conscious consumption, etc. You have to remain sensitive in a country like Brazil, with two hundred million people, with eighty million people of whom are economically active, and in most of Latin America, where the social pyramid and consumption patters are similar and more and more demanding."

CARLOS ZANVETTOR,
President of Contax

MARCELO CASTELLI,
CEO of Fibria

Fibria is another example of an innovative company: Fibria is the world's largest producer of market pulp according to Hawkins Wright and PPPC. Their leadership is based on the sustainability of their forest operations (as a result of the shorter harvest cycle in Brazil as compared to other relevant countries), state-of-the-art technology, high productivity and a strong customer base. As President Marcelo Castelli says, "Significant advances were made in the past few years by Fibria in the fields of genetic enhancement, soil and nutrient management, forest protection and environmental sustainability technologies."

Innovation and technology are of fundamental importance for Fibria's market leadership position, not only in terms of production volumes but also in the quality of its products and services. In the contact center and CRM sector, it is one of the companies that invests most in research, development and innovation: in 2012, it earmarked around 42 million real for technology projects (8 percent more than in 2011), at the most advanced stages in the forestry and pulp-production areas.

Sustainability is also part of their DNA. As President of Fibria, Marcelo Castelli points out, "Sustainability and social responsibility are part of our core values. We are a company operating in a developing country that is known as one of the most unequal countries in the world. The vast slums that shape its city landscapes have become almost emblematic of a deep poverty and ingrained inequality that contradicts Brazil's ambitions of growth and modernity. We are present in more than two hundred and fifty municipalities, where we maintain our forests with the most advanced technology and live side-by-side with communities with the lowest human development indices."

FRANCO BERNABÈ,
CEO of Telecom Italia

A PROMISING SECTOR: TELECOM

Fresh, competitive challenges, innovative technologies, and evolving business models are all putting pressure on telecom players to closely scrutinize their commercial strategies. Mega-investor George Soros and a group of international investors are investing in a new telecommunications firm in Brazil as they seek to tap into pent-up demand for high-speed Internet services. Soros, via Soros Funds Management LLC, together with businessmen Zaki Rakib and Fares Nasser, are planning to invest as much as 500 million Brazilian real (218 million USD) in a start-up telecommunications company firm providing high-speed wireless Internet access. The firm, operating under the brand name On Telecom, will be going up against Brazil's telecommunications giants, including Telefônica Brasil SA, TIM Participações SA. and the mobile phone firm Claro, of Mexico's América Móvil SAB. The newcomer is betting that it can offer a better quality of service than the existing operators. Telecom firms are often at the top of the list in terms of consumer complaints, and the government has been trying to secure quality improvements from operators. "A competition shock is fundamental for the industry," said the country's telecommunicationsm, Paulo Bernardo, who attended the On Telecom launch.

Franco Bernabè, CEO of Telecom Itália, said when talking about their investments in the Brazilian Telecommunications sector, "I believe that the major engine of the telecom industry in Brazil has been the Government social inclusion program. Thousands of people crossed the poverty line and the first thing they demand is to be able to communicate. The Government's efforts to stimulate social inclusion do not only attend political questions but is also of great benefit to our industry now that more and more people have the opportunity to invest in telecommunications. "TIM Brasil is telecom Italia's mobile phone brand in Brazil . The Company started its operations in Brazil in 1998 and was consolidated as a national company as in 2002, becoming the first mobile operator to exist in all Brazilian states.

Accepting Austerity

The Right Way to Cut Defense

Cindy Williams

On March 1, 2013, the U.S. Department of Defense lost $37 billion overnight to sequestration. The cut marked the first wave of a series of planned cutbacks that will shrink future budgets across the federal government by about $1 trillion over nine years. The reductions had been set in motion back in 2011, when a special "super committee" established by the Budget Control Act (BCA) failed to reach a deficit-reduction agreement, triggering automatic cuts designed to punish both parties. Unlike other budget cuts, sequestration is implemented across the board, taking the same percentage bite out of every account. Except for the decision to spare the military personnel account that provides the pay for the United States' men and women in uniform, defense leaders had no choice about where to take the 2013 cuts. And so, with just seven months left in the fiscal year, sequestration abruptly erased about eight percent of the the Pentagon's budget for the year.

Not surprisingly, sequestration has infuriated defense officials. On August 1, 2013, with the start of the 2014 fiscal year just two months away, Ashton Carter, the deputy secretary of defense, and James Winnefeld, the vice chairman of the Joint Chiefs of Staff, testified that another year of sequestration would bring chaos, waste, and lasting disruption.

It didn't have to be this way. President Barack Obama signed the BCA in August 2011. By the end of the year, the super committee established to craft a fiscal bargain that would replace the nine-year automatic budget cuts embedded in the bill had crashed and burned, triggering the nine-year budget cuts that began with the March 2013 sequestration. So the White House and the Department of Defense have had two years to develop a national security strategy consistent

CINDY WILLIAMS is a Principal Research Scientist of the Security Studies Program at the Massachusetts Institute of Technology.

with the new budget limits, design forces and programs to match that strategy, point the Pentagon down a somewhat less abrupt budgetary glide path, and institute measures to smooth the downsizing. Instead of doing any of these things, the Obama administration and the Department of Defense have played a protracted game of chicken with Congress. All that time was wasted.

What's worse, officials seem to have learned nothing from their failures. Instead of crafting their own coherent plan to absorb the required cuts, they will again sit by and let the arbitrary sequestration machine make their decisions for them. For 2014, the BCA requires a reduced defense budget, but it allows policymakers to choose what to cut; it does not demand that every defense account be cut by the same percentage through sequestration. Rather, it calls for sequestering only the part of the appropriated defense budget that exceeds the BCA's cap. If the Pentagon had submitted a budget consistent with that limit, and if Congress had appropriated that amount, there would be no sequestration for 2014. But defense officials chose not to comply with the cap, and Congress, as of September 2013, looks poised to appropriate more than its own budget-control law allows. If that happens, the Pentagon will be in for a second round of mechanical cuts.

Still, defense leaders naively dream that the president and Congress can find an alternative. In the summer of 2013, the Pentagon finally unveiled the findings of its Strategic Choices and Management Review (SCMR), which considered how it might deal with a smaller budget. But as Carter's accompanying testimony revealed, the department, rather than embrace a smaller budget, continues to act as though it can avert the cuts entirely, or at least delay them, if it just explains how disruptive they will be. "We hope we will never have to make the most difficult choices that would be required if the sequestration-level budgetary caps persist," Carter said. "Strategic cuts are only possible if they are 'back-loaded,'" he added—in other words, put off for years.

But the BCA is not going away. Cutting defense may be nobody's first choice for dealing with the government's fiscal problems, but it is also no politician's last choice. As much as Republicans hate military cuts, they hate raising taxes even more. And as much as Democrats don't want to look stingy with security, they are even more afraid to skimp on Social Security or Medicare. Moreover, the political costs of keeping the BCA in place are low: since the law is already on the books, no politician has to vote again for the cuts.

Add fiscal considerations to those political realities, and the chances of turning back the clock on the BCA look even slimmer: with the exception of a few years during and after World War II, U.S. federal debt now composes a larger share of the economy than ever before. Given that reality, even if the law were ultimately overturned, any grand bargain between Republicans and Democrats would surely include defense cuts at least as large as those the Pentagon now faces.

American defense planners therefore need to accept the obvious: budget cuts are here to stay. The time to plan for cutbacks and start reshaping the military was two years ago, when the writing was already on the wall. Since that never happened, the government must catch up fast. Congress, for its part, should allow the Pentagon to control its mounting personnel costs. The Pentagon and the White House, meanwhile, should come up with a national security strategy that the country can actually afford, reshaping U.S. forces to reflect that strategy and preserve the best military in the world.

PERSONNEL DEVELOPMENT

For the 2014 fiscal year, the BCA reduces the nonwar defense budget by about ten percent compared with the plan the president submitted to Congress in April 2013—returning it, in real terms, close to its 2007 level and holding it about there until 2021. But the Pentagon cannot buy the forces it had in 2007 with the budget it had in 2007, because several categories of spending are growing faster than inflation. Prominent among these are military health care and military and civilian pay—massive costs that the government must start getting under control now.

Between 1998 and 2013, military pay rose by more than 60 percent in real terms. The pay of the nearly 800,000 civilian workers employed by the Department of Defense rose by nearly as much. During that same period, the costs of health care for military personnel and retirees and their families and survivors more than doubled in real terms. Absent policy changes, those costs will continue to outstrip inflation by wide margins over the coming decade. Pay and medical costs will take increasingly big bites out of military capability.

Initially, the Pentagon supported the rise in pay as a way to improve recruiting and retention, which it had difficulty with in the late 1990s. The military also worried that its raises had underperformed the private sector's for about 15 years. Consistent with those concerns, Congress

required that annual pay raises for military personnel and federal civilian employees exceed wage growth in the private sector until 2006.

By 2007, annual increases in pay and allowances had more than made up for the relatively lower raises of earlier years, and the Pentagon began asking Congress for more modest annual raises. Under pressure from military and veterans' associations and fearful of stinting the military in a time of war, however, Congress persistently added more than the department requested. The result is that today's military officers take more home in their paychecks than eight out of ten college-educated civilians. In terms of their income, enlisted members most resemble the 90th percentile of civilians with comparable levels of education and experience.

American defense planners need to accept the obvious: budget cuts are here to stay.

The Pentagon's medical costs are also on the rise, and not just because the underlying costs of health care in the United States have grown. The Pentagon adopted its current health plan, called Tricare, in the mid-1990s. It set the fees that retirees would pay to use the system yet made no provisions for adjusting those fees as medical costs rose. As a result, the share of health-care costs borne by military retirees using the plan dropped over the years, even as the premiums and copays they would have paid through their post-military employers skyrocketed. The upshot is that most military retirees now choose Tricare, and the costs to the government show it.

Since 2006, the Defense Department has asked repeatedly for permission to raise health insurance fees on military retirees. Changing the cost-sharing arrangement would of course help defray the government's costs, but more important, it would also make the government's insurance plan less attractive to retirees who have other good health coverage options. Yet Congress, under the same pressure it has faced about pay, has turned down all but the tiniest rise in fees.

The SCMR suggested new mechanisms to get military retirees to use private-sector insurance if it is available to them, and changes like this make a lot of sense. After 15 years of expansion in their pay and benefits, service members, civilian Defense Department employees, and military retirees are financially well rewarded for their dedication and sacrifice. Moreover, with the war in Afghanistan drawing to a close and jobless rates still above seven percent in the private sector, recruiting and retention remain strong.

As long as defense budgets overall kept growing year after year, it was easy for Congress to turn down the Pentagon's requests to tap the brakes on pay and benefits. Now, however, with wars ending and budgets shrinking so abruptly, lawmakers might finally agree to the department's recommendations. Doing so would save an average of tens of billions of dollars each year over the coming decade, enough to spare three army brigades, 30 navy ships, and four air force squadrons from the chopping block.

SELECTING A STRATEGY

The White House and the Pentagon, meanwhile, need to deal with the inevitable cuts by formulating a strategy consistent with the resources the BCA provides. They last outlined a formal Defense Strategic Guidance in January 2012, which called for less emphasis on long-running stability and counterinsurgency operations in favor of greater attention to the Asia-Pacific region. Although the document laid out a somewhat less expansive global posture than had previous post–Cold War versions, it still called on the U.S. armed forces to underwrite a rules-based international order, "confront and defeat aggression anywhere in the world," and broaden already extensive military partnerships with other countries. But that strategy, as Secretary of Defense Chuck Hagel has admitted, is unaffordable under the BCA's funding levels.

What strategy does prove affordable will depend in part on what happens to pay and benefits. The U.S. Army and the Marine Corps already plan to cut most of the troops they added for the wars in Afghanistan and Iraq. If Congress allows a slowdown in pay raises and accepts the Pentagon's proposals to rein in the costs of military health care, then the military might need to jettison another 10 or 15 percent of its planned forces to stay within the BCA's budget limits. With forces that size, the United States might just be able to carry out a less ambitious version of the strategy of rebalancing toward Asia that officials articulated in January 2012.

If, on the other hand, Congress continues to prevent the pay and benefits changes the Pentagon wants, then the military will have to shrink after only a few years of the BCA's limits by as much as 25 percent from the size it now hopes to retain. At that level, a far more restrained strategy will be needed: one that gives up on trying to reform the rest of the world's governments in favor of protecting a narrower range

Strategic reserve: a member of the U.S. National Guard training in Georgia, April 2013

of U.S. national security interests, including the country's safety, sovereignty, territorial integrity, and relative power position. Restraint would mean going to war only when narrowly defined security interests were at stake and having allies provide for more of their own security. This strategy may not be the one Obama officials prefer, but it is the strategy that will be forced on them unless they can come to an agreement with Congress to avert the mandatory cuts.

REBALANCING ACT

Once the government agrees on what strategy the country will pursue, it will need to reshape the military to reflect it. Defense planners will face crucial choices about what to jettison, what to keep, and where to add. Resource constraints will force tradeoffs among the armed services, between active and reserve forces, and among force structure, modernization, and readiness.

If the White House and the Department of Defense really want the United States to focus more on the Asia-Pacific region, as they claim to, then it makes sense to shift resources toward maritime forces. Wars in that region are more likely to be fought at sea than on land. Moreover, if the United States is planning to avoid future stability and counterinsurgency operations, like those in Afghanistan and Iraq, which require

large numbers of boots on the ground over multiple rotations, then the military will need considerably fewer ground forces. Hagel suggested as much when he reported on the SCMR in July 2013.

Yet Hagel may find it difficult to deliver on that recommendation. At least since the 1970s, the Department of Defense has allocated budgets among the armed services according to the same formula every year, with the shares of the budget awarded to the army, the navy, the air force, and the Marine Corps rarely varying by more than one percent from year to year. Changing the mix of forces will be politically daunting. Others have tried and failed. In 2001, for example, Secretary of Defense Donald Rumsfeld launched a major internal review of the Pentagon's strategy. After rumors swirled that he wanted to cut ground forces to free up money for airpower, space systems, and missile defense, the army and key members of Congress balked. In a letter to Rumsfeld, 82 members of Congress warned him not to cut the size of the army. The services' budget shares did not move.

But given the coming cuts and the country's stated grand strategy, policymakers will have to overcome their aversion to a smaller army. If, on the other hand, the Pentagon continues to allocate money according to the same formula as before, it will have a hard time convincing Americans that it really intends to rebalance away from protracted ground operations and toward Asia.

As they bring the military's ground forces in line with budgetary realities, officials would also be wise to disproportionately favor the reserve component, which includes the National Guard and the Reserves. When deployed, reserve forces cost as much as active-duty ones, but in peacetime, they cost just a fraction of their full-time counterparts. And they can be just as effective. Before 2001, U.S. reserve units were generally less well equipped and less ready for their missions than their active-duty counterparts, but that changed in Afghanistan and Iraq. The army invested appreciable resources in its reserve component, outfitting it with new equipment instead of hand-me-downs from the active forces and staffing and training units for multiple deployments. As a result, today, Army National Guard and Army Reserve units are arguably better equipped and more ready to fight than at any time since World War II.

If the U.S. government is truly serious about avoiding long wars that require multiple reserve call-ups, then the reserve forces will prove a

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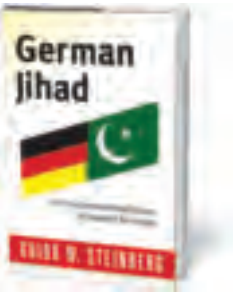

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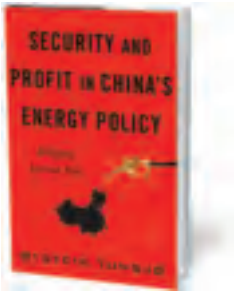

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particularly cost-effective alternative to maintaining high levels of active-duty troops. Even if their readiness drops back to pre-9/11 levels as the experience accumulated in Afghanistan and Iraq recedes, the reserve forces could still be readied for war within a year or less. And if the army ends up taking steeper budgetary cuts than the other services, then favoring reserve forces would allow the army to avoid just the kind of devastating reduction in size that its advocates so fear: if the reserve forces were kept at their current sizes, the army could retain about 150,000 more soldiers across its total force than if the reserves were cut in lockstep with the active component.

Compared with the shift toward naval forces, the politics of favoring the reserves should be easy. If the secretary of defense proposes keeping more National Guard and Reserve forces at the expense of active-duty ones, senior leaders from the active component will no doubt cry foul. But Congress is likely to side with the secretary on this one. The National Guard has powerful champions in statehouses and on Capitol Hill, and history suggests the active component will lose if it comes to a showdown. Even the air force's modest proposal last year to eliminate 5,000 positions from the Air National Guard was met with fierce resistance from its advocates; in the end, lawmakers allowed only 1,000 slots to be cut.

READY OR NOT

More generally, the Pentagon faces important tradeoffs among force structure, modernization, and readiness. In the SCMR, the Defense Department explored two options: keeping a larger total force but spending less to outfit it with new equipment or making deeper force reductions to free up more money for modernization. The first option would safeguard the force's size and presence for today's missions; the second would lead to a smaller but better-equipped military. Given the abruptness of the BCA's cuts, the best choice between these two is actually a phased approach: cut modernization disproportionately at first, while drawing the forces down to sizes that will be affordable over the long term, and then increase equipment purchases to the level needed to outfit the remaining forces. Unfortunately, the SCMR did not view readiness as an element that could be traded off deliberately against force size or modernization. Yet targeted adjustments to readiness could free up money for forces and equipment without harming the effectiveness of the military's missions.

A phased approach to force size and modernization makes good sense in today's world, where existential war is no longer imminent and the United States still enjoys vast military superiority. A two- or three-year slowdown in development and procurement would also give the services time to consider cheaper alternatives to their present modernization plans—for example, extending the life of existing equipment or choosing materiel that incorporates technologies that are already well understood.

Policymakers often associate any drop in readiness with the 1970s, when soldiers had to buy their own training shoes because the army ran out and airplanes had to be grounded for lack of maintenance crews. And they worry that curtailing readiness could mean reliving the disruptive first months of sequestration in 2013, when ships had their deployment orders canceled abruptly, fighter squadrons were grounded at the last minute, and scheduled army training sessions were called off. But keeping the entire force ready for war at a moment's notice costs money that could be better spent elsewhere, and there are good reasons to give up some near-term mission readiness in exchange for keeping more forces or building more equipment. If planned and targeted, reductions in readiness could avoid major disruptions and serve strategic purposes.

Keeping the entire force ready for war at a moment's notice costs money that could be better spent elsewhere.

In fact, the army and the navy are already quietly tinkering with their readiness. For example, the army is now planning to fully staff and equip only those units that are preparing to deploy soon, leaving those scheduled for later rotations somewhat less ready. The navy is also exploring options to "adjust the readiness of non-deployed forces," in the words of Admiral Jonathan Greenert, the chief of naval operations.

Steps such as these could free up funding for changes in force structure and modernization. And the military could go even further than it already has, undertaking additional deliberate, targeted reductions in immediate readiness. For example, the navy could move some ships into storage and convert some to reserve status. The army could sharply reduce the junior ranks in selected combat brigades, retaining key officers and enlisted personnel to train and lead brigades that could be fully manned when needed. If planned carefully, such moves would ensure a stronger and more durable military than would wholly eliminating

ships and brigades. But they will require officials to stop reflexively associating readiness cutbacks with the hollow forces of former times.

SMARTER CUTS

Whatever choices defense leaders ultimately make about force structure, modernization, and readiness, meeting the BCA's budget limits will require a sizable drawdown of military and civilian personnel. The quickest and cheapest way to cut the forces is to stop bringing in new people, and indeed, the Pentagon has enacted a near freeze on civilian hiring. In a July 2013 letter to Congress about the potential effects of a 2014 sequester, Hagel forecast the same fate for military recruiting.

But quick and cheap can create big problems later, so the military should be smart about its personnel cutbacks and spread them across the ranks. In the early days of the military's post–Cold War downsizing, the air force reduced its intake and training of new pilots by about two-thirds, only to wonder several years later why it did not have enough pilots in the middle ranks. Over the same period, the army made sharp cuts to its annual intake of young officers and later suffered from a shortage of captains. Within a decade, it found itself with too few majors. To fill the gap, in 2005 the service promoted almost every captain to major—a step ridiculed on the inside as the "no captain left behind" program—and promoted nearly 90 percent of majors to lieutenant colonel. Looser promotion standards have left, and will leave, a lasting mark on the quality of the officer corps.

The services can afford to slow recruitment disproportionately for a year or two, but if they reduce their intake for much longer, they will end up with similar problems. To avoid that fate, the Pentagon must shrink personnel at all levels of seniority. For civilian employees, this means eliminating jobs at the middle and senior levels as well as junior positions. For service members, it means the strict enforcement of up-or-out rules, coupled with discharges and voluntary buyouts.

Shedding personnel carries high costs initially: encouraging employees to leave voluntarily requires financial inducements, and involuntary discharges involve transition and unemployment costs. Military leaders rightly point out that those bills would eat into the funds needed for the force structure, modernization, and readiness they hope to protect. Nevertheless, for the sake of its long-term health, the Pentagon must accept some near-term tradeoffs. The department could, for example, further slow planned equipment purchases and curtail the readiness of

some units for a time. Because the forces must be reduced quickly to meet the BCA's targets, the personnel drawdown and the compensating cutbacks required in other areas should last for only a few years. But the benefits of cross-cohort force reductions would last for decades.

LEANER AND MEANER

The White House, the Department of Defense, and Congress face big choices in dealing with the coming budget cutbacks, and their decisions will determine the size, shape, equipment, and readiness of the military for decades to come. Already, the cuts required by the BCA have changed the military dramatically, with civilians furloughed, hiring frozen, travel budgets zeroed out, and ships stalled in port.

Yet officials still hope that a political miracle will spare the Pentagon from the budget ax. That seems unlikely. But even if the BCA is ultimately watered down, the department will face a future fiscal environment that is far tighter than the one it enjoyed for the past 15 years. The sooner it starts making tough choices, the better.

Up until now, change has been hard. For the secretary of defense and his senior staff, it's easier to put off decisions than to face down the army or push back against active-duty chiefs in the fight over budget shares. For the service chiefs, it's hard to tell midlevel and senior people who responded to their country's call that their services are no longer needed. For lawmakers, it's hard to look after the long-term health of the military as an institution when veterans' groups are sending out mass e-mails about the near-term costs of military health care.

Seven months of sequestration have demonstrated the damaging consequences of letting nature take its course. With the war in Afghanistan almost over, it's time for decision-makers to make decisions. If leaders in government continue to kick the can down the road, the country will end up with a military that shrinks visibly every year under the weight of rising personnel costs, is ready to go to war at a moment's notice but too small and wrongly designed to fight important missions, and lacks the midlevel people it needs to mentor the junior ones. Alternatively, leaders can bring personnel costs under control, get on with strategic planning, reshape the forces for future challenges in Asia, make sensible choices between active and reserve forces, tailor readiness for today's missions, and spread the necessary personnel cuts across the ranks. If they do all that, the U.S. military will emerge as a force that, while smaller than today's, remains immensely powerful.

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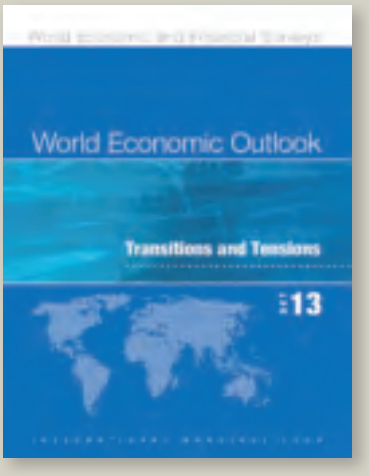

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Defense on a Diet

How Budget Crises Have Improved U.S. Strategy

Melvyn P. Leffler

The United States is now in a period of austerity, and after years of huge increases, the defense budget is set to be scaled back. Even those supporting the cuts stress the need to avoid the supposedly awful consequences of past retrenchments. "We have to remember the lessons of history," President Barack Obama said in January 2012. "We can't afford to repeat the mistakes that have been made in the past—after World War II, after Vietnam—when our military policy was left ill prepared for the future. As commander in chief, I will not let that happen again." Similarly, then Secretary of Defense Leon Panetta told Congress in October 2011, "After every major conflict—World War I, World War II, Korea, Vietnam, the fall of the Soviet Union—what happened was that we ultimately hollowed out the force. Whatever we do in confronting the challenges we face now on the fiscal side, we must not make that mistake."

Contrary to such conventional wisdom, the consequences of past U.S. defense cuts were not bad. In fact, a look at five such periods over the past century—following World War I, World War II, the Korean War, the Vietnam War, and the Cold War—shows that austerity can be useful in forcing Washington to think strategically, something it rarely does when times are flush.

THE WORLD WARS

After World War I, the United States pared back its military spending from over 17 percent of GDP in 1919 to less than two percent in 1922.

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The army was cut from roughly 3.5 million soldiers to about 146,000. And in 1922, the Five-Power Naval Limitation Treaty capped the navy's tonnage in key categories and linked the United States' construction of capital ships to those of the United Kingdom and Japan according to a 5:5:3 ratio (which changed to 10:10:7 after the London Naval Conference of 1930). The Great Depression then forced Washington to build even fewer ships than it was permitted.

Following the Japanese attack on Pearl Harbor and the United States' entry into World War II, many commentators blamed the U.S. military's lack of preparedness on the defense budget cuts of the 1920s and on Washington's seemingly naive faith in toothless arms control agreements. Generations of dispassionate scholarship, however, have painted a more accurate picture of the situation: the low level of U.S. military expenditures in the 1920s and early 1930s, viewed in the context of the times, neither compromised U.S. security nor thwarted significant technological innovation and organizational change. What left the United States unprepared for the gathering storm was a flawed threat perception and inept diplomacy in the years leading up to the war, aided and abetted by an isolationist Congress unwilling to support a more robust defense posture.

When a second global war did come, the paucity of the resources on hand actually forced U.S. policymakers to make tough but smart strategic choices. Germany's rapid conquest of France in June 1940 rendered existing U.S. military plans obsolete, and Germany's signing of the Tripartite Pact with Italy and Japan that September heightened the specter of a global totalitarian menace. Forced to improvise and prioritize, by November, the chief of naval operations, Harold Stark, came up with a strategic concept that would shape U.S. foreign policy for the next half century. After protracted wrangling among navy and army planners resulted in a series of contested war plans, Stark took the initiative and crafted his own memorandum to President Franklin Roosevelt. In it, he argued that the principal threat to U.S. security was German power. The United States could not allow Hitler to defeat the United Kingdom, assume dominance of the Atlantic, and buy time to assimilate the resources and manpower of northwestern Europe into the Nazi war machine. Preventing that outcome would have to become the top U.S. priority. At the same time, the United States would have to use diplomacy to avoid war with Japan, bolster British and Canadian

No country for old planes: decommissioned U.S. aircraft in Arizona

FLICKR / LEONARD WITZEL

military capabilities, and prepare for eventual intervention on the European continent.

The point here is less about the details of the strategy, which came to be called Plan Dog, than its genesis. In mid-1940, the United States had no strategic concept, no agreed-on war plan, and no mechanisms for effectively coordinating its military and foreign policies. Needing to make tough calls, Stark surveyed several strategic options, calculated means and ends, assessed priorities, and recommended the course of action he deemed most likely to achieve broad national security goals. His views resonated because they comported with the evolving thinking inside and outside the government about what the United States had to do to survive and prosper with its democratic institutions intact. Shortly before Stark penned his memorandum, Roosevelt warned that the United States must not become "a lone island in a world dominated by the philosophy of force. . . . Such an island represents to me . . . the nightmare of a people lodged in prison, handcuffed, hungry, and fed through the bars from day to day by the contemptuous, unpitying masters of other continents."

Of course, Plan Dog left many questions unresolved, such as how much equipment should go to allies as opposed to domestic rearmament, how Japan might be accommodated or kept at bay while Germany was

dealt with, and so forth. At the same time, the president resisted defining goals with precision, the secretary of state balked at coordinating diplomatic and military policy, and public opinion remained deeply divided until the Japanese attacked Pearl Harbor. But a combination of austerity and crisis helped forge a core strategic concept, a new threat assessment, an appreciation of the indissoluble links between interests and values, and a calibration of priorities.

PAX AMERICANA

After World War II, the basic strategic concept hammered out by Stark in 1940 persisted. In 1945, some of the nation's most eminent strategic thinkers collaborated on a Brookings Institution study on the formulation of a national security strategy. They concluded that it was essential to prevent any one power or coalition of powers from gaining control of Eurasia. "In all the world," they added, "only Soviet Russia and the ex-enemy powers are capable of forming nuclei around which an anti-American coalition could form to threaten the security of the United States." So the indefinite westward expansion of the Soviet Union could not be permitted, "whether it occurs by formal annexation, political coup, or progressive subversion."

The Joint Chiefs of Staff embraced this strategic thinking, as did most civilian officials. But the public at large was focused on demobilization and reconversion. President Harry Truman was eager to balance the budget and stifle inflation, as was his Republican opposition. So soon, another gap emerged between foreign policy goals and military capabilities, as the Joint Chiefs wanted resources to counter possible Soviet moves on Europe, the Middle East, and Northeast Asia, even as crises in Greece, Iran, and Turkey and a civil war in China focused attention on various peripheral areas as well.

Once again, austerity compelled a careful assessment of threats. Top officials forged a consensus that the gravest danger to U.S. security was not the likelihood of Soviet military aggression. The Soviets, they reasoned, were too weak economically to attack. As Ferdinand Eberstadt, the former director of the joint Army and Navy Munitions Board, wrote in 1946 to James Forrestal, his close friend and then secretary of the navy, "None but mad men would undertake war against us." The greater threat was that the Soviet Union might exploit the widespread hunger, social strife, and political ferment that beleaguered most of Europe and Asia. As early as May 16, 1945, Secretary of War Henry

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The report concludes, "The bottom line is clear: digital foreign policy must begin with domestic policy."

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Stimson wrote Truman that there would be "pestilence and famine in Central Europe next winter. This is likely to be followed by political revolution and Communist infiltration." The next month, Undersecretary of State Joseph Grew warned the president that Europe was a breeding ground for "spontaneous class hatred to be channeled by a skillful agitator."

Unable to afford all the tools they might want, U.S. policymakers decided that foreign assistance was more important than rearmament. Even Forrestal acknowledged in December 1947, "As long as we can outproduce the world, can control the sea, and can strike inland with the atomic bomb, we can assume certain risks otherwise unacceptable in an effort to restore world trade, to restore the balance of power—military power—and to eliminate some of the conditions which breed war." He went along with then Undersecretary of State Dean Acheson's desire to ask a subcommittee of the State-War-Navy Coordinating Committee to devise a comprehensive assistance program and determine priorities. Planners on the subcommittee used the perceived urgency of different situations as their chief criterion for assigning aid: Greece, Turkey, Iran, Italy, Korea, France, and Austria topped the list.

In World War II, the paucity of the resources on hand actually forced U.S. policymakers to make tough but smart choices.

The Joint Chiefs of Staff, meanwhile, crafted their own study of foreign assistance, based on both the potential recipients' urgency of need and their future importance to U.S. national security. They recommended aid to the United Kingdom, France, and what would soon become West Germany, concluding, "The complete resurgence of German industry, particularly coal mining, is essential for the economic recovery of France—whose security is inseparable from the combined security of the United States, Canada, and Great Britain. The economic revival of Germany is therefore of primary importance from the viewpoint of United States security." This thinking, which comported well with the initial studies by the State Department's Policy Planning Staff and with the views of many senior Foreign Service officers working on European affairs, set the backdrop for the making of the Marshall Plan.

Once again, austerity forced planners to think hard about priorities and tradeoffs—about economic reconstruction abroad versus

rearmament at home and about assigning importance to Western Europe and Japan, for example, ahead of China. If rebuilding Western Europe and co-opting former enemies such as Germany and Japan strained relations with Moscow and intensified the emerging Cold War, so be it.

George Kennan, who then headed the Policy Planning Staff, viewed Soviet decisions to launch the Cominform (an organization committed to spreading communism internationally) in 1947 and orchestrate a coup in Czechoslovakia in 1948 as "quite logical" developments "in the face of increasing American determination to assist the free nations of the world." Such moves heightened fears of war, but Kennan, Secretary of State George Marshall, and most of their colleagues at the State Department thought that prospect was still unlikely. So Truman called for the passage of universal military training, the temporary restoration of the draft, and prudent increases in defense expenditures, but he did not alter his determination to cap military spending, even during the Berlin blockade of 1948–49.

Across town, Forrestal, whom Truman had appointed as the nation's first secretary of defense, grew more nervous. His military chiefs told him that the United States' commitments now far exceeded its capabilities and that U.S. moves and Soviet countermeasures made war more likely. They were correct on both points. Yet Truman would not budge. Austerity meant that risks had to be managed, not eliminated. So the president bet that a major war would not erupt and decided to maintain his domestic priorities, co-opt former enemies rather than engage the new adversary, pursue foreign economic reconstruction instead of domestic rearmament, and focus on reconstructing Western Europe rather than getting entangled in China. When the military chiefs pushed back and Forrestal equivocated, Truman dismissed him.

AFTER KOREA

The North Korean attack across the 38th parallel in June 1950 put an end to half a decade of scarcity in U.S. military budgeting. Between 1950 and 1953, the United States almost tripled its defense expenditures as a percentage of GDP and more than doubled its forces. Only a tiny percentage of this vast increase actually went to the conflict in Korea; most of it was to prepare for waging a total global war with the Soviet Union, following the logic articulated in April 1950 by NSC-68,

a top-secret State Department study that advocated a major U.S. rearmament to contain Soviet expansion.

In 1953, however, the newly elected president, Dwight Eisenhower, made it clear that he did not think the buildup could be sustained. He argued that the foundation of military strength was economic strength and that the key to economic strength was fiscal solvency. A few months before the election, he wrote a close friend, "The financial solvency and economic soundness of the United States constitute the first requisite to collective security in the free world. That comes before all else." He believed that defense expenditures had to be reined in and the budget balanced, and when he took office, he set about putting his ideas into practice.

Eisenhower quickly ordered a comprehensive reassessment of U.S. national security strategy in the form of the famed Project Solarium, perhaps the most thorough such reassessment ever undertaken. Task forces were created to argue for three different approaches. Eisenhower claimed to be impressed by elements of all three and instructed that they be integrated into a new comprehensive national security policy statement. In truth, the study produced no substantive change in the strategic concept of containment and no revision of the view that the United States had to prevent the Soviet Union from gaining control of the preponderant resources of Europe and Asia. But it reinforced Eisenhower's determination that this objective be pursued with far more fiscal prudence than it had been during the Truman administration's last years.

The North Korean attack across the 38th parallel in June 1950 put an end to half a decade of scarcity in U.S. military budgeting.

Eisenhower's so-called New Look policy and the doctrines of deterrence and massive retaliation put a premium on airpower and atomic weapons. The president constrained the growth of conventional land forces and talked a lot about ratcheting down the U.S. troop commitment to NATO. At the same time, however, the president and his secretary of state, John Foster Dulles, actually expanded U.S. commitments and formed new alliances.

Eventually, as Soviet strategic capabilities mounted, as the demands of U.S. allies became more insistent, and as revolutionary nationalist ferment spread, Eisenhower's approach attracted more and more

criticism. The budgetary constraints the president advocated could not persist when his basic strategic concept remained unchanged; as U.S. interests on the periphery grew and as U.S. claims about the credibility of its commitments became more frequent, the gap between goals and tactics widened.

In 1953–54, Eisenhower's fiscal prudence was warranted, but his administration failed to adjust the country's long-term strategy to accord with the austere budgets that the president deemed desirable. The actual budgets passed were never all that austere, in fact, and U.S. strategic capabilities mounted rapidly. But the gap between means and ends grew even more quickly, ineluctably leading to a new wave of expenditures, weapons, doctrines, and interventions during Eisenhower's last years in office, and even more so during the 1960s.

In 1940–41, austerity nurtured an enduring strategic concept, and from 1946 to 1949, it bred a nuanced sense of threat perception and a sophisticated calibration of priorities. But in 1953–54, its consequences were more mixed. The New Look was designed to manage the widening gap between goals and tactics—something that was feasible for Eisenhower, given his skills and stature, but harder for his successors, who had trouble juggling partisan politics, organizational pressures, mounting Soviet strategic capabilities, and the growing turbulence in the Third World.

AFTER VIETNAM

Even as they conducted their far-reaching strategic reassessment in 1953–54, Eisenhower and Dulles essentially ignored one plausible way to bring U.S. ends and means into balance: using détente to try to ratchet down the Cold War. Eisenhower never ruled out negotiations; indeed, he showed interest in arms control and consummated a treaty with the Soviets in 1955 that reestablished the Austrian state. But he saw talking to adversaries as less important than negotiating and solidifying alliances with existing or potential friends.

Nearly two decades later, however, having come to office at the peak of a stalemated conflict in Vietnam, President Richard Nixon and his national security adviser, Henry Kissinger, followed a different course. They, too, did not change the nation's basic strategic concept; the Soviet Union remained the key adversary, and the strategy of containment was not abandoned. But facing financial constraints, they tried hard to find innovative ways of getting the Soviets to exercise self-restraint.

Nixon and Kissinger recognized that the world was changing. They dwelled on the evolution of multipolarity, the revitalization of U.S. allies in Western Europe and Northeast Asia, the intensification of the Sino-Soviet split, and the assertiveness of nationalist leaders in developing countries seeking to reconfigure the international economic order. They also wanted to extricate the United States from Vietnam with the country's honor and credibility intact. But they were beleaguered by partisan acrimony, urban strife, racial tensions, inflationary pressures, gold outflows, and financial constraints at home. Although they outlined in detail the need for a prudent pursuit of interests in an international order characterized by the Soviet Union's formidable strategic capabilities and the omnipresent threat of nuclear war, they defined U.S. interests more ambiguously.

History shows that austerity can help rather than hurt.

Their challenge was to design a strategy to balance Soviet power in a taxing political, fiscal, and legislative environment. They did not seek to reexamine goals; instead, they maneuvered to pursue existing goals more cheaply and efficiently. The Nixon Doctrine (which called on U.S. allies in Asia to provide for their own defense), détente with the Kremlin, the opening of relations with Beijing, covert actions in southern Africa, Chile, and elsewhere—all these were efforts to bolster the United States' allies, divide its adversaries, and contain Soviet power without getting trapped in new wars (something the public would not tolerate) or needing to reacquire strategic supremacy (something Congress would not fund). As Nixon put it in a memo to Alexander Haig, his deputy national security adviser, and Kissinger in May 1972, "All of us who have worked on [the Strategic Arms Limitation Talks] problem know that the deal we are making is in our best interest, but for a very practical reason that the right-wing will never understand—that we simply can't get from the Congress the additional funds needed to continue the arms race with the Soviets in either the defensive or offensive missile category."

Nixon and Kissinger did not close the gap between resources and commitments or between means and ends. But they improvised dexterously by engaging adversaries and handing over greater responsibility to allies. They retooled U.S. policy in order to continue pursuing the core elements of containment during an era of perceived

decline, marked by turbulent politics at home and eroding strength and credibility abroad.

AFTER THE COLD WAR

After the collapse of the Soviet Union and the end of the Cold War, U.S. policymakers knew that a period of defense cuts was inevitable. President George H. W. Bush, Secretary of Defense Dick Cheney, and Chairman of the Joint Chiefs of Staff Colin Powell understood that the public and Congress expected a peace dividend. They prepared to make necessary cuts—including of more than a million military and civilian personnel—as part of a coherent post–Cold War strategy. It was just such a strategy that Bush intended to announce in Aspen, Colorado, on August 2, 1990, when Iraqi leader Saddam Hussein suddenly invaded Kuwait.

The subsequent crisis forced a postponement of the planning for retrenchment, but the administration returned to it after the Gulf War ended. The challenge was daunting. Officials knew they had to make cuts but did not want to cut as much as Congress and the public did. Yet everyone could see that for the time being, the international environment was remarkably benign. Without a global threat to guide them, Cheney and his planners stressed regional "challenges," arguing that the overriding threat now was "uncertainty" or "unpredictability."

In such an environment, they said, U.S. forces needed to be configured to allow the country to exert leadership and shape the future. This required capabilities to maintain nuclear deterrence, strengthen and enlarge alliances, establish forward presence, and project power—especially in the Persian Gulf, the greater Middle East, and Northeast Asia. The country also had to preserve its ability to reconstitute a large and powerful military relatively quickly should the need arise.

As planners in the Pentagon designed the Defense Planning Guidance of 1992, they retained two crucial concepts from U.S. strategy during the Cold War. The United States, they argued, had to "preclude any hostile power from dominating a region critical to [its] interests." (The regions listed included Europe, East Asia, the Middle East and the Persian Gulf, and Latin America.) And they insisted that the United States needed defensive capabilities sufficient to create an international order conducive to its way of life—much as previous officials had believed that a balance of power preponderantly favorable to the United States was critical to preserving democratic capitalism at home.

Given the austere domestic fiscal environment, the Bush administration's strategic concept—preparing for uncertainty, shaping the future, thwarting regional instability—guaranteed another growing gap between means and ends. The United States did not face any peer competitors and would not for years or possibly decades to come. But so long as the administration's goals were so ambitious, the United States' threats so vague, and its interests so ill defined, U.S. capabilities would never be sufficient to address all the regional and humanitarian crises that would inevitably arise. By the end of the 1990s, the United States and its allies were responsible for almost 75 percent of global military spending, compared with six percent for China and Russia combined, even as many commentators lambasted the Clinton administration for paying insufficient attention to defense. Yet that administration, too, had embraced the core elements of Cheney's regional defense strategy.

LESSONS OF THE PAST

What lessons does all this history teach? First, that the negative consequences of defense austerity have been exaggerated. The United States did not leave itself vulnerable to attack during its retreat from a global presence after 1919. Given the absence of threats in the 1920s and the constraints on British, German, and Japanese forces until the mid-1930s, U.S. defense policies were not imprudent in the aftermath of World War I. Likewise, the limited defense budgets of 1946–49 did not cause the Cold War or stifle creative responses to looming threats. The rancorous domestic climate and austere budget environment that characterized the last years of the Vietnam War did not stymie creative adaptation, and there is no reason to believe that inadequate U.S. military spending triggered the Islamic Revolution in Iran or Soviet adventurism in Afghanistan in the late 1970s. Nor did demands for a peace dividend after the Cold War prevent the first Bush administration from formulating a new strategy designed to sustain American hegemony.

The country did struggle with various problems during these times of budget cuts, of course. But those problems were rarely, or only partly, the result of austerity itself. Too often, officials clung to prevailing strategic concepts without fully reassessing their utility, reappraising their costs and benefits, reexamining threats and opportunities, or rethinking goals and tactics. The country's worst military problems

of the post–World War II era—China's intervention in the Korean War, the quagmire in Vietnam, the morass in Iraq—had nothing to do with tight budgets.

The second lesson stresses the importance of having a coherent strategic concept, a clear assessment of threats, a precise delineation of interests and goals, and a calibrated sense of priorities. And in this regard, history shows that austerity can help rather than hurt, as it did in 1940–41 and 1946–49. Strategy in a time of austerity should emphasize an artful combination of initiatives to reassure allies and engage adversaries. Eisenhower and Dulles put much more stress on the former, and Nixon and Kissinger, on the latter, but reassurance and engagement are both essential, and good judgment is a prerequisite to configuring the right mixture of the two.

One reason austerity has gotten such a bad reputation is that other factors, such as bureaucratic and domestic politics, often enter the picture and cause Washington to cut the wrong things in the wrong ways or fail to perceive and respond to new challenges and opportunities. Turf battles and distrust—and the sheer complexity of redirecting such a giant enterprise as U.S. defense and security policy—have often undermined careful, comprehensive planning. But that happens in good economic times as well, probably even more so than in bad ones.

The truth is that the sort of austerity the Pentagon now faces is not all that severe. The United States currently spends more on its military than all its geopolitical competitors combined and will continue to do so even after the coming cuts have taken place. Defense spending will not be slashed but simply decline a bit—or possibly just grow at a slower rate. This shift should not become a cause for despair but rather be treated as a spur to efficiency, creativity, discipline, and, above all, prudence. Past bouts of austerity have led U.S. officials to recognize that the ultimate source of national security is domestic economic vitality within an open world order—not U.S. military strength or its wanton use. Relearning that lesson today would be a good thing indeed.

Cyberwar and Peace

Hacking Can Reduce Real-World Violence

Thomas Rid

"Cyberwar Is Coming!" declared the title of a seminal 1993 article by the RAND Corporation analysts John Arquilla and David Ronfeldt, who argued that the nascent Internet would fundamentally transform warfare. The idea seemed fanciful at the time, and it took more than a decade for members of the U.S. national security establishment to catch on. But once they did, a chorus of voices resounded in the mass media, proclaiming the dawn of the era of cyberwar and warning of its terrifying potential. In February 2011, then CIA Director Leon Panetta warned Congress that "the next Pearl Harbor could very well be a cyberattack." And in late 2012, Mike McConnell, who had served as director of national intelligence under President George W. Bush, warned darkly that the United States could not "wait for the cyber equivalent of the collapse of the World Trade Centers."

Yet the hype about everything "cyber" has obscured three basic truths: cyberwar has never happened in the past, it is not occurring in the present, and it is highly unlikely that it will disturb the future. Indeed, rather than heralding a new era of violent conflict, so far the cyber-era has been defined by the opposite trend: a computer-enabled assault on political violence. Cyberattacks diminish rather than accentuate political violence by making it easier for states, groups, and individuals to engage in two kinds of aggression that do not rise to the level of war: sabotage and espionage. Weaponized computer code and computer-based sabotage operations make it possible to carry out highly targeted attacks on an adversary's technical systems without directly and physically harming human operators and managers. Computer-assisted attacks

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make it possible to steal data without placing operatives in dangerous environments, thus reducing the level of personal and political risk.

These developments represent important changes in the nature of political violence, but they also highlight limitations inherent in cyberweapons that greatly curtail the utility of cyberattacks. Those limitations seem to make it difficult to use cyberweapons for anything other than one-off, hard-to-repeat sabotage operations of questionable strategic value that might even prove counterproductive. And cyber-espionage often requires improving traditional spycraft techniques and relying even more heavily on human intelligence. Taken together, these factors call into question the very idea that computer-assisted attacks will usher in a profoundly new era.

THE THIN CASE FOR CYBERWAR

One reason discussions about cyberwar have become disconnected from reality is that many commentators fail to grapple with a basic question: What counts as warfare? Carl von Clausewitz, the nineteenth-century Prussian military theorist, still offers the most concise answer to that question. Clausewitz identified three main criteria that any aggressive or defensive action must meet in order to qualify as an act of war. First, and most simply, all acts of war are violent or potentially violent. Second, an act of war is always instrumental: physical violence or the threat of force is a means to compel the enemy to accept the attacker's will. Finally, to qualify as an act of war, an attack must have some kind of political goal or intention. For that reason, acts of war must be attributable to one side at some point during a confrontation.

No known cyberattack has met all three of those criteria; indeed, very few have met even one. Consider three incidents that today's Cassandras frequently point to as evidence that warfare has entered a new era. The first of these, a massive pipeline explosion in the Soviet Union in June 1982, would count as the most violent cyberattack to date—if it actually happened. According to a 2004 book by Thomas Reed, who was serving as a staffer on the U.S. National Security Council at the time of the alleged incident, a covert U.S. operation used rigged software to engineer a massive explosion in the Urengoy-Surgut-Chelyabinsk pipeline, which connected Siberian natural gas fields to Europe. Reed claims that the CIA managed to insert malicious code into the software that controlled the pipeline's pumps and valves. The rigged valves supposedly resulted in an explosion that, according to

Reed, the U.S. Air Force rated at three kilotons, equivalent to the force of a small nuclear device.

But aside from Reed's account, there is hardly any evidence to prove that any such thing happened, and plenty of reasons to doubt that it did. After Reed published his book, Vasily Pchelintsev, who was reportedly the KGB head of the region when the explosion was supposed to have taken place, denied the story. He surmised that Reed might have been referring to a harmless explosion that happened not in June but on a warm April day that year, caused by pipes shifting in the thawing ground of the tundra. Moreover, no Soviet media reports from 1982 confirm that Reed's explosion took place, although the Soviet media regularly reported on accidents and pipeline explosions at the time. What's more, given the technologies available to the United States at that time, it would have been very difficult to hide malicious software of the kind Reed describes from its Soviet users.

No known cyberattack has met Clausewitz's definition of an act of war.

Another incident often related by promoters of the concept of cyberwar occurred in Estonia in 2007. After Estonian authorities decided to move a Soviet-era memorial to Russian soldiers who died in World War II from the center of Tallinn to the city's outskirts, outraged Russian-speaking Estonians launched violent riots that threatened to paralyze the city. The riots were accompanied by cyber-assaults, which began as crude disruptions but became more sophisticated after a few days, culminating in a "denial of service" attack. Hackers hijacked up to 85,000 computers and used them to overwhelm 58 Estonian websites, including that of the country's largest bank, which the attacks rendered useless for a few hours.

Estonia's defense minister and the country's top diplomat pointed their fingers at the Kremlin, but they were unable to muster any evidence. For its part, the Russian government denied any involvement. In the wake of the incident, Estonia's prime minister, Andrus Ansip, likened the attack to an act of war. "What's the difference between a blockade of harbors or airports of sovereign states and the blockade of government institutions and newspaper websites?" he asked. It was a rhetorical question, but the answer is important: unlike a naval blockade, the disruption of websites is not violent—indeed, not even potentially violent. The choice of targets also seemed unconnected

to the presumed tactical objective of forcing the government to reverse its decision on the memorial. And unlike a naval blockade, the attacks remained anonymous, without political backing, and thus unattributable.

A year later, a third major event entered the cyber-Cassandras' repertoire. In August 2008, the Georgian army attacked separatists in the province of South Ossetia. Russia backed the separatists and responded militarily. The prior month, in what might have been the first time that an independent cyberattack was launched in coordination with a conventional military operation, unknown attackers had begun a campaign of cyber-sabotage, defacing prominent Georgian websites, including those of the country's national bank and the Ministry of Foreign Affairs, and launching denial-of-service attacks against the websites of Georgia's parliament, its largest commercial bank, and Georgian news outlets. The Georgian government blamed the Kremlin, just as the Estonians had done. But Russia again denied sponsoring the attacks, and a NATO investigation later found "no conclusive proof" of who had carried them out.

The attack set off increasingly familiar alarm bells within American media and the U.S. national security establishment. "The July attack may have been a dress rehearsal for an all-out cyberwar," an article in *The New York Times* declared. Richard Clarke, a former White House cybersecurity czar, warned that the worst was yet to come: the Georgian attack did not "begin to reveal what the Russian military and intelligence agencies could do if they were truly on the attack in cyberspace." Yet the actual effects of these nonviolent events were quite mild. The main damage they caused was to the Georgian government's ability to communicate internationally, thus preventing it from getting out its message at a critical moment. But even if the attackers intended this effect, it proved short-lived: within four days after military confrontations had begun in earnest, the Georgian Foreign Ministry had set up an account on Google's blog-hosting service. This move helped the government keep open a channel to the public and the news media. What the Internet took away, the Internet returned.

IN CODE WE TRUST?

Perhaps the strongest evidence presented by advocates of the concept of cyberwar is the Stuxnet operation launched against Iran by the United States and Israel. Stuxnet, part of a set of attacks known as Operation Olympic Games, was a sophisticated multiyear campaign

Overblown: keyboard as grenade

to sabotage Iran's nuclear enrichment facility in Natanz by inserting a harmful computer worm into the software that ran the facility's centrifuges, causing them to overload. American and Israeli developers started designing the project as early as 2005, and it launched in 2007, growing more sophisticated until its discovery in 2010. The attack was groundbreaking in several ways. The developers built highly target-specific intelligence into the code, enabling the Stuxnet software to make autonomous decisions in its target environment. Most important, Stuxnet represented the first and only physically destructive cyberattack launched by one state (or, in this case, two states) against another.

Yet even cyberattacks that cause damage do so only indirectly. As an agent of violence, computer code faces a very basic limit: it does not have its own force or energy. Instead, any cyberattack with the goal of material destruction or harming human life must utilize the force or energy embedded in its target: for example, shutting down an air traffic control system and causing trains or planes to crash or disrupting a power plant and sparking an explosion. Yet besides Stuxnet, there is no proof that anyone has ever successfully launched a major attack of

this sort. Lethal cyberattacks, while certainly possible, remain the stuff of fiction: none has ever killed or even injured a single human being. Thanks to its lack of direct physical impact, code-induced violence also has less emotional impact. It would be difficult for a cyberattack to produce the level of fear that coordinated campaigns of terrorism or conventional military operations produce.

Owing to their invisibility, cyberweapons also lack the symbolic power of traditional ones. Displays of weaponry, such as the elaborate military parades put on by China and North Korea, sometimes represent nothing more than nationalist pageantry. But revealing one's arsenal can also serve tactical and strategic ends, as when countries deploy aircraft carriers to demonstrate their readiness to use force or carry out operations designed to intimidate the enemy, such as using military aircraft to conduct deliberately low flyovers. Indeed, displaying weapons systems and threatening to use them can prove more cost-efficient than their actual use. But cyberweapons are hard to brandish.

Traditional political violence can maintain trust in institutions and states; violence in cyberspace can only undermine such trust.

Perhaps the most crucial limitation of violence in cyberspace is its almost entirely destructive quality: unlike traditional political violence, which can maintain trust in institutions and states as well as undermine it, violence in cyberspace can do only the latter. Any established political order comes with a certain degree of inherent violence; consolidated states, after all, survive only if they maintain monopolies on the legitimate use of force. By encouraging trust in the ability of state institutions to protect property and safeguard citizens, this inherent violence buttresses a state's power and allows the state to establish the rule of law. But cyber-violence lacks this ability, since it does little or nothing to build up trust in institutions; indeed, it is very difficult to imagine how cyberattacks could be used to enforce rules or laws, either domestically or internationally. Digital surveillance presents a more complicated picture. In democracies, intelligence agencies tread a thin line between providing security and eroding public trust in the state, as demonstrated by the recent controversy over the U.S. National Security Agency's data-collection practices. In authoritarian countries, digital surveillance can assist the state's coercive use of force, but it cannot replace it.

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Such limitations, however, should not lead anyone to dismiss the corrosive potential of cyberattacks. Indeed, such assaults can undermine social trust in a more direct way than traditional political violence. Cyberattacks are more precise; they do not necessarily undermine the state's monopoly of force in a wholesale fashion. Instead, they can be tailored to attack specific companies or public-sector organizations and used to undermine those groups' authority selectively. Stuxnet provides a good example of this dynamic. Putting aside the question of whether the attack was an act of war, its primary intention was to undermine the trust of the Iranian scientists in their systems and in themselves and the trust of the Iranian regime in its ability to build nuclear weapons. The original intention was to cause physical damage to as many Iranian centrifuges as possible. But the American and Israeli attackers knew that the physical effect could be exploited to unleash a much more damaging psychological effect. "The intent was that the failures should make them feel they were stupid, which is what happened," an American participant told *The New York Times*.

The Americans and the Israelis hoped that once a few machines failed, the Iranian engineers would shut down more machines because they distrusted their own technology or indeed their own skills. At the headquarters of the International Atomic Energy Agency, in Vienna, rumors circulated that the Iranians had lost so much confidence in their own systems and instruments that the management of the Natanz facility took the extraordinary step of assigning engineers to sit in the plant and radio back what they saw to confirm the instrument readings. "They overreacted," one of the attackers revealed to David Sanger of *The New York Times*, "and that delayed them even more." The Iranians also began to assign blame internally, pointing fingers at one another and even firing some personnel.

DIGITAL UNDERGROUND

Damaging though it may have been, Stuxnet, along with the cyberscuffles in Estonia and Georgia, represents not a new form of warfare but something more akin to other, less lethal forms of aggression: sabotage and espionage. Unlike acts of war, these political crimes, which are often committed by nonstate actors, need not be violent to work. And although saboteurs and spies do act politically, they often seek to avoid attribution, unlike those who launch acts of war.

For those reasons, the cyber-era has been a boon for political crime. Consider sabotage. Before the computer age, saboteurs had trouble calibrating and controlling the effects of their actions. Sabotage had to target physical property and relied on physical violence, which often proves unpredictable. During postal and railway strikes in France in 1909 and 1910, for instance, saboteurs cut signal wires and tore down telegraph posts. Destroying property risked running afoul of public opinion, and the tactic ultimately divided the workers. The strikes themselves, as a form of sabotage, also ran the risk of leading to unpredictable violence: indeed, labor demonstrations often intensified into riots, making it easier for opponents to portray the strikers as uncompromising radicals.

It is much easier for saboteurs to avoid counterproductive side effects in the age of computer-assisted attacks, which can contain violence and generally avoid it altogether. Cyberattacks can maliciously affect software and business processes without interfering with physical industrial processes, remaining nonviolent but sometimes still causing greater damage than a traditional assault. A 2012 attack against the computer network of the oil company Saudi Aramco illustrates this potential. The attack physically harmed neither hardware nor humans. Yet by allegedly erasing the hard disks of some 30,000 computers, the attackers likely did much more monetary damage to Saudi Aramco than they could have through an act of traditional sabotage against machinery in one of the company's plants. The oil giant reportedly had to hire six specialized computer security firms to help with its forensic investigation and post-attack cleanup.

Despite such potential, it is also important to remember the inherent limitations of computer-assisted political crime and to note that human agents remain critical in the age of digital violence. Even Stuxnet, the most successful example of cyber-sabotage, demonstrates this fact. For the United States and Israel, the "holy grail," in the words of one of the attack's architects, was getting a piece of malicious software into the control system at Natanz. The Americans and Israelis needed fine-grained data from inside the Iranian plant to develop their weaponized code. The problem was that the control system was protected by an air gap: it was not connected to the Internet or even internal networks. As a result, the attackers had to deliver the malicious code via a removable hard drive such as a USB flash drive—delivered by a human hand.

To make this happen, U.S. intelligence operatives first obtained a list of the people who were visiting the targeted plant to work on its computer equipment and who could carry the payload there. "We had to find an unwitting person on the Iranian side of the house who could jump the gap," one planner later told Sanger. The list of possible carriers included engineers from the German company Siemens, who were helping their Iranian colleagues maintain the control system—work that required the Siemens engineers to bring portable computers into the plant. Precisely how the U.S.-Israeli team managed to exploit this vulnerability remains unknown. Suffice it to say that although "Siemens had no idea they were a carrier," in the words of one U.S. official quoted by Sanger, "it turns out there is always an idiot around who doesn't think much about the thumb drive in their hand."

SAFETY IN ONES AND ZEROS

If cyberattacks reduce the amount of violence inherent in conflict, and if they often take the form of sabotage or espionage, then many officials and commentators who have been warning about the dawn of cyberwar have been ringing false alarms. Digital violence does have implications for ethics and for national security strategy, however. Weaponized code, or cyberattacks more generally, can achieve goals that used to require conventional force. The most sophisticated cyberattacks are highly targeted, and cyberweapons are unlikely to cause collateral damage in the same way conventional weapons do. Therefore, in many situations, the use of computers would be ethically preferable to the use of conventional weapons: a cyberattack might be less violent, less traumatizing, and more limited.

A comparable dynamic applies to the ethics of cyber-espionage. Intelligence might be gained by infiltrating computer systems and intercepting digital signals, or it might be acquired by sneaking human spies, sometimes armed, into hostile territory at personal risk, or it might be got by interrogating suspects under harsh conditions. Depending on the case, computer espionage might be ethically preferable to any of the other options.

A cyberattack will not always be the strategically sound option, however. Indeed, even the celebrated Stuxnet operation was not necessarily a strategic success. The attack was designed to slow and delay Iran's nuclear enrichment program and undermine the Iranian government's trust in its ability to develop a nuclear weapon. The attack

might well have achieved those goals in the short term. But as soon as the malfunctions and delays were traced to sabotage, the psychological effect of the operation likely changed, as the Iranians could reassure themselves that they were not "stupid" and that they were faced with aggressive foreign adversaries. They now knew that the problem was not their own ineptitude; somebody else was doing this to them.

In an ongoing confrontation, such as the one over Iran's nuclear program, cyberattacks might yield valuable intelligence, but they likely possess very little coercive value. Consider that during the Cold War, the United States stationed hundreds of thousands of ground forces in West Germany and other areas bordering the Soviet bloc to communicate that Washington was alert and technically sophisticated, as well as serious about attacking if Moscow crossed a redline. A contemporary counterproliferation approach that relied on cyberattacks, by contrast, might send an altogether different message to the Iranians: that Washington is alert and technically sophisticated, but not really serious about attacking, even if Tehran does cross a redline. After all, a standalone cyberattack would not likely put the lives of U.S. personnel in peril, a fact that could signal a lower level of commitment.

THE WORST DEFENSE

Earlier this year, the Pentagon announced that it would boost the staff of its Cyber Command from 900 to 4,900 people, most of whom would focus on offensive operations. William Lynn, formerly the Pentagon's second-in-command, responded to critics of the move by assuring the public that the Department of Defense would not militarize cyberspace. "Indeed," Lynn said, "establishing robust cyberdefenses no more militarizes cyberspace than having a navy militarizes the ocean."

In a sense, Lynn is right: cyberspace has not been militarized, precisely because the U.S. government, along with many other governments, has not actually established robust cyberdefenses. Defending against cyber-sabotage means hardening computer systems, especially those that control critical infrastructure. But such systems remain staggeringly vulnerable. Defending against cyber-espionage means avoiding the large-scale theft of sensitive data from companies and government agencies. But as illustrated by the recent leaks of classified information regarding the National Security Agency's domestic surveillance, Western intelligence agencies are only now beginning to

understand digital counterespionage and the proper role of human informants in a digitized threat environment.

What has been militarized is the debate about cyberattacks, which is dominated by the terminology of warfare. What appears as harmless inconsistency—constantly warning of cyberwar's dangers while neglecting to protect against them—masks a knotty causal relationship: for a number of reasons, loose talk of cyberwar tends to overhype the offensive potential of cyberattacks and diminish the importance of defenses. First, it encourages the false idea that two states exist: cyberwar and cyberpeace. In fact, the threat of a cyberattack is ever present and will not go away. Second, when U.S. military officials hype cyberwar, it leads the public to believe that the Pentagon is in charge of dealing with the threat. In fact, companies and individuals need to take responsibility for their own security. And finally, advocates of the concept of cyberwar often suggest that the best defense is a good offense. That is not the case: consider, for example, that designing the next Stuxnet will not make the U.S. energy grid any safer from digital attacks. To avoid further distorting the issue, the debate over cyberattacks must exit the realm of myth.

Never Saw It Coming

Why the Financial Crisis Took Economists by Surprise

Alan Greenspan

It was a call I never expected to receive. I had just returned home from playing indoor tennis on the chilly, windy Sunday afternoon of March 16, 2008. A senior official of the U.S. Federal Reserve Board of Governors was on the phone to discuss the board's recent invocation, for the first time in decades, of the obscure but explosive Section 13(3) of the Federal Reserve Act. Broadly interpreted, that section empowered the Federal Reserve to lend nearly unlimited cash to virtually anybody: in this case, the Fed planned to loan nearly $29 billion to J.P. Morgan to facilitate the bank's acquisition of the investment firm Bear Stearns, which was on the edge of bankruptcy, having run through nearly $20 billion of cash in the previous week.

The demise of Bear Stearns was the beginning of a six-month erosion in global financial stability that would culminate with the failure of Lehman Brothers on September 15, 2008, triggering possibly the greatest financial crisis in history. To be sure, the Great Depression of the 1930s involved a far greater collapse in economic activity. But never before had short-term financial markets, the facilitators of everyday commerce, shut down on a global scale. As investors swung from euphoria to fear, deeply liquid markets dried up overnight, leading to a worldwide contraction in economic activity.

The financial crisis that ensued represented an existential crisis for economic forecasting. The conventional method of predicting macroeconomic developments—econometric modeling, the roots of which lie in the work of John Maynard Keynes—had failed when it was needed

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most, much to the chagrin of economists. In the run-up to the crisis, the Federal Reserve Board's sophisticated forecasting system did not foresee the major risks to the global economy. Nor did the model developed by the International Monetary Fund, which concluded as late as the spring of 2007 that "global economic risks [had] declined" since September 2006 and that "the overall U.S. economy is holding up well . . . [and] the signs elsewhere are very encouraging." On September 12, 2008, just three days before the crisis began, J.P. Morgan, arguably the United States' premier financial institution, projected that the U.S. GDP growth rate would accelerate during the first half of 2009. The pre-crisis view of most professional analysts and forecasters was perhaps best summed up in December 2006 by *The Economist*: "Market capitalism, the engine that runs most of the world economy, seems to be doing its job well."

What went wrong? Why was virtually every economist and policymaker of note so blind to the coming calamity? How did so many experts, including me, fail to see it approaching? I have come to see that an important part of the answers to those questions is a very old idea: "animal spirits," the term Keynes famously coined in 1936 to refer to "a spontaneous urge to action rather than inaction." Keynes was talking about an impulse that compels economic activity, but economists now use the term "animal spirits" to also refer to fears that stifle action. Keynes was hardly the first person to note the importance of irrational factors in economic decision-making, and economists surely did not lose sight of their significance in the decades that followed. The trouble is that such behavior is hard to measure and stubbornly resistant to any systematic analysis. For decades, most economists, including me, had concluded that irrational factors could not fit into any reliable method of forecasting.

But after several years of closely studying the manifestations of animal spirits during times of severe crisis, I have come to believe that people, especially during periods of extreme economic stress, act in ways that are more predictable than economists have traditionally understood. More important, such behavior can be measured and should be made an integral part of economic forecasting and economic policymaking. Spirits, it turns out, display consistencies that can help economists identify emerging price bubbles in equities, commodities, and exchange rates—and can even help them anticipate the economic consequences of those assets' ultimate collapse and recovery.

SPIRITS IN THE MATERIAL WORLD

The economics of animal spirits, broadly speaking, covers a wide range of human actions and overlaps with much of the relatively new discipline of behavioral economics. The study aims to incorporate a more realistic version of behavior than the model of the wholly rational *Homo economicus* used for so long. Evidence indicates that this more realistic view of the way people behave in their day-by-day activities in the marketplace traces a path of economic growth that is somewhat lower than would be the case if people were truly rational economic actors. If people acted at the level of rationality presumed in standard economics textbooks, the world's standard of living would be measurably higher.

From the perspective of a forecaster, the issue is not whether behavior is rational but whether it is sufficiently repetitive and systematic to be numerically measured and predicted. The challenge is to better understand what Daniel Kahneman, a leading behavioral economist, refers to as "fast thinking": the quick-reaction judgments on which people tend to base much, if not all, of their day-to-day decisions about financial markets. No one is immune to the emotions of fear and euphoria, which are among the predominant drivers of speculative markets. But people respond to fear and euphoria in different ways, and those responses create specific, observable patterns of thought and behavior.

Perhaps the animal spirit most crucial to forecasting is risk aversion. The process of choosing which risks to take and which to avoid determines the relative pricing structure of markets, which in turn guides the flow of savings into investment, the critical function of finance. Risk taking is essential to living, but the question is whether more risk taking is better than less. If it were, the demand for lower-quality bonds would exceed the demand for "risk-free" bonds, such as U.S. Treasury securities, and high-quality bonds would yield more than low-quality bonds. It is not, and they do not, from which one can infer the obvious: risk taking is necessary, but it is not something the vast majority of people actively seek.

The bounds of risk tolerance can best be measured by financial market yield spreads—that is, the difference between the yields of private-sector bonds and the yields of U.S. Treasuries. Such spreads exhibit surprisingly little change over time. The yield spreads between prime corporate bonds and U.S. Treasuries in the immediate post–Civil War years, for example, were similar to those for the years

following World War II. This remarkable equivalence suggests long-term stability in the degree of risk aversion in the United States.

Another powerful animal spirit is time preference, the propensity to value more highly a claim to an asset today than a claim to that same asset at some fixed time in the future. A promise delivered tomorrow is not as valuable as that promise conveyed today. Investors experience this phenomenon mostly through its most visible counterparts: interest rates and savings rates. Like risk aversion, time preference has proved remarkably stable: indeed, in Greece in the fifth century BC, interest rates were at levels similar to those of today's rates. From 1694 to 1972, the Bank of England's official policy rate ranged from two to ten percent. It surged to 17 percent during the inflationary late 1970s, but it has since returned to single digits.

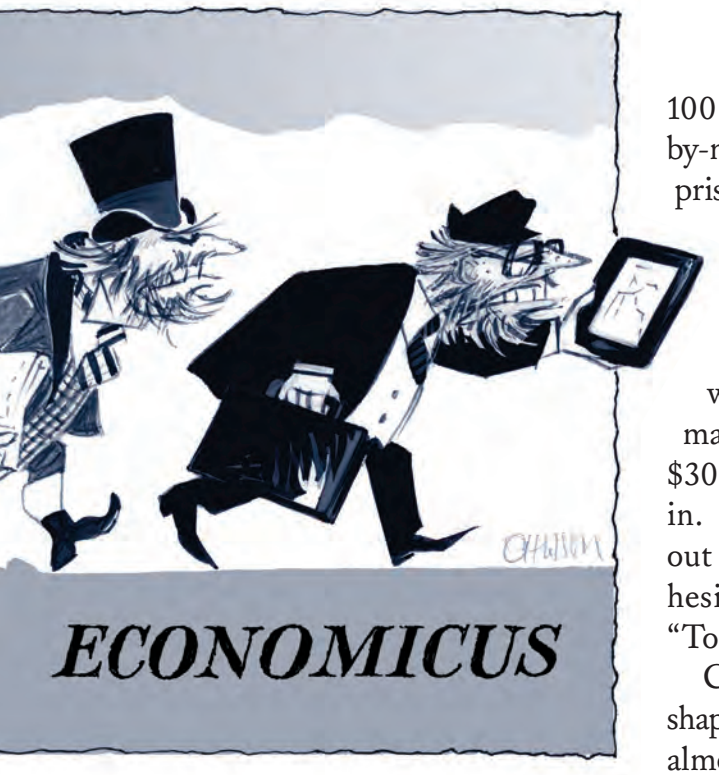
Time preference also affects people's propensity to save. A strong preference for immediate consumption diminishes a person's tendency to save, whereas a high preference for saving diminishes the propensity to consume. Through most of human history, time preference did not have a major determining role in the level of savings, because prior to the late nineteenth century, most people had to consume virtually all they produced simply to stay alive. There was little left over to save even if people were innately inclined to do so. It was only when the innovation and productivity growth of the Industrial Revolution freed people from the grip of chronic starvation that time preference emerged as a significant—and remarkably stable—economic force. Consider that although real household incomes have risen significantly since the late nineteenth century, average savings rates have not risen as a consequence. In fact, during periods of peace in the United States since 1897, personal savings as a share of disposable personal income have almost always stayed within a relatively narrow range of five to ten percent.

THE JESSEL PARADOX

In addition to the stable and predictable effects of time preference, another animal spirit is at work in these long-term trends: "conspicuous consumption," as the economist Thorstein Veblen labeled it more than a century ago, a form of herd behavior captured by the more modern idiom "keeping up with the Joneses." Saving and consumption reflect people's efforts to maximize their happiness. But happiness depends far more on how people's incomes compare

with those of their perceived peers, or even those of their role models, than on how they are doing in absolute terms. In 1995, researchers asked a group of graduate students and staff members at the Harvard School of Public Health whether they would be happier earning $50,000 a year if their peers earned half that amount or $100,000 if their peers earned twice that amount; the majority chose the lower salary. That finding echoed the results of a fascinating 1947 study by the economists Dorothy Brady and Rose Friedman, demonstrating that the share of income an American family spent on consumer goods and services was largely determined not by its income but by how its income compared to the national average. Surveys indicate that a family with an average income in 2011 spent the same proportion of its income as a family with an average income in 1900, even though in inflation-adjusted terms, the 1900 income would represent only a minor fraction of the 2011 figure.

Such herd behavior also drives speculative booms and busts. When a herd commits to a bull market, the market becomes highly vulnerable to what I dub the Jessel Paradox, after the vaudeville comedian George Jessel. In one of his routines, Jessel told the story of a skeptical investor who reluctantly decides to invest in stocks. He starts by buying



100 shares of a rarely traded, fly-by-night company. Surprise, surprise—the price moves from $10 per share to $11 per share. Encouraged that he has become a wise investor, he buys more. Finally, when his own purchases have managed to bid the price up to $30 per share, he decides to cash in. He calls his broker to sell out his position. The broker hesitates and then responds, "To whom?"

Classic market bubbles take shape when herd behavior induces almost every investor to act like the one in Jessel's joke. Bears become bulls, propelling prices ever higher. In the archetypal case, at the top of the market, everyone has turned into a believer and is fully committed, leaving no unconverted skeptics left to buy from the first new seller.

That was, in essence, what happened in 2008. By the spring of 2007, yield spreads in debt markets had narrowed dramatically; the spread between "junk" bonds that were rated CCC or lower and ten-year U.S. Treasury notes had fallen to an exceptionally low level. Almost all market participants were aware of the growing risks, but they also knew that a bubble could keep expanding for years. Financial firms thus feared that should they retrench too soon, they would almost surely lose market share, perhaps irretrievably. In July 2007, the chair and CEO of Citigroup, Charles Prince, expressed that fear in a now-famous remark: "When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing."

Financial firms accepted the risk that they would be unable to anticipate the onset of a crisis in time to retrench. However, they thought the risk was limited, believing that even if a crisis developed, the seemingly insatiable demand for exotic financial products would dissipate only slowly, allowing them to sell almost all

their portfolios without loss. They were mistaken. They failed to recognize that market liquidity is largely a function of the degree of investors' risk aversion, the most dominant animal spirit that drives financial markets. Leading up to the onset of the crisis, the decreased risk aversion among investors had produced increasingly narrow credit yield spreads and heavy trading volumes, creating the appearance of liquidity and the illusion that firms could sell almost anything. But when fear-induced market retrenchment set in, that liquidity disappeared overnight, as buyers pulled back. In fact, in many markets, at the height of the crisis of 2008, bids virtually disappeared.

FAT TAILS ON THIN ICE

Financial firms could have protected themselves against the costs of their increased risk taking if they had remained adequately capitalized—if, in other words, they had prepared for a very rainy day. Regrettably, they had not, and the dangers that their lack of preparedness posed were not fully appreciated, even in the commercial banking sector. For example, in 2006, the Federal Deposit Insurance Corporation, speaking on behalf of all U.S. bank regulators, judged that "more than 99 percent of all insured institutions met or exceeded the requirements of the highest regulatory capital standards."

What explains the failure of the large array of fail-safe buffers that were supposed to counter developing crises? Investors and economists believed that a sophisticated global system of financial risk management could contain market breakdowns. The risk-management paradigm that had its genesis in the work of such Nobel Prize–winning economists as Harry Markowitz, Robert Merton, and Myron Scholes was so thoroughly embraced by academia, central banks, and regulators that by 2006 it had become the core of the global bank regulatory standards known as Basel II. Global banks were authorized, within limits, to apply their own company-specific risk-based models to judge their capital requirements. Most of those models produced parameters based only on the last quarter century of observations. But even a sophisticated number-crunching model that covered the last five decades would not have anticipated the crisis that loomed.

Mathematical models that calibrate risk are nonetheless surely better guides to risk assessment than the "rule of thumb" judgments of a half century earlier. To this day, it is hard to find fault with the

conceptual framework of such models, as far as they go. The elegant options-pricing model developed by Scholes and his late colleague Fischer Black is no less valid or useful today than when it was developed, in 1973. But in the growing state of euphoria in the years before the 2008 crash, private risk managers, the Federal Reserve, and other regulators failed to ensure that financial institutions were adequately capitalized, in part because we all failed to comprehend the underlying magnitude and full extent of the risks that were about to be revealed as the post-Lehman crisis played out. In particular, we failed to fully comprehend the size of the expansion of so-called tail risk.

"Tail risk" refers to the class of investment outcomes that occur with very low probabilities but that are accompanied by very large losses when they do materialize. Economists have assumed that if people acted solely to maximize their own self-interest, their actions would produce long-term growth paths consistent with their abilities to increase productivity. But because people lacked omniscience, the actual outcomes of their risk taking would reflect random deviations from long-term trends. And those deviations, with enough observations, would tend to be distributed in a manner similar to the outcomes of successive coin tosses, following what economists call a normal distribution: a bell curve with "tails" that rapidly taper off as the probability of occurrence diminishes.

Financial firms believed that if a crisis developed, the insatiable demand for exotic products would dissipate only slowly. They were mistaken.

Those assumptions have been tested in recent decades, as a number of once-in-a-lifetime phenomena have occurred with a frequency too high to credibly attribute to pure chance. The most vivid example is the wholly unprecedented stock-price crash on October 19, 1987, which propelled the Dow Jones Industrial Average down by more than 20 percent in a single day. No conventional graph of probability distribution would have predicted that crash. Accordingly, many economists began to speculate that the negative tail of financial risk was much "fatter" than had been assumed—in other words, the global financial system was far more vulnerable than most models showed.

In fact, as became clear in the wake of the Lehman collapse, the tail was morbidly obese. As a consequence of an underestimation of that risk, financial firms failed to anticipate the amount of additional capital

that would be required to serve as an adequate buffer when the financial system was jolted.

MUGGED BY REALITY

The 2008 financial collapse has provided reams of new data on negative tail risk; the challenge will be to use the new data to develop a more realistic assessment of the range and probabilities of financial outcomes, with an emphasis on those that pose the greatest dangers to the financial system and the economy. One can hope that in a future financial crisis—and there will surely be one—economists, investors, and regulators will better understand how fat-tail markets work. Doing so will require better models, ones that more accurately reflect predictable aspects of human nature, including risk aversion, time preference, and herd behavior.

Forecasting will always be somewhat of a coin toss. But if economists better integrate animal spirits into our models, we can improve our forecasting accuracy. Economic models should, when possible, measure and forecast systematic human behavior and the tendencies of corporate culture. Modeling will always be constrained by a lack of relevant historical precedents. But analysts know a good deal more about how financial markets work—and fail—than we did before the 2008 crisis.

The halcyon days of the 1960s, when there was great optimism that econometric models offered new capabilities to accurately judge the future, are now long gone. Having been mugged too often by reality, forecasters now express less confidence about our abilities to look beyond the immediate horizon. We will forever need to reach beyond our equations to apply economic judgment. Forecasters may never approach the fantasy success of the Oracle of Delphi or Nostradamus, but we can surely improve on the discouraging performance of the past.

Why Banking Systems Succeed—and Fail

The Politics Behind Financial Institutions

Charles W. Calomiris and Stephen H. Haber

People routinely blame politics for outcomes they don't like, often with good reason: when the dolt in the cubicle down the hall gets a promotion because he plays golf with the boss, when a powerful senator delivers pork-barrel spending to his home state, when a well-connected entrepreneur obtains millions of dollars in government subsidies to build factories that will probably never become competitive enterprises. Yet conventional wisdom holds that politics is not at fault when it comes to banking crises and that such crises instead result from unforeseen and extraordinary circumstances.

In the wake of banking meltdowns, one can rely on central bankers, Treasury officials, and many business journalists and pundits to peddle this view, explaining that well-intentioned and highly skilled people do the best they can to create effective financial institutions, allocate credit efficiently, and manage problems as they arise but that these Masters of the Universe are not really omnipotent. After all, powerful regulators and financial executives cannot foresee every possible contingency and sometimes find themselves subjected to strings of bad luck. Supposed economic shocks that could not possibly have been anticipated destabilize an otherwise smoothly running system.

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According to this view, banking crises are like Tolstoy's unhappy families: each is unhappy in its own way.

This conventional view is deeply misleading. In reality, the same kinds of politics that influence other aspects of society also help explain why some countries, such as the United States, suffer repeated banking crises, while others, such as Canada, avoid them altogether. In this context, "politics" refers not to temporary, idiosyncratic alliances among individuals but rather to the way a society's fundamental governing institutions shape the incentives of officials, bankers, bank shareholders, depositors, debtors, and taxpayers to form coalitions with one another in order to shape laws, policies, and regulations in their favor—often at the expense of everyone else. A country does not choose its banking system; it gets the banking system it deserves, one consistent with the institutions that govern its distribution of political power.

THE GAME OF BANK BARGAINS

One obvious way to underline how politics influences the stability of banking systems is to note that some countries have had lots of banking crises whereas others have had few or none. Consider the records of the 117 countries that have populations in excess of 250,000, that are not current or former communist countries, and that have banking systems large enough to report data on private credit from commercial banks for at least 14 of the 21 years from 1990 to 2010. Only 34 of those 117 countries (29 percent) avoided crises entirely between 1970 and 2013. Sixty-two of those countries had one crisis. Nineteen experienced two. One underwent three crises, and another weathered no fewer than four crises. In other words, countries that underwent banking crises outnumbered countries with stable banking systems by a ratio of more than two to one.

To remain competitive, modern economies need to establish banking systems capable of providing stable access to credit to talented entrepreneurs and responsible households. Why are such systems so rare? How can it be that a sector of the economy that is highly regulated and closely supervised works so badly in so many countries? The crux of the problem is that all governments face three inherent conflicts of interest when it comes to the operation of their banking systems. First, governments supervise and regulate banks while looking to them as sources of government finance. Second, governments enforce the credit contracts that discipline debtors on behalf of banks while

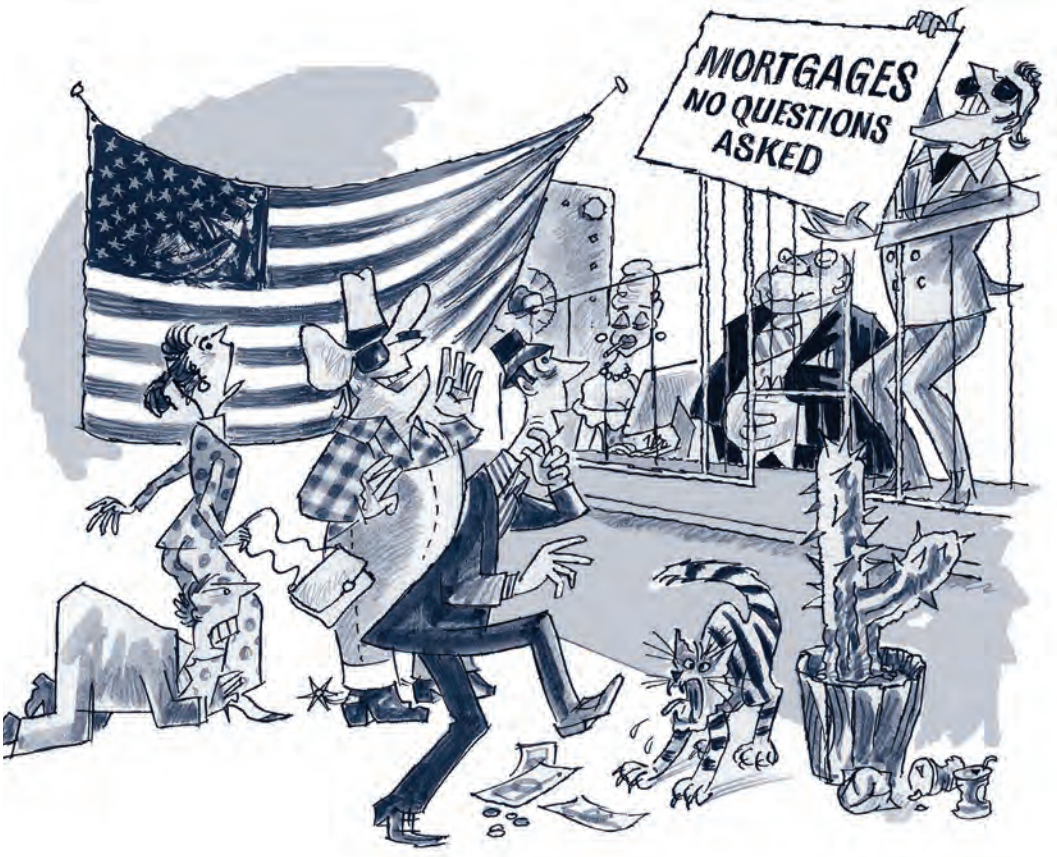
relying on those debtors for political support. Finally, although governments must spread the pain among creditors in the event of bank failures, they also simultaneously look to the most significant group of those creditors—bank depositors—for political support.

The property rights system that structures banking is thus the product of political deals that determine which laws are passed and which groups of people have licenses to contract with whom, for what, and on what terms. These deals are guided by the logic of politics, not the logic of the market. The fact that the property rights system underpinning banking systems is an outcome of political deal-making means that there are no fully private banking systems; rather, all modern banking is best thought of as a partnership between the government and a group of bankers, and that partnership is shaped by the institutions that govern the distribution of power in the political system. Government regulatory policies toward banks reflect the deals that gave rise to that partnership, as well as the power of the interest groups whose consent is politically crucial to the ability of the factions in control of the government to sustain those deals. Banks are regulated and supervised according to technical criteria, and banking contracts are enforced according to abstruse laws, but those criteria and laws are not created and enforced by robots programmed to maximize social welfare; they are the outcomes of a political process.

A country does not choose its banking system; it gets the banking system it deserves.

Call it the Game of Bank Bargains. The players in the game are the actors with a stake in the performance of the banking system: the group in control of the government, bankers, shareholders, debtors, and depositors. The rules governing play are set by the society's political institutions: those rules determine which other groups have to be included in the government-banker partnership, or, alternatively, who can be left out because the rules of the political system render them powerless.

Coalitions among the players form as the game is played, and those coalitions determine the rules governing how new banks are created (and hence the competitive structure and size of the banking sector), the flow of credit and its terms, the permissible activities of banks, and the allocation of losses when banks fail. What is at stake in the



Game of Bank Bargains is, therefore, the distribution of the benefits that come from maintaining a system of chartered banks.

Contrary to the way debates about banking are generally framed, the focus should be not on whether banks require more or less regulation but rather on the goals that give rise to regulation and the way those goals are shaped by political bargains. In some countries, the institutions and coalitions combine to produce regulation that improves market outcomes. In other countries, they establish regulations that primarily serve special interests, often with disastrous consequences for the rest of society.

One way to understand the intersection of politics and banking is to examine two pairs of relatively similar neighboring countries where political systems and historical forces produced very different banking systems: England and Scotland and Canada and the United States.

LUCK OF THE SCOTTISH

When the Bank of England and the Bank of Scotland were chartered, in 1694 and 1695, respectively, England and Scotland were separate kingdoms with separate parliaments but were ruled by the same sovereign,

William III. At that time, William was hunting for a way to finance his war against France. Since Scotland was poor and remote, the king realized that he would gain little by creating a monopoly Scottish bank to help finance his military exploits and instead relied on England to generate war funding. Moreover, the creation of such a bank would have required negotiating with the Scottish parliament, which was not as committed to the idea of financing the king's imperial ambitions as was its English counterpart. In fact, the charter of the Bank of Scotland prohibited it from lending to the crown without an act of parliament; the Scottish parliament was quite conscious of the problems that could arise if the Bank of Scotland were turned into a vehicle of public finance. Thus, from the king's point of view, it was easier to adopt a policy of laissez faire with respect to the Scots and simply use the Bank of England (as well as other English companies) to finance the war.

So began the English banking system's history as a crony enterprise. Until well into the nineteenth century, the Game of Bank Bargains in England was structured to serve the fiscal interests of the state and the personal interests of a small group of well-connected private citizens.

From 1694 to 1825, the Bank of England was the only English bank that was allowed to take the form of a joint-stock corporation, in which the company is owned by shareholders. All other banks had to organize themselves as partnerships limited to six partners, which kept them relatively small. Other banks were also subject to strict usury laws, which discouraged them from expanding their circle of borrowers. But the English government effectively exempted itself from those laws, thereby channeling credit to itself rather than the private sector. This repressive banking system constrained capital accumulation by the private sector during the early years of the Industrial Revolution, as investment was financed out of the pockets of tinkerers and manufacturers rather than through bank lending.

In the past 180 years, the United States has suffered 14 major banking crises. Canada has suffered two.

Merchants and manufacturers complained about the scarcity of credit that resulted from constrained bank chartering, which resulted in a reliance on small country banks as the main source of private credit, and so the Bank of England attempted to mollify them by committing to buy the short-term debt obligations issued by other banks and brokers to finance trade. But this only made England's fragmented system of banks even more unstable than it already was: knowing that the Bank of England would buy their bills regardless of the circumstances, country banks and other small lenders had little incentive to behave responsibly. As a result, English banking was prone to boom-and-bust cycles, and England suffered frequent major banking crises in the eighteenth century and quite a few in the nineteenth century, as well.

In sharp contrast to England, Scotland, by the middle of the eighteenth century, had developed a highly efficient, competitive, and innovative banking system, which promoted rapid growth. Unlike in England, where the crown's demands on the Bank of England required the state to protect the bank's monopoly, in Scotland, the government allowed for the free chartering of banks. Also unlike in England, in Scotland, the banks were able to link their urban headquarters with branches that operated in areas that could not otherwise have supported banks. Free from the obligation to finance the state and allowed to compete and invest everywhere, Scottish banks pursued profit-seeking strategies that provided credit to all sectors of the economy.

As a result of Scotland's free chartering rules, competition among Scottish banks was fierce during the nineteenth century, spurring the banks to innovate, inventing new services such as interest-bearing deposits and lines of credit. Scottish banks enjoyed remarkably narrow spreads (roughly one percentage point) between the rates of interest charged on loans and the rates they paid on deposits. Nevertheless, they earned respectable rates of return for their shareholders, indicating a high level of efficiency.

The Scottish system served the public well, too: by 1802, the value of bank assets per capita in Scotland was 7.5 pounds, compared with just six pounds per capita in England. Scottish banks were also less likely than English banks to fail or impose losses on their debt holders. Between 1809 and 1830, bank failure rates in England were almost five times as high as those in Scotland, a reflection of the Scottish banks' greater size, competitiveness, and portfolio diversification.

The United Kingdom's defeat of France in 1815 began a period known as the Pax Britannica. A combination of reduced war-financing needs and expanded suffrage brought pressure for political change that led England to imitate Scotland's success: it relaxed its bank-entry restrictions and reformed its bailout policies. By the last quarter of the nineteenth century, the United Kingdom's unified system was a model of stable, efficient, and competitive branch banking.

POPULIST POWER

Perhaps no pair of countries more clearly demonstrates the way politics determines banking stability than Canada and the United States, two countries that are very similar but that have had starkly different experiences when it comes to banking crises. The banking system in the United States has been highly crisis-prone, suffering no fewer than 14 major crises in the past 180 years. In contrast, Canada—whose southern border with the United States stretches 4,000 miles and whose society and culture closely resemble those of its big brother to the south—experienced only two brief, mild bank-illiquidity crises during that period, both of which occurred in the late 1830s, and neither of which involved significant bank failures. Since then, some Canadian banks have failed, but none of those failures led to a systemic banking crisis. The Canadian banking system has been extraordinarily stable—so stable, in fact, that there has been little need for government intervention in support of the banks since Canada's independence, in 1867.

The causes of this disparity stretch all the way back to the Colonial era. The original 13 colonies that went on to become the United States were surrounded by hostile neighbors. The colonists faced constant threats from the Spanish in Florida, the French in Quebec and the Ohio Valley, and Native Americans nearly everywhere else. In order to survive, the colonies had to defend themselves with force. There was no obvious source of wealth that could pay for a large standing army to keep enemies at bay. But the colonies did enjoy seemingly endless expanses of farmland suitable for growing tobacco, maize, and wheat, provided that the colonists were able to clear the Native Americans off the land. This combination of hostile neighbors, abundant land, and storable crops that could be grown on modest scales meant that some of the most influential colonists were small, freeholding farmers—who happened to be armed to the teeth.

When the large landowners and merchants who composed the colonies' economic elite decided to declare independence from Great Britain, they had to secure the loyalty of this class of armed, independent farmers. That was no easy trick: the revolutionary leaders were asking the farmers to go toe-to-toe against the most disciplined and best-equipped army in the world. Motivating them to do so required promises that the farmers would actually enjoy a measure of liberty, freedom, and equality if they won the fight.

In the immediate decades following independence, the merchant elites still managed to maintain the upper hand when it came to economic policy, including bank chartering. But their grip on the banking system soon succumbed to populist challenges, culminating in the failure, in 1832, of the attempt to recharter the federal government's nationwide Bank of the United States. From that point until the late twentieth century, U.S. banking policies were determined by a durable alliance between small unit banks (banks with no branches) and agrarian populists—farmers who distrusted corporations of nearly every type and the elites who controlled them. The populist support for unit banking reflected, in part, the fact that local banks depended on local economies, making unit banks more willing than big banks to provide credit to existing borrowers even during lean times.

The economic organization of U.S. banking during this rural populist era entailed significant costs: a banking system composed of thousands of unit banks was inherently unstable, noncompetitive, and inefficient. The absence of branches meant that banks could neither spread risk

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across regions nor easily move funds in order to head off bank runs or coordinate collective responses to problems that arose. As a result, the United States became and remained the most banking-crisis-prone economy in the world. Furthermore, the fact that unit banks operated local monopolies meant that they were able to charge more for loans and pay less for deposits than would have been the case had they had to compete with one another. But the rural populist coalition survived, thanks in part to the decentralization of authority over bank chartering, which allowed the coalition to defeat efforts to allow the federal government to charter its own banks. Even the banking crises of the Great Depression failed to undermine the coalition that supported this inefficient and unstable system.

In the 1990s, U.S. banks seeking to become nationwide enterprises formed unlikely alliances with urban activists.

Indeed, not until the 1990s was the U.S. banking market completely opened up to competition. A steady process of liberalization that had begun in the 1970s culminated in 1994, when Congress passed the Riegle-Neal Interstate Banking and Branching Efficiency Act, allowing banks to open up branches within states and across state lines. The new law sounded the death knell of the populist coalition that had shaped U.S. banking institutions since the 1830s and permitted a wave of mergers and acquisitions that created the megabanks that now have branches in nearly every city and town in the United States.

In this new American Game of Bank Bargains, populism continued to play a central role in determining the allocation of credit and profit. However, by the late twentieth century, the center of populist power had shifted from rural areas to big cities. In 1977, Congress passed the Community Reinvestment Act to ensure that banks were responsive to the needs of the communities they served. The CRA required banks that wanted to merge with or acquire other banks to demonstrate that responsiveness to federal regulators; the requirements were later strengthened by the Clinton administration, increasing the burden on banks to prove that they were good corporate citizens. This provided a source of leverage for urban activist organizations such as the Neighborhood Assistance Corporation of America, the Greenlining Institute, and the Association of Community Organizations for Reform Now, known as ACORN, which defined themselves as advocates for low-income,

urban, and minority communities. Such groups could block or delay a merger by claiming that the banks were not in compliance with their responsibilities; they could also smooth the merger-approval process by publicly supporting the banks. Thus, banks seeking to become nationwide enterprises formed unlikely alliances with such organizations. In exchange for the activists' support, banks committed to transfer funds to these organizations and to make loans to borrowers identified by them. From 1992 to 2007, the loans that resulted from these arrangements totaled $850 billion. From the point of view of an ambitious banker who was seeking to create a megabank of national scope, making such loans, which represented risks that the banks might not otherwise have taken, was simply part of the cost of doing business.

The alliance between megabanks and urban activist organizations became even more ambitious as it drew in a third set of partners: the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation, commonly known as Fannie Mae and Freddie Mac. CRA-mandated loans posed higher levels of risk to banks than more traditional mortgage loans. To reduce the potential harm to the their bottom lines, banks made it clear to their activist partners that there was an upper limit on how much credit they would extend. In response, activist groups successfully lobbied Congress to require Fannie Mae and Freddie Mac to repurchase the mortgage loans that banks had made to low-income and urban constituencies to meet the obligations of the CRA. After Congress enacted those requirements in 1992—and especially after the Clinton administration progressively increased the proportion of Fannie Mae and Freddie Mac loan repurchases that met the low-income or urban criteria—even more credit could be directed to targeted constituencies at less cost to the banks. The banks were now able to resell some of their CRA-related mortgages to Fannie and Freddie on favorable terms.

The government mandates on Fannie and Freddie were not vague statements of intent. They were specific targets, and in order to meet them, Fannie and Freddie had little choice but to weaken their underwriting standards by permitting higher leverage, weaker mortgage documentation, and lower borrower credit scores. By the mid-1990s, Fannie and Freddie were agreeing to purchase mortgages with down payments of only three percent, compared with the 20 percent that had long been the industry standard. By 2004, they were purchasing

massive quantities of "liar loan" mortgages, made to borrowers who were not required to document their incomes or assets at all.

Fannie and Freddie, by virtue of their size and their capacity to repurchase and securitize loans made by banks, set the standards for the entire industry. When Fannie and Freddie weakened their underwriting standards in order to accommodate the partnership between megabanks and urban activist groups, their weakened underwriting standards ended up applying to everyone. Thus, when Fannie and Freddie started taking huge risks, they changed the risk calculus of large numbers of American families, not just the urban poor. Middle-class families could now borrow heavily and buy much bigger houses in much nicer neighborhoods than they could have bought previously. The result was the rapid growth of mortgages with high probabilities of default for all classes of Americans—and the widespread effects of the subprime crisis. By distorting the incentives of bankers, Fannie and Freddie, government agencies, and large swaths of the population through implicit housing subsidies, the new American Game of Bank Bargains led to a crisis of phenomenal proportions. For a while, almost everyone who played was a winner. When the bubble burst, of course, almost everyone—most particularly and tragically the urban poor—became a loser.

THE TRUE NORTH, STRONG AND FREE—AND STABLE

During the 2008 financial crisis, hundreds of banks failed in the United States, and the U.S. Federal Reserve and the U.S. Treasury had to marshal massive quantities of taxpayer dollars in loans, guarantees, and bailouts to prevent the collapse of still more banks, including some of the very largest. Canada's banks, meanwhile, never came under severe pressure. None had to be bailed out by taxpayers. Americans were envious and puzzled by the good fortune of their northern neighbors; Canadians were unsurprised. After all, the extraordinary stability of the Canadian banking system had been one of Canada's most visible and oft-noted characteristics for nearly two centuries. This achievement is especially remarkable in light of the fact that Canada's economy has relied heavily on exports and is thus quite vulnerable to changing market conditions overseas that are out of Ottawa's control. More remarkable still, the stability of Canada's banks for nearly two centuries has been maintained with little government intervention.

Many observers have attributed the Canadian system's relative success to its structure, one that is very different from that of the U.S. system. The Canadian banking sector has always been composed of very large banks with nationwide branches. This has not only allowed Canadian banks to diversify their loan portfolios across regions; it has also allowed them to transfer funds in order to shore up banks in regions affected by adverse economic shocks. Nationwide branch banking has also allowed Canada's banks to achieve economies of scale while competing among themselves for business in local markets. Historically, Canadian banks have had lower interest-rate spreads than U.S. banks, especially in remote areas.

One potential shortcoming of a concentrated system such as Canada's is that it could undermine competition among banks, resulting in less accessible, more expensive credit for households and businesses. But Canada's democratic political institutions have limited the extent to which the banks can earn monopoly profits. For more than 150 years, the Canadian parliament has carried out periodic legislative reviews and recharterings of the country's banks. Until 1992, this occurred every ten years; since 1992, it has occurred every five years. The practice of revising the Bank Act (the primary legislation governing banks in Canada) and rechartering the banks is not solely a stick with which to threaten bankers; it is also a carrot that rewards sound business practices by giving the bankers themselves a voice in the crafting of new legislation. Mindful of parliament's power, Canadian bankers follow the dictum "Pigs get fat, hogs get slaughtered." The stability of Canada's banking system, therefore, is not the mechanical result of its branching structure; after all, if branching alone guaranteed stability, U.S. banks would have avoided falling prey to the subprime crisis. The true source of Canadian banks' stability has been Canada's political institutions.

One overarching factor shaped Canada's political economy, including its banking sector: following the American Revolution, British policymakers were determined to hold on to Canada. But the vast majority of Canadian colonists in the late eighteenth century were of French origin and not particularly loyal to the United Kingdom. Keeping control of Canada thus required British policymakers to make concessions to the colonists' demands for increased self-government while also limiting the political power of the large French population. The British solution was a federal system that diminished French-Canadian influence and gave the central government control

over economic policymaking. One result was that even after Canada became functionally independent from the United Kingdom, Canada's provinces, such as Quebec, never enjoyed the power to create local banks that could serve as the nucleus of a coalition opposed to a national bank, as happened in the United States.

There were populist challenges to Canadian banking laws, but Canada's political institutions made it difficult to change the basic rules of the country's Game of Bank Bargains. Banking reforms had to originate in the House of Commons, where it was much harder to create and sustain a winning agrarian populist coalition than would have been the case had bank laws been enacted at the provincial level. Any reform that got through the House of Commons then had to be approved by the appointed Senate, where groups favoring the status quo were usually able to delay changes, propose watered-down compromises, or block proposals entirely. Throughout the twentieth century, this system fended off populist calls for bailouts when banks failed.

In the latter part of the century, Canada's system was effectively immune to the capture of banking policy by special interests, such as the alliance of urban populists and emerging megabanks that led the United States into the subprime crisis. After World War II, the return of hundreds of thousands of Canadian servicemen led to rapid urbanization and an explosion of demand for housing in Canada's cities. The government took a number of steps to provide housing credit to this crucial new urban constituency, but it did not do so by pressuring the banks. Rather, the government initially responded to the demand by passing legislation and reforms that, in essence, encouraged insurance companies to underwrite mortgages. And when the market looked unattractive to insurance companies, the federal government directly subsidized homebuilders using taxpayer dollars. This form of support avoided the sort of dangerous subsidization of extremely risky mortgages that took place in the United States. Thus, when Canada's banks finally entered mortgage markets in the 1980s, they did so with quite conservative underwriting standards.

Many observers of the Canadian banking system attribute its superior performance and stability to its regulatory structure, but effective regulation is best seen as a symptom of deeper political forces. In the United States, regulators permitted instability because it served powerful political interests: rural populists and unit banks prior to the 1980s and urban populists and megabanks afterward. In Canada, the government

did not use the banking system to channel subsidized credit to favored political constituencies, so it had no need to tolerate instability.

TOO FLAWED TO FIX?

If deeply rooted political and historical forces largely determine the quality of countries' banking systems, it is fair to ask how reformers can hope to improve those systems. Within a democracy, effective reforms in banking require more than good ideas or brief windows of opportunity. What is crucial is persistent popular support for good ideas. That is easier imagined than accomplished. Self-interested parties with strong vested interests distract and misinform the public, making it very hard for good ideas to win the day. Banking is a complicated subject, and dominant political coalitions exploit that complexity to make it difficult for the majority of voters to understand how banking systems can be manipulated.

Compounding that problem, it can be hard for ordinary people to identify disinterested third parties, especially in the mass media. If you are a financial wizard, being a reporter tends not to pay as much as being a banker. The result is that many reporters, even at top news outlets, deal with financial reform on a superficial level. Partly as a result, the only ideas for reform that have much hope of gaining widespread popular support are those that can be conveyed in simple terms. Consequently, it is harder for reformers to push for good policies in banking, since good policies almost always reflect the complexity of the system and are hard to reduce to sound bites.

Nevertheless, an unvarnished appreciation for the realities and ironies of the political world and the difficulties of bank regulatory reform should not lead to cynicism or hopelessness. Despite its challenges, political entrepreneurship within a democracy can reshuffle the deck in the Game of Bank Bargains by getting participants in the game to revise their views of what best serves their interests. Those who wish to improve banking systems must begin from a clear sense of how political power is allocated and identify gains for those who have the power to change things for the better. It does no good to assume that all the alternative feasible political bargains have already been considered and rejected. As George Bernard Shaw wrote, "The reasonable man adapts himself to the world: the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man." Meaningful banking reform in a democracy depends on informed and stubborn unreasonableness.

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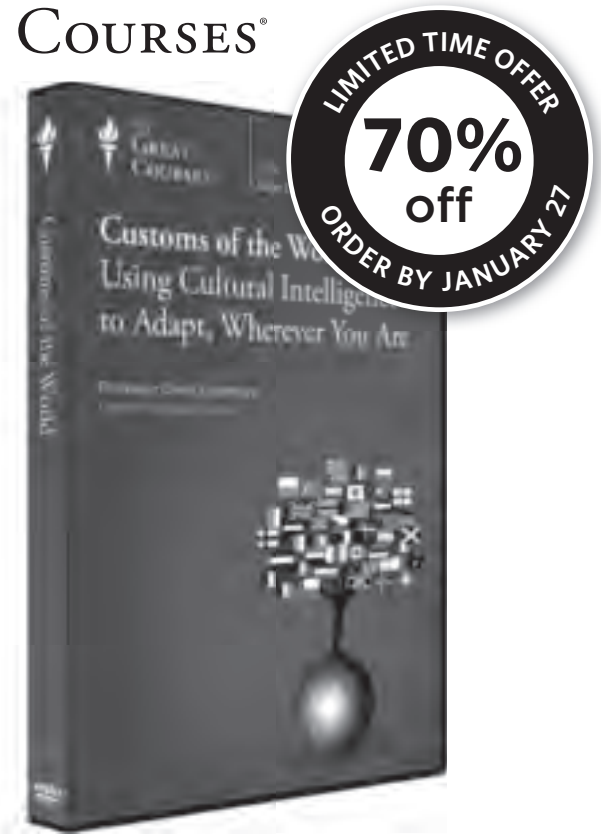

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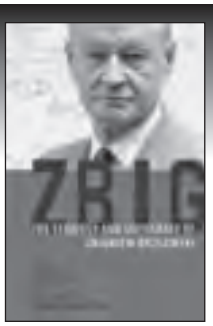

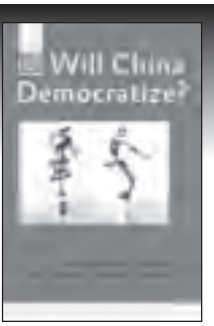

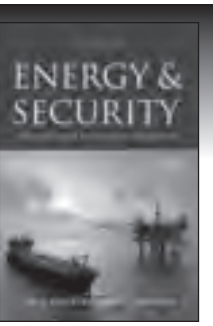

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Bridge to Somewhere

Helping U.S. Companies Tap the Global Infrastructure Market

Jose W. Fernandez

International development has moved beyond charity. Gone are the days when the United States would just spend its seemingly bottomless largess to help less fortunate or vanquished countries, as it did after World War II. International development has reached a new, globally competitive stage, bringing with it enormous strategic and economic implications for the United States in the years ahead.

According to the Organization for Economic Cooperation and Development (OECD), the global middle class will grow from an estimated 1.8 billion people in 2009 to 4.9 billion in 2030. Nearly all of that growth will occur outside Europe and North America, from Brazil, China, and India to countries in the Middle East, North Africa, and Southeast Asia. Eighty-five percent of the growth will come in the Asia-Pacific region alone. The priorities of those countries will change along with their demographics. With more people escaping poverty, governments' focus is shifting from meeting basic needs to ensuring longer-term economic prosperity. Instead of handouts, nations are looking for investments to keep their middle classes employed. And more often than not, those investments are for infrastructure that enables and sustains growth.

To achieve the rates of growth necessary to meet the needs of the new generation of consumers and middle-class citizens, and to fulfill the aspirations of those who seek to join them, emerging-market countries will have to expand and upgrade their ports, roads, railroads, electricity generation, water purification and distribution systems,

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and telecommunications systems. Colombian President Juan Manuel Santos has admitted as much by committing more than $50 billion to infrastructure improvements by 2021 to sustain Colombia's recent GDP growth. India's government has acknowledged that it must increase its total infrastructure spending to more than ten percent of GDP by 2017 to maintain its growth-rate targets.

Because much of the investment to build this infrastructure will come from the private sector instead of aid, development has become one of most promising international business opportunities of our time. Nearly $60 trillion in infrastructure investments will be required around the world between now and 2030 just to keep up with projected global GDP growth, according to the McKinsey Global Institute, translating to enormous potential economic windfalls for companies that can design and build that infrastructure. But in countries such as India, local firms lack the capacity and the funding needed to execute many of the projects that the government envisions. U.S. companies can fill this gap.

The benefits of participating in international infrastructure development cannot be measured just in dollars and cents. Given the magnitude of what is at stake—helping billions escape poverty—investing in development is also a strategic imperative for the United States. By operating abroad, U.S. companies not only contribute to Americans' material well-being; they also represent the United States and promote its image overseas. Helping other countries grow by building their roads, ports, and airports boosts U.S. leadership and, in turn, the American brand. Simply put, the United States should not let others build the next Panama Canal.

But U.S. companies are not taking sufficient advantage of the opportunities offered by the new market for infrastructure. Indeed, the Nicaraguan Congress recently authorized a Hong Kong company to build a canal between the Pacific and the Caribbean, at an estimated cost of $40 billion. U.S. firms are generally less experienced and more risk averse than their competitors, and they often face bidding processes and procurement policies that are rigged against them. And making matters worse, U.S. companies at times do not receive the help they need from the American public sector. Yet neither U.S. companies nor the U.S. government need be resigned to failure: there is still time for U.S. firms to get into the game, and Washington can and should do more to support those companies in the global infrastructure market.

KNOW THE COMPETITION

So far, the United States has failed to become a significant player in international infrastructure development. In 2012, the two dozen or so U.S. construction and engineering companies that compete in the field captured barely 14 percent of the revenues earned by international companies outside their home markets. Government officials from Colombia to Indonesia complain that representatives of Brazilian, Chinese, South Korean, and European companies constantly visit and tout their credentials but that months can go by without anyone from a U.S. company coming to their doorsteps. According to *International Construction* magazine, the construction and engineering company Bechtel was the only U.S. contractor ranked in the world's top ten construction companies by overall revenue in 2011. That year, French, German, Italian, and Spanish firms accounted for more than half of the overseas revenue generated by international contractors, and European companies represented seven of the top ten transportation developers worldwide, as measured by the number of projects they had under construction or in operation. Chinese firms, meanwhile, may be newcomers, but they are growing fast. Although Chinese contractors' total market share outside China, according to *Engineering News-Record*, was only 13.8 percent in 2011, the three biggest construction companies by total revenue in both 2010 and 2011 were Chinese. And all three of those entities are state-owned.

The United States has failed to become a significant player in international infrastructure development.

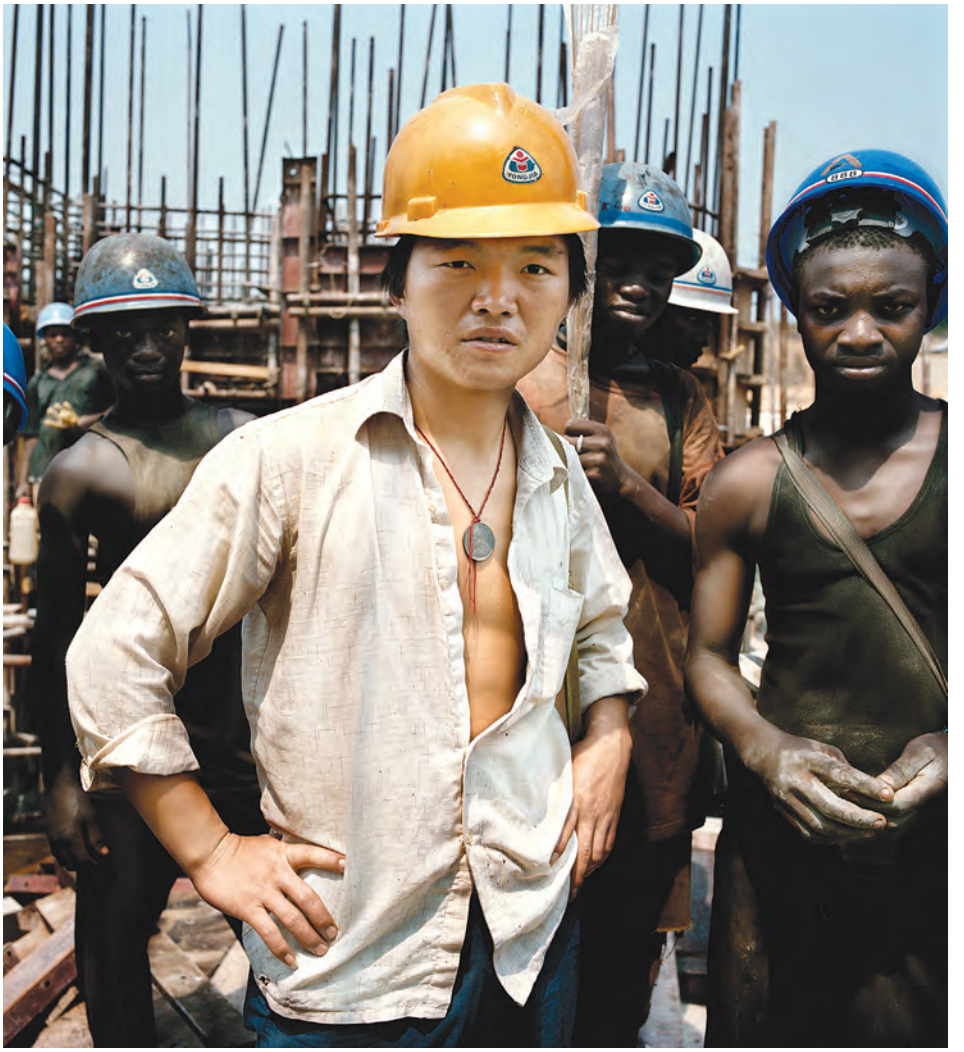
American companies face numerous hurdles and impediments—many of them self-imposed—that have left them lagging in this increasingly critical sector. To start with, U.S. firms have been less focused on international markets than their European competitors, which have a longer track record building infrastructure in the developing world. Despite the United States' geographic proximity and close ties to Latin America and the Caribbean, for example, in 2011, Spanish companies alone received 32 percent of the revenues generated by international contractors in that region. Experience designing and implementing projects in Asia enabled European companies to grab nearly $50 billion in contracts in that region in

2011—twice as much as the Chinese did in their own neighborhood. Although U.S. companies sometimes point out that their counterparts can operate free from the constraints of the Foreign Corrupt Practices Act, a U.S. federal law that forbids the bribery of foreign officials, most of the world's leading infrastructure firms abide by equivalent domestic legislation and hail from countries that have signed the OECD's Anti-Bribery Convention.

European firms enjoy an advantage in some developing countries partly because of Europe's colonial history and the resulting cultural ties and familiarity. But they have also been aided by being forced to roam farther afield in search of new opportunities outside their smaller domestic markets. By contrast, the sheer geographic size of the United States has allowed American construction and engineering companies to stay away from unfamiliar markets. U.S. firms looking to expand could find opportunities closer to home, a potentially safer proposition than doing business abroad.

Compounding the problem is the unique nature of the U.S. infrastructure market, which historically has not prepared domestic companies to compete internationally. According to the OECD, the United States has lagged behind Australia and Europe in privatizing critical infrastructure such as roads, bridges, and tunnels. Also, despite the country's geographic size, American infrastructure projects tend to be local. With the exception of the interstate highway system and the railroads, most U.S. projects are undertaken at the state or municipal level, which means smaller contracts and a bidding process that rewards local contacts and knowledge.

Doing business in the developing world often means dealing with inadequate legal protections and nerve-racking political risk. Most American telecommunications, energy, and water companies that entered Latin American markets in the last 15 years suffered significant losses, left, and show little desire to return. Some, such as ExxonMobil and ConocoPhillips in Venezuela, saw their assets nationalized. Others were forced to renegotiate concessions agreed to with host governments after significant investments had already been made. A few in countries such as Argentina even chose to hand projects back to the host countries and take the tax write-offs rather than continue to do business there. This history partly accounts for why many U.S. companies continue to shy away from pursuing large and profitable, but risky, projects abroad.



Built not to spill: on the building site of the Imboulou Dam, Congo, 2007

PAOLO WOODS / INSTITUTE

Making the matter worse is the growing prevalence of infrastructure projects based on a "build-operate-transfer" (BOT) method, which shifts almost all of the projects' early risks onto the developers. That model, which is not widely used in the United States, makes developers responsible for the costs of completing projects. The BOT model also requires developers, in order to win government contracts, to put together complete packages of construction companies, technical operators, and financers. Although BOT agreements would appear to ensure predictable revenues, in practice they are frequently renegotiated due to delays, cost overruns, or other changes in the operating environment. A World Bank study of 1,000 infrastructure concessions

awarded in Latin America and the Caribbean between 1989 and 2000 found that more than 41 percent were renegotiated. According to the researchers, even that figure probably understates the true rate, given that infrastructure contracts typically run for more than 20 years. None of this is likely to give U.S. contractors much comfort about their potential returns on investment.

Faced with such uncertainty, U.S. companies often opt to serve as subcontractors on discrete aspects of overseas projects, thereby lowering their risk and their return—and the American profile. It is not surprising, then, that foreign governments complain that many U.S. infrastructure companies do not offer complete turnkey packages.

OUT-OF-TOWNERS

Emerging markets often do not present a level playing field: U.S. firms must frequently compete with state-owned or state-aided enterprises. Those favored local competitors can enjoy advantages stemming from formal regulations (such as laws giving them preference) or informal mechanisms (such as contacts with key local players or political pressure to favor domestic production), which makes U.S. companies think twice before participating in lengthy and expensive tender processes.

Consider a 2010 update to Brazil's procurement law. The measure gave preference to local or foreign firms already operating in Brazil that fulfilled economic stimulus requirements, such as generating employment or contributing to technological development, even if their prices were up to 25 percent higher than competing bids from companies based outside the country. This provision was added to the original law's implementing regulations, which favored domestic producers and required foreign bidders to incorporate local content to qualify for fiscal benefits. And winning infrastructure contracts in China is no easier: as the State Department's 2013 "Investment Climate Statement" on China makes clear, China's often murky regulations allow its government to restrict foreign investment that might compete with state-sanctioned monopolies or other favored domestic firms in key sectors of its economy.

The World Trade Organization has sought to address such inequities through its revised Agreement on Government Procurement (GPA), which requires participating countries to make their public-sector contracting processes transparent. Yet few of the countries with

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large government-sponsored infrastructure plans are currently parties to the agreement. China, Colombia, India, and Turkey are just observers (although U.S. companies in Colombia do benefit from the recently approved bilateral free-trade agreement). Only Beijing is currently negotiating its accession to the agreement—and has been since 2007. Brazil is not even an observer.

In addition to facing these structural hurdles, U.S. firms also have trouble getting a fair shot at development funds. Despite a strong U.S. government presence on the boards of development institutions such as the World Bank and the Inter-American Development Bank, U.S. companies do poorly when it comes to winning projects funded by those organizations. Although U.S. contractors receive more funds from the Millennium Challenge Corporation—a congressionally mandated foreign aid agency intended to fight global poverty—than any other country's companies, they had been awarded only about 13 percent, or $800 million, of the total disbursed as of 2012. In an attempt to correct this, the Millennium Challenge Corporation has barred state-owned enterprises from bidding on the development projects that it funds in a select group of poor but well-governed countries. Similarly, World Bank statistics show that Brazil, China, and India receive the bulk of civil-works contracts financed by the bank, although those numbers do not reflect subcontracts that U.S. firms may have obtained. Perhaps because they do not think they will win them, U.S. firms often do not even bid on multilateral bank contracts. When they do, their prices are generally too high. Since entities such as the World Bank and the African Development Bank focus on up-front costs instead of the economic impact over a project's lifetime, developing-country firms, which can typically offer lower labor costs, usually win out. U.S. companies often have advantages that can result in lower costs over a project's lifetime, ranging from high-quality workmanship to the ability to complete projects on schedule, but those strengths are easily overlooked in bidding processes focused on design and construction costs rather than maintenance and other long-term needs.

Countries such as Brazil and China do not just give out more loans to local firms; they also offer them better terms.

Competing in the international infrastructure sector is made all the more difficult by the fact that U.S. firms cannot count on nearly as much government support as their competitors. American contractors receive a fraction of the export financing that their counterparts in developing countries can expect from their governments. As of the middle of 2011, the financing offered by the BRIC countries (Brazil, Russia, India, and China) to their exporters was larger than the combined assistance given to their competitors in the G-7 countries. In 2011, the Brazilian Development Bank, one of the largest development banks in the world, disbursed more than three times as much funding as the World Bank and nearly ten times as much as the Inter-American Development Bank. Almost half of its lending was devoted to infrastructure, but it was restricted to Brazilian legal entities, individuals, and public institutions or Brazilian subsidiaries of foreign companies.

Countries such as Brazil and China do not just give out more loans to local firms; they also offer them better terms. Neither country is a signatory to the OECD's Export Credits Arrangement, which, among other things, sets the minimum interest rates and maximum repayment terms that participating countries can offer their exporters. Although the arrangement does allow the Export-Import Bank of the United States to match the terms offered by nonsignatory countries, it is often difficult to determine what assistance nonparticipants are offering absent the transparency provided by the OECD agreement.

MADE IN AMERICA

The time is ripe for U.S. firms to step up their game, and U.S. companies can still catch up to their Brazilian, Chinese, and European competitors if they move quickly. They should open their sales pitches by stressing quality over price. Chinese companies, for example, might charge lower prices, but they have a spotty record when it comes to delivering high-quality projects on schedule—and governments are beginning to notice. Last summer, a Chinese contractor failed to keep a major highway project in Poland within budget and had to abandon it just before Poland hosted the Euro 2012 soccer tournament. Several other Chinese firms quit construction projects in Saudi Arabia in 2012 due to conflicts with the government over standards. According to Saudi regulatory officials, necessary

improvements in the quality of the materials used would have put the Chinese companies' prices near those of their American and European competitors. But American companies must recognize that this advantage will not last, as Chinese and other foreign firms will undoubtedly improve.

At the same time, U.S. companies will have to adapt to the nature of the global infrastructure market, including the trend toward do-it-all approaches to infrastructure development, such as the BOT model. Developing-country governments frequently stress the simplicity of more comprehensive models and wish U.S. companies knew that they prefer "package deal" bids. Global competitors have already recognized this trend. According to a 2011 survey of 161 CEOs of engineering and construction companies by the auditor KPMG, consolidation and competition will take most midsize companies out of the market. If relatively smaller U.S. companies want to compete in an environment that favors large, state-aided contractors offering comprehensive infrastructure schemes, they will need to start thinking bigger and look to partner with companies possessing complementary advantages.

CAPITAL IMPROVEMENTS

American companies cannot get into the infrastructure game alone; Washington will need to help. To be fair, various U.S. departments and agencies already provide support with financing, technical advice, and assistance to mitigate risk and deal with foreign governments during the bidding process. Through the International Trade Administration, the Department of Commerce provides international financing and logistics solutions, trade data and analysis, and assistance with licenses, regulations, and market access and compliance issues. The Overseas Private Investment Corporation offers medium- to long-term funding through direct loans and loan guarantees, together with political risk insurance. The U.S. Export-Import Bank makes available numerous financing options for U.S. companies involved in overseas development. The U.S. Trade and Development Agency provides grant funding to sponsors of overseas projects for activities that support infrastructure development, such as technical assistance, training programs, and early investment analysis and feasibility studies. But even these efforts pale in comparison to those of U.S. competitors.

And it looks like American companies may get even less help in the future, as budgetary pressures have shrunk some export-boosting programs. Facing demands to cut costs, the Department of Commerce, whose mission includes advocating on behalf of U.S. companies trying to win contracts abroad, had to trim its fiscal year 2012 trade-promotion budget request to $350 million—roughly the same amount it received six years earlier. The cuts have already affected how the Commerce Department does business abroad. Last year, for example, the department shuttered its U.S. Commercial Service's West Africa office, based in Dakar, Senegal. An office in English-speaking South Africa, thousands of miles away, now covers that region. The U.S. Export-Import Bank also had to fight for its life in Congress last year, despite having made a $700 million profit and having supported U.S. exporters with an unprecedented $35 billion in much-needed financing during the previous fiscal year. All these cutbacks come in the middle of President Barack Obama's five-year National Export Initiative, which aims to double U.S. exports by 2014 from their 2009 totals.

The U.S. Export-Import Bank had to fight for its life in Congress last year, despite having made a $700 million profit.

Even in the face of budget cuts, U.S. commercial agencies must do more to open up opportunities for American companies. Washington can start by providing firms with more market intelligence, taking advantage of the diplomatic missions it has in nearly every country in the world. U.S. Foreign Service officers are privy to a wealth of information about overseas markets that would help American companies in their strategic planning and risk mitigation. Currently, not enough of this intelligence reaches the private sector. The State Department now runs regular conference calls through a program called Direct Line, which puts U.S. businesses in contact with U.S. ambassadors so that they can discuss business opportunities in host countries. The program has been well received and has attracted nearly 4,000 participants. The State Department also plans to unveil soon a "trade leads" website focused on infrastructure. But Washington still needs to keep businesses better informed about the conditions affecting investment abroad: other governments' procurement plans, changes

in economic conditions or priorities, who the key government players are, and who are potential competitors and partners.

Next, the U.S. government needs to improve access to financing. Doing so will require convincing Congress of the economic and strategic importance of more loans for U.S. companies bidding on infrastructure development projects abroad. Financing terms often make or break large infrastructure deals; U.S. lawmakers need to understand that competing with Chinese, South Korean, and European companies, among others, requires giving U.S. firms better access to credit. Instead of debating ways to weaken or eliminate the Export-Import Bank, Congress should be increasing the budget and the lending cap of an institution that regularly earns a profit for U.S. taxpayers while helping boost exports. The same goes for the other government agencies that help level the playing field for U.S. companies abroad.

American companies cannot get into the infrastructure game alone; Washington will need to help.

Washington must also continue pressing Beijing to bring its export credit practices in line with those of the world's other major economies. Obama's announcement, following a February 2012 meeting with then Chinese Vice President Xi Jinping, that China and the United States would begin talking about a set of international export credit guidelines that are "consistent with international best practices" was a good start. But the U.S. government needs to ensure that any agreement resulting from those negotiations limits the scope and increases the transparency of the assistance Beijing provides to Chinese exporters.

Because of budget cuts, the Department of Commerce and other U.S. government agencies will need to advocate more efficiently on behalf of U.S. firms. To address the reduction in U.S. Commercial Service personnel, Washington could emulate several European countries and boost its partnership with the American Chambers of Commerce Abroad to provide more advice and advocacy to U.S. companies. Germany's Federal Ministry of Economics and Technology, for example, works closely with the Association of German Chambers of Industry and Commerce to promote the country's exports. Similarly, representatives of the German Trade

and Investment Agency, which helps advise foreign companies about investing in Germany, meet with foreign chambers of commerce, thus expanding the reach of the organization and allowing it to promote investment in Germany and share market intelligence with German companies.

BREAKING BARRIERS

None of this will matter, however, if U.S. firms continue to face an uneven playing field in key infrastructure markets. The State Department and the U.S. trade representative must convince major infrastructure consumers, such as Brazil, China, and India, to accede to the GPA. Their doing so would eliminate many of the impediments that keep American firms from securing contracts. Washington will also have to redouble its bilateral and multilateral efforts to eliminate or mitigate the various regulations abroad, such as local content requirements, that place American companies at a disadvantage.

The U.S. government now imposes a two percent tax on foreign contract holders from countries that have not acceded to the GPA. But this measure has not persuaded developing countries to join the agreement, because their companies are not major contractors in the U.S. national infrastructure market. Moreover, the law does not cover contracts with U.S. state and municipal entities, unless they have acceded to the GPA. Thus, more effective approaches are needed to get these government procurement giants to play by rules that do not favor their own companies.

But even convincing large procurers such as Brazil, China, and India to sign on to the GPA will not be enough. The U.S. government should promote the adoption of international procurement principles in every possible venue. Continuing to incorporate those principles in free-trade agreements, such as the Trans-Pacific Partnership, would help ensure that the United States' trade partners also adhered to high-standard obligations in line with those of the revised GPA. Not only would this provide U.S. suppliers with increased market access to public procurement and infrastructure markets overseas, but it would also encourage accessions to the GPA by American trade partners that will have already agreed to GPA-consistent obligations in their free-trade agreements.

Finally, Washington must continue to stress that the quality of infrastructure projects built by American firms will often justify

their higher costs. The U.S. government should insist that foreign governments and multilateral development banks, such as the World Bank, include stricter quality requirements and total lifetime costs in their project specifications. According to Commerce Department officials and evidence from the field, U.S. firms fare better when such government procurements are assessed based on cost and quality, not simply on which firm comes in with the lowest bid.

The $60 trillion global infrastructure market represents an unprecedented international business opportunity. But if non-U.S. companies build these roads, ports, power stations, and other projects, it will boost the image of the countries they represent at the expense of the United States. Without significant increases in private-industry initiative and government support, U.S. firms risk falling further behind their foreign competitors, or simply being left out of this boom altogether. For the long-term benefit of the American economy and the United States' strategic position, both the public and the private sector in the United States must recognize the opportunities at hand. Failing to do so would be bad business, and worse policy.

The Devolution of the Seas

The Consequences of Oceanic Destruction

Alan B. Sielen

Of all the threats looming over the planet today, one of the most alarming is the seemingly inexorable descent of the world's oceans into ecological perdition. Over the last several decades, human activities have so altered the basic chemistry of the seas that they are now experiencing evolution in reverse: a return to the barren primeval waters of hundreds of millions of years ago.

A visitor to the oceans at the dawn of time would have found an underwater world that was mostly lifeless. Eventually, around 3.5 billion years ago, basic organisms began to emerge from the primordial ooze. This microbial soup of algae and bacteria needed little oxygen to survive. Worms, jellyfish, and toxic fireweed ruled the deep. In time, these simple organisms began to evolve into higher life forms, resulting in the wondrously rich diversity of fish, corals, whales, and other sea life one associates with the oceans today.

Yet that sea life is now in peril. Over the last 50 years—a mere blink in geologic time—humanity has come perilously close to reversing the almost miraculous biological abundance of the deep. Pollution, overfishing, the destruction of habitats, and climate change are emptying the oceans and enabling the lowest forms of life to regain their dominance. The oceanographer Jeremy Jackson calls it "the rise of slime": the transformation of once complex oceanic ecosystems featuring intricate food webs with large animals into simplistic systems dominated by microbes, jellyfish, and disease. In effect, humans are eliminating the lions and tigers of the seas to make room for the cockroaches and rats.

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The old man of the sea: the fringed blenny, photographed near Japan

ALEXANDER SEMENOV / SICENCE PHOTO LIBRARY

The prospect of vanishing whales, polar bears, bluefin tuna, sea turtles, and wild coasts should be worrying enough on its own. But the disruption of entire ecosystems threatens our very survival, since it is the healthy functioning of these diverse systems that sustains life on earth. Destruction on this level will cost humans dearly in terms of food, jobs, health, and quality of life. It also violates the unspoken promise passed from one generation to the next of a better future.

LAYING WASTE

The oceans' problems start with pollution, the most visible forms of which are the catastrophic spills from offshore oil and gas drilling or from tanker accidents. Yet as devastating as these events can be, especially locally, their overall contribution to marine pollution pales in comparison to the much less spectacular waste that finds its way to the seas through rivers, pipes, runoff, and the air. For example, trash—plastic bags, bottles, cans, tiny plastic pellets used in manufacturing—washes into coastal waters or gets discarded by ships large and small. This debris drifts out to sea, where it forms epic gyres of floating waste, such as the infamous Great Pacific Garbage Patch, which spans hundreds of miles across the North Pacific Ocean.

The most dangerous pollutants are chemicals. The seas are being poisoned by substances that are toxic, remain in the environment for a long time, travel great distances, accumulate in marine life, and move up the food chain. Among the worst culprits are heavy metals such as mercury, which is released into the atmosphere by the burning of coal and then rains down on the oceans, rivers, and lakes; mercury can also be found in medical waste.

Hundreds of new industrial chemicals enter the market each year, most of them untested. Of special concern are those known as persistent organic pollutants, which are commonly found in streams, rivers, coastal waters, and, increasingly, the open ocean. These chemicals build up slowly in the tissues of fish and shellfish and are transferred to the larger creatures that eat them. Studies by the U.S. Environmental Protection Agency have linked exposure to persistent organic pollutants to death, disease, and abnormalities in fish and other wildlife. These pervasive chemicals can also adversely affect the development of the brain, the neurologic system, and the reproductive system in humans.

Humans are eliminating the lions and tigers of the seas to make room for the cockroaches and rats.

Then there are the nutrients, which increasingly show up in coastal waters after being used as chemical fertilizers on farms, often far inland. All living things require nutrients; excessive amounts, however, wreak havoc on the natural environment. Fertilizer that makes its way into the water causes the explosive growth of algae. When these algae die and sink to the sea floor, their decomposition robs the water of the oxygen needed to support complex marine life. Some algal blooms also produce toxins that can kill fish and poison humans who consume seafood.

The result has been the emergence of what marine scientists call "dead zones"—areas devoid of the ocean life people value most. The high concentration of nutrients flowing down the Mississippi River and emptying into the Gulf of Mexico has created a seasonal offshore dead zone larger than the state of New Jersey. An even larger dead zone—the world's biggest—can be found in the Baltic Sea, which is comparable in size to California. The estuaries of China's two greatest rivers, the Yangtze and the Yellow, have similarly lost their complex marine life. Since 2004, the total number of such

aquatic wastelands worldwide has more than quadrupled, from 146 to over 600 today.

TEACH A MAN TO FISH—THEN WHAT?

Another cause of the oceans' decline is that humans are simply killing and eating too many fish. A frequently cited 2003 study in the journal *Nature* by the marine biologists Ransom Myers and Boris Worm found that the number of large fish—both open-ocean species, such as tuna, swordfish, and marlin, and large groundfish, such as cod, halibut, and flounder—had declined by 90 percent since 1950. The finding provoked controversy among some scientists and fishery managers. But subsequent studies have confirmed that fish populations have indeed fallen dramatically.

In fact, if one looks back further than 1950, the 90 percent figure turns out to be conservative. As historical ecologists have shown, we are far removed from the days when Christopher Columbus reported seeing large numbers of sea turtles migrating off the coast of the New World, when 15-foot sturgeon bursting with caviar leaped from the waters of the Chesapeake Bay, when George Washington's Continental army could avoid starvation by feasting on swarms of shad swimming upriver to spawn, when dense oyster beds nearly blocked the mouth of the Hudson River, and when the early-twentieth-century American adventure writer Zane Grey marveled at the enormous swordfish, tuna, wahoo, and grouper he found in the Gulf of California.

Today, the human appetite has nearly wiped those populations out. It's no wonder that stocks of large predator fish are rapidly dwindling when one considers the fact that one bluefin tuna can go for hundreds of thousands of dollars at market in Japan. High prices—in January 2013, a 489-pound Pacific bluefin tuna sold for $1.7 million at auction in Tokyo—make it profitable to employ airplanes and helicopters to scan the ocean for the fish that remain; against such technologies, marine animals don't stand a chance.

Nor are big fish the only ones that are threatened. In area after area, once the long-lived predatory species, such as tuna and swordfish, disappear, fishing fleets move on to smaller, plankton-eating fish, such as sardines, anchovy, and herring. The overexploitation of smaller fish deprives the larger wild fish that remain of their food; aquatic mammals and sea birds, such as ospreys and eagles, also go hungry. Marine scientists refer to this sequential process as fishing down the food chain.

The problem is not just that we eat too much seafood; it's also how we catch it. Modern industrial fishing fleets drag lines with thousands of hooks miles behind a vessel, and industrial trawlers on the high seas drop nets thousands of feet below the sea's surface. In the process, many untargeted species, including sea turtles, dolphins, whales, and large sea birds (such as albatross) get accidentally captured or entangled. Millions of tons of unwanted sea life is killed or injured in commercial fishing operations each year; indeed, as much as a third of what fishermen pull out of the waters was never meant to be harvested. Some of the most destructive fisheries discard 80 to 90 percent of what they bring in. In the Gulf of Mexico, for example, for every pound of shrimp caught by a trawler, over three pounds of marine life is thrown away.

As the oceans decline and the demand for their products rises, marine and freshwater aquaculture may look like a tempting solution. After all, since we raise livestock on land for food, why not farm fish at sea? Fish farming is growing faster than any other form of food production, and today, the majority of commercially sold fish in the world and half of U.S. seafood imports come from aquaculture. Done right, fish farming can be environmentally acceptable. But the impact of aquaculture varies widely depending on the species raised, methods used, and location, and several factors make healthy and sustainable production difficult. Many farmed fish rely heavily on processed wild fish for food, which eliminates the fish-conservation benefits of aquaculture. Farmed fish can also escape into rivers and oceans and endanger wild populations by transmitting diseases or parasites or by competing with native species for feeding and spawning grounds. Open-net pens also pollute, sending fish waste, pesticides, antibiotics, uneaten food, diseases, and parasites flowing directly into the surrounding waters.

DESTROYING THE EARTH'S FINAL FRONTIER

Yet another factor driving the decline of the oceans is the destruction of the habitats that have allowed spectacular marine life to thrive for millennia. Residential and commercial development have laid waste to once-wild coastal areas. In particular, humans are eliminating coastal marshes, which serve as feeding grounds and nurseries for fish and other wildlife, filter out pollutants, and fortify coasts against storms and erosion.

Tangled up in blue: an Antarctic fur seal caught in a fishing net, South Georgia Island

YVA MOMATIUK & JOHN EASTCOTT / MINDEN PICTURES / CORBIS

Hidden from view but no less worrying is the wholesale destruction of deep-ocean habitats. For fishermen seeking ever more elusive prey, the depths of the seas have become the earth's final frontier. There, submerged mountain chains called seamounts—numbering in the tens of thousands and mostly uncharted—have proved especially desirable targets. Some rise from the sea floor to heights approaching that of Mount Rainier, in Washington State. The steep slopes, ridges, and tops of seamounts in the South Pacific and elsewhere are home to a rich variety of marine life, including large pools of undiscovered species.

Today, fishing vessels drag huge nets outfitted with steel plates and heavy rollers across the sea floor and over underwater mountains, more than a mile deep, destroying everything in their path. As industrial trawlers bulldoze their way along, the surfaces of seamounts

are reduced to sand, bare rock, and rubble. Deep cold-water corals, some older than the California redwoods, are being obliterated. In the process, an unknown number of species from these unique islands of biological diversity—which might harbor new medicines or other important information—are being driven extinct before humans even get a chance to study them.

Relatively new problems present additional challenges. Invasive species, such as lionfish, zebra mussels, and Pacific jellyfish, are disrupting coastal ecosystems and in some cases have caused the collapse of entire fisheries. Noise from sonar used by military systems and other sources can have devastating effects on whales, dolphins, and other marine life. Large vessels speeding through busy shipping lanes are also killing whales. Finally, melting Arctic ice creates new environmental hazards, as wildlife habitats disappear, mining becomes easier, and shipping routes expand.

IN HOT WATER

As if all this were not enough, scientists estimate that man-made climate change will drive the planet's temperature up by between four and seven degrees Fahrenheit over the course of this century, making the oceans hotter. Sea levels are rising, storms are getting stronger, and the life cycles of plants and animals are being upended, changing migration patterns and causing other serious disruptions.

Global warming has already devastated coral reefs, and marine scientists now foresee the collapse of entire reef systems in the next few decades. Warmer waters drive out the tiny plants that corals feed on and depend on for their vivid coloration. Deprived of food, the corals starve to death, a process known as "bleaching." At the same time, rising ocean temperatures promote disease in corals and other marine life. Nowhere are these complex interrelationships contributing to dying seas more than in fragile coral ecosystems.

The oceans have also become more acidic as carbon dioxide emitted into the atmosphere dissolves in the world's water. The buildup of acid in ocean waters reduces the availability of calcium carbonate, a key building block for the skeletons and shells of corals, plankton, shellfish, and many other marine organisms. Just as trees make wood to grow tall and reach light, many sea creatures need hard shells to grow and also to guard against predators.

On top of all these problems, the most severe impact of the damage being done to the oceans by climate change and ocean acidification may be impossible to predict. The world's seas support processes essential to life on earth. These include complex biological and physical systems, such as the nitrogen and carbon cycles; photosynthesis, which creates half of the oxygen that humans breathe and forms the base of the ocean's biological productivity; and ocean circulation. Much of this activity takes place in the open ocean, where the sea and the atmosphere interact. Despite flashes of terror, such as the Indian Ocean earthquake and tsunami of 2004, the delicate balance of nature that sustains these systems has remained remarkably stable since well before the advent of human civilization.

But these complex processes both influence and respond to the earth's climate, and scientists see certain recent developments as red flags possibly heralding an impending catastrophe. To take one example, tropical fish are increasingly migrating to the cooler waters of the Arctic and Southern oceans. Such changes may result in extinctions of fish species, threatening a critical food source especially in developing countries in the tropics. Or consider that satellite data show that warm surface waters are mixing less with cooler, deeper waters. This reduction in vertical mixing separates near-surface marine life from the nutrients below, ultimately driving down the population of phytoplankton, which is the foundation of the ocean's food chain. Transformations in the open ocean could dramatically affect the earth's climate and the complex processes that support life both on land and at sea. Scientists do not yet fully understand how all these processes work, but disregarding the warning signs could result in grave consequences.

A WAY FORWARD

Governments and societies have come to expect much less from the sea. The base lines of environmental quality, good governance, and personal responsibility have plummeted. This passive acceptance of the ongoing destruction of the seas is all the more shameful given how avoidable the process is. Many solutions exist, and some are relatively simple. For example, governments could create and expand protected marine areas, adopt and enforce stronger international rules to conserve biological diversity in the open ocean, and place a moratorium on the fishing of dwindling fish species, such as Pacific

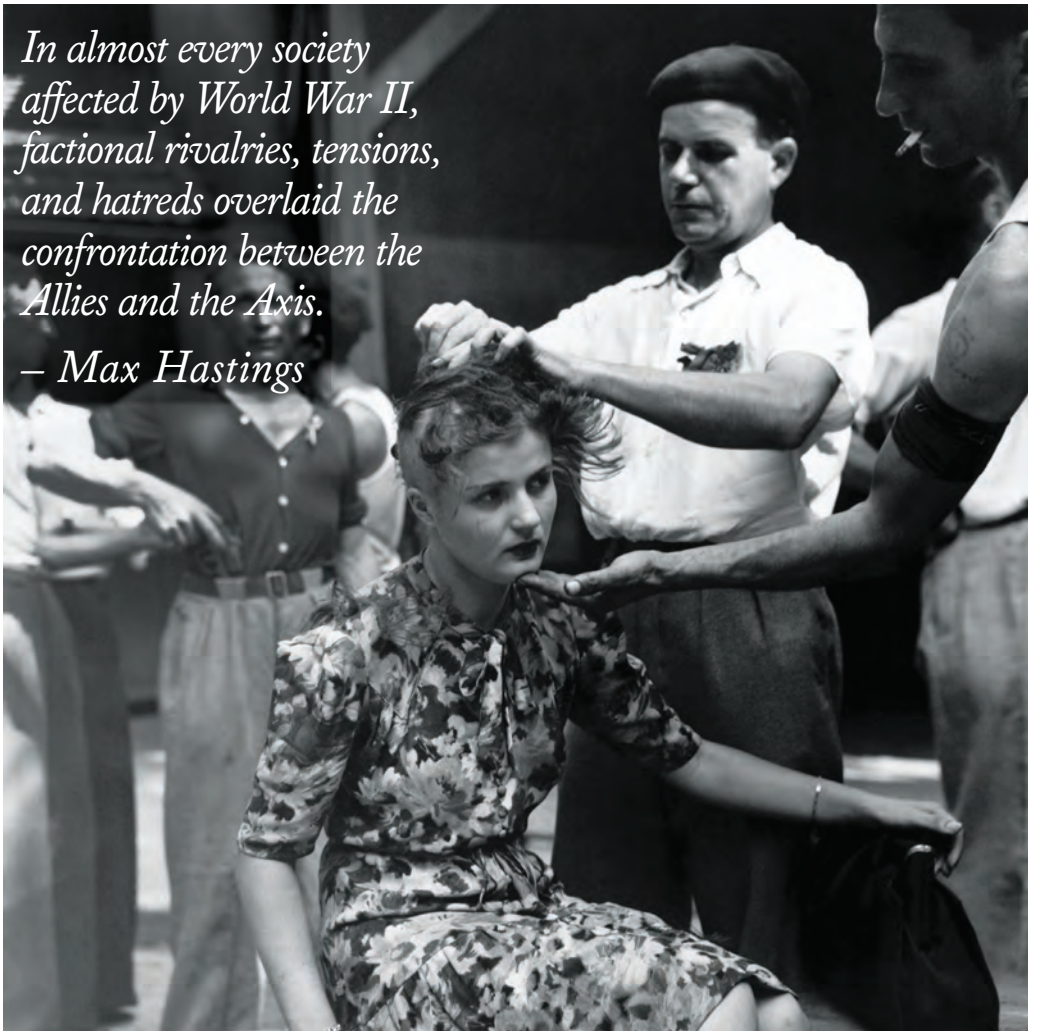
bluefin tuna. But solutions will also require broader changes in how societies approach energy, agriculture, and the management of natural resources. Countries will have to make substantial reductions in greenhouse gas emissions, transition to clean energy, eliminate the worst toxic chemicals, and end the massive nutrient pollution in watersheds.

These challenges may seem daunting, especially for countries focused on basic survival. But governments, international institutions, nongovernmental organizations, scholars, and businesses have the necessary experience and capacity to find answers to the oceans' problems. And they have succeeded in the past, through innovative local initiatives on every continent, impressive scientific advances, tough environmental regulation and enforcement, and important international measures, such as the global ban on the dumping of nuclear waste in the oceans.

So long as pollution, overfishing, and ocean acidification remain concerns only for scientists, however, little will change for the good. Diplomats and national security experts, who understand the potential for conflict in an overheated world, should realize that climate change might soon become a matter of war and peace. Business leaders should understand better than most the direct links between healthy seas and healthy economies. And government officials, who are entrusted with the public's well-being, must surely see the importance of clean air, land, and water.

The world faces a choice. We do not have to return to an oceanic Stone Age. Whether we can summon the political will and moral courage to restore the seas to health before it is too late is an open question. The challenge and the opportunity are there.

REVIEWS & RESPONSES



BETTMANN / CORBIS

The Spoils of War

The Horrors and Hopes of 1945

Max Hastings

Year Zero: A History of 1945
BY IAN BURUMA. Penguin Press, 2013, 384 pp. $29.95.

For decades, World War II suffused the hearts and minds of the American generation that experienced it as "the good war," in which Allied virtue eventually triumphed over fascist evil. Today, Western societies are mature enough to adopt a more nuanced perspective. There remains no doubt that "our side" deserved to win; terrible consequences would have befallen the world following an Axis victory. But the Allied cause was morally compromised by the need to enlist the services of Joseph Stalin's tyranny in order to defeat the forces of Adolf Hitler, Benito Mussolini, and Hideki Tojo.

Moreover, in almost every belligerent society, there were profound fissures and differences of attitude toward the rival powers, often reflecting splits between left- and right-wing opinion. Many people in France, for instance, disliked and feared communism more than fascism and shared the Nazis' distaste for Jews. Even when it became plain that the Nazis were conducting an unprecedented persecution of the Jewish people, many people around the world, Americans included, displayed little sympathy for their plight and certainly refused to tolerate a large influx of Jewish refugees—even to save their lives.

The United States and the United Kingdom celebrated V-E Day in May 1945 and then V-J Day three months later with unparalleled exuberance. In their eyes, the end of the struggles with Germany and Japan represented closure: the dawning of peace, the resumption of what passed for normality, and the lifting of fear and the threat of violence. But for tens of millions of others around the world, there was no such happy ending, nor even an early prospect of one. In formerly occupied nations, divisions were brutally exposed and recriminations indulged. Summary justice or often injustice was imposed on those who had picked the wrong side. In imperial possessions, of which British India was the largest, new struggles began in efforts to secure independence from colonial mastery, provoking sustained turbulence. And in the vanquished states, people scrabbled for existence amid starvation and humiliation.

Ian Buruma seeks to tell this sweeping story in *Year Zero: A History of 1945*. His book's most substantial merit is its grasp of the moral, social, and political confusions that pervaded every nation following the war. How could Germans, for instance, recover their self-respect when so many German women had been raped by the Red Army and their men had failed the most basic of all tests of masculinity, that of warriorhood? Meanwhile, France was riven. Buruma quotes the British historian Tony Judt's

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observation about both the French Resistance and the Vichy collaborators. "Their main enemy, more often than not, was each other," Judt wrote. "The Germans were largely absent." In almost every society affected by the war, factional rivalries, tensions, and hatreds overlaid the confrontation between the Allies and the Axis. Buruma has much to say about the shifting sands of loyalties as the Nazi and Japanese empires collapsed and the dominions of the old European imperialist powers tottered.

When the Japanese were told that it was no longer appropriate to worship their emperor, many decided instead to worship General Douglas MacArthur, commander of the U.S. occupation, although Buruma shows MacArthur to have been an even less suitable object of veneration than Emperor Hirohito. The Allied war crimes court at Nuremberg included among its presiding judges one of the Soviets who had conducted Stalin's show trials. No wonder most of mankind found the world in 1945 even more bewildering than it had been during six years of brutal war.

MAKE LOVE, NOT WAR

Buruma, a Dutch journalist and academic who teaches in the United States, opens *Year Zero* with some family history: the liberation of his father, a former law student, after two years as a forced laborer in Germany. He had refused to sign a loyalty oath to the Nazi government of the occupied Netherlands. Buruma draws on his father's experiences to make the point that violence did not stop when the Nazis surrendered. Since the Allies lacked the troops to supervise the defeated German units that remained in the Netherlands, for several weeks they allowed German officers to hold on to their weapons and their authority. The results were predictable. On May 13, for example, less than a week after V-E Day, the Germans enjoyed the privilege of executing two deserters in Amsterdam: anti-Nazis, one of whom had had a Jewish mother and had foolishly supposed it was safe to emerge from hiding. In France, the settling of scores between embittered factions caused the executions of thousands during the so-called *épuration légale*, or "legal purge," the cleansing of Vichy society.

But the period wasn't entirely grim. One less violent way that the newly liberated societies celebrated their freedom was with unprecedented sexual promiscuity, much of which involved the hundreds of thousands of U.S. soldiers suddenly idled by the end of the war. One French woman quoted by Buruma, Benoite Groult, extolled the perceived physical beauty of Americans as compared with the pallid charms of her own countrymen and gave thanks for the liberators' ability to provide food along with sex. Lying under one GI's body, she wrote later, was like sleeping with a whole continent, "and you can't refuse a continent."

Of course, all this sex came with consequences. In Paris, the rate of sexually transmitted diseases in 1945 rose to five times its 1939 level. In the Netherlands, illegitimate births tripled. But there were other side effects as well. Buruma says it is no coincidence that most European societies soon felt obliged to enfranchise women who had already empowered themselves in other respects. "Postwar conditions upset the old order," he writes. "Women were no longer under male control. Perhaps that was their greatest sin."

In Germany, the end of the war introduced what every occupied country in Europe had experienced in varying degrees during the war: hunger. Germans only really started to suffer from it in May 1945; before that, Hitler had ruthlessly starved the continent to feed his own people. Germans responded to the new privations in various ways, including the development of a black market that thrived for years to come, enriching more than a few Allied soldiers, as well as native traders. Polish peasants dug in the ashes of Treblinka in search of gold teeth that had belonged to slaughtered Jews. In many places, cigarettes became a more useful currency than bank notes.

JUDGMENT DAY

Meanwhile, the Holocaust, as it is perceived today, was still little understood in 1945. Appalled by what they found in the Bergen-Belsen concentration camp, British soldiers assumed that it represented the worst Nazism could do; they did not realize that Bergen-Belsen was not even an extermination camp, where conditions were even more dire. The Allies did not know how to deal with the camps' eight million inhabitants, refugees who had been uprooted from their homes and societies and whom the Allies now gathered in displaced persons camps, some of which offered conditions little better than those the refugees had experienced under the Nazis.

Some historians have criticized the way in which many of those people were relocated. Buruma approaches the controversy with nuance and explains its context. The British government, for example, has been maligned over the past nearly 70 years for forcibly repatriating Soviet soldiers and refugees to the Soviet Union at the war's end, where many faced imprisonment or execution under Stalin. But the British feared that if they balked, Stalin would halt the repatriation of thousands of former British prisoners of war who remained in Soviet hands. Furthermore, most of those the British sent back had been captured in German uniform, making them doubtful candidates for pity.

Many who today pass harsh judgments on the Allied governments' mistakes both during and after the war fail to understand the muddle, ignorance, moral exhaustion, and practical difficulties faced by those in charge in London and Washington. Many of the Cossacks sent back to Stalin, for example, who have inspired widespread Western sympathy in the past few decades, were responsible for horrific war crimes in Italy and Yugoslavia while wearing Wehrmacht uniforms. There was no right or wrong decision about their repatriation, only an intractable judgment call.

Across Europe, efforts to come to terms with the war's other atrocities were no less compromised. In Germany, "denazification" was a clumsy, halfhearted process. Self-pity, rather than guilt, dominated the emotions of Hitler's former followers, encouraged by the physical devastation inflicted by Allied bombing. The war crimes trials at Nuremberg, which started in November 1945, swiftly lost their capacity to shock and descended into a parade of "the banality of evil," in the political theorist Hannah Arendt's phrase. The British writer Rebecca West described the courtroom at the Palace of Justice as "a citadel of boredom," and so it seemed to many of her fellow spectators.

As Buruma observes, although some minor war criminals were executed, many big fish, especially industrialists, escaped punishment. Only several hundred essentially symbolic capital sentences were carried out, and sometimes for dubious reasons. Buruma notes the case of General Tomoyuki Yamashita, "the Tiger of Malaya," who was hanged for inflicting military humiliations on MacArthur in the Philippines, rather than for his doubtful personal guilt on war crimes charges.

Part of the problem was that if strict justice had been meted out in Germany and Japan, hundreds of thousands of punitive executions would have been required, which nobody had the stomach for. On Stalin's jocular 1943 proposal to shoot 50,000 German officers, Buruma writes, "Stalin had a point. Even if there is no such thing as collective guilt, there are far more guilty people than can possibly be tried. But justice must be seen to be done." There was also the large practical issue that if all collaborators were removed from their posts in bureaucracies, industries, or utilities, the machinery of society would grind to a halt: "Punishment of the guilty had to be balanced by other interests. Too much zeal would have made the rebuilding of societies impossible."

In most former Axis-occupied nations, the Allies favored restoring to power conservative politicians and industrialists, many of whom had collaborated enthusiastically with their occupiers, even as left-wing forces continued to fight and lead new resistance after the war. In the Philippines, Huk guerrillas who had fought the Japanese were driven back into the jungle, from where they then fought the new government installed by the Allies. In Greece, a civil war pitting communists against a conservative administration backed by the British and the Americans raged for four years.

Lord Louis Mountbatten, the Allied commander of Southeast Asia, begged the authorities in The Hague not to try to restore a colonial administration in the Dutch East Indies, but he was ignored. As a result, as also occurred in French Indochina, the liberators found themselves fighting fierce battles with nationalists, in which Japanese troops participated on both sides. On November 10, 1945, Allied aircraft bombed and strafed the East Indies city of Surabaya after nationalists killed a British brigadier. In Saigon, during the autumn, defeated Japanese troops opened their armories to the Vietminh nationalists. Some of Hirohito's officers joined their ranks either from conviction—"Asia for the Asians"—or to escape war crimes prosecutions.

In September, thousands of Vietnamese armed with knives, spears, and machetes spontaneously attacked French people where they found them. The waiters at Hanoi's grand Metropole Hotel assaulted French guests in their rooms and barricaded them in the dining room. An orgy of violence and counterviolence ensued, which progressively degenerated into the all-out war that continued for almost a decade and ended with France's expulsion from Indochina.

PIONEERING FOR PEACE

Buruma's book reflects his character as a writer: humane, perceptive, and whimsical. Buruma focuses on some people, places, and issues that catch his interest, while saying little or nothing about others. He ignores Spain, where Francisco Franco was permitted to sustain a brutal fascist dictatorship to serve the West's

new conveniences in the Cold War. He says little about the Soviet Union's campaign of murder and oppression in Poland and Ukraine to suppress dissent against Stalin's new imperialism. And much of the material Buruma cites is already familiar to students of the period. He offers only an introduction to the huge issues he identifies, rather than a comprehensive narrative or analysis.

Still, Buruma conveys a powerful sense of the horror and chaos of 1945, especially in Europe. He writes movingly, as when he discusses Sir Brian Urquhart, a British wartime army intelligence officer who went on to become one of the guiding spirits of the United Nations. Urquhart helps Buruma illustrate how 1945, for all its horrors and disappointments, was also a time of hope and purpose for many idealists. "It is hard to recapture the freshness and enthusiasm of those pioneering days," Buruma quotes Urquhart recounting. "The war was still vivid in everyone's mind and experience. Many of us had been in the armed forces, and others had only emerged from underground resistance movements a few months before. To work for peace was a dream fulfilled, and the fact that everything had to be organized from scratch was an additional incentive."

Buruma ends his narrative as he opens it, with his family. He and his sister went to Berlin on New Year's Eve in 1989 to celebrate at the Berlin Wall with their father, who had been in that city 44 years earlier as a forced laborer. They lost one another in the rejoicing crowd, and only many hours later did Buruma's father reappear at their hotel, his face bandaged: "Round about the stroke of midnight," the son writes, "pretty much on the same spot where my father once had to dodge British bombs, Stalin Organs [Katyusha rockets], and German sniper fire, a firecracker found its way to him and hit him right between the eyes." Buruma tells a story of horrors and tragic disappointments, but this note of humanity defines his book.

India and Ideology

Why Western Thinkers Struggle With the Subcontinent

Pankaj Mishra

The Indian Ideology
BY PERRY ANDERSON. Verso, 2013, 192 pp. $19.95.

According to Perry Anderson's new book, *The Indian Ideology*, India's democracy—routinely celebrated as the world's largest—is actually a sham. It is fatally compromised by its origins in an anticolonial struggle led by the "monolithically Hindu" Congress party, which Anderson holds largely responsible for the bloodiness of the partition of the British-ruled subcontinent in 1947. Anderson describes India's most famous leader, Mahatma ("Great Soul") Gandhi, as a crank and a "stranger" to "real intellectual exchange." Jawaharlal Nehru, Gandhi's political disciple and India's first prime minister, was a mediocrity. And both of these upper-caste maladroits were considerably inferior to their sharpest critic, B. R. Ambedkar, the leader of the Dalits (low-caste Hindus) and the main framer of India's constitution.

In Anderson's telling, Nehru, who inherited the colonial "machinery of administration and coercion," entrenched dynastic rule, thus blighting India's political progress and failing to make an effort "to meet even quite modest requirements of social equality or justice" for the Indian poor. The much-vaunted secularism that Nehru bequeathed to India was nothing more than a cover for "Hindu confessionalism," which is enforced to this day in the Muslim-majority valley of Kashmir, where Indian troops and paramilitaries enjoy a "license to murder" that is even broader than the one their British predecessors exercised during colonial times. Yet despite these compound flaws, liberal Indian intellectuals continue to "fall over themselves in tributes to their native land," exalting what Anderson deems to be fabricated notions of its diversity, unity, secularism, and democracy.

Such severe criticism of India was once routine. In the 1960s, 1970s, and 1980s, Western observers ceaselessly deplored the country's deficient democracy and ineffectual protectionist economy. In the last decade, however, India's reputation in the West as a respectable counterweight to authoritarian China and an economic powerhouse in its own right has been steadily rising. Thus, Anderson's indictment of "the Indian ideology" provoked much distress and outrage among India's left-leaning intelligentsia when it originally appeared last year as a series of essays in the *London Review of Books*. This reaction was at least partly a result of the fact that the Anglo-Irish author is, as the journalist Christopher Hitchens wrote in 2006, "the most polymathic, and at the same time the most profound, essayist currently wielding a pen"—in addition to being one of the English-speaking world's foremost Marxist historians and critics.

PANKAJ MISHRA's most recent book is ***From the Ruins of Empire: The Intellectuals Who Remade Asia.***

But Anderson is no flighty herald of revolution. Rather, for more than two decades, he has asserted that liberal capitalism is the ne plus ultra of political and economic life on earth. His advice to the left is to abandon its hopes for socialism and embrace an ideal of "uncompromising realism." As Anderson sees it, today's leftist intellectuals are compromised by their academic affiliations and have rendered themselves irrelevant with their unfathomable prose. Indeed, he finds more to admire in neoliberal prophets and partisans of globalization, such as Francis Fukuyama and Thomas Friedman, who in Anderson's view have "provided one fluent vision of where the world is going, or has stopped, after another." Anderson reserves particular antipathy for bourgeois democrats and liberal internationalists who appear to deny or resist the steady "flattening" of the world by omnipotent neoliberalism.

It should be no surprise, then, that in his first foray into South Asian politics and history, he has sought—and found—evidence of delusion and self-delusion in Indian assertions of national and civilizational exceptionalism. Anderson's Indian critics have accused him of quasi-imperialist condescension, Orientalist caricature, and ignorance. But Anderson can easily swat such charges away. He has spent more time and energy than most of his Indian critics in excoriating the pretensions of the British ruling class, and he even briefly partook of the Third Worldist fervor of the 1960s. His large and varied body of work belongs to a tradition of Enlightenment universalism that both Max Weber and Karl Marx reflected in different ways. His belief in rationalism—which presupposes that the basic laws of history can be known with certainty and that this knowledge can help bring about freedom and justice anywhere in the world—distinguishes Anderson from those callow supremacists who condemn the East to insuperable backwardness by proclaiming that the West was, and is, best.

In any case, it would be hard to argue with many of his judgments. Anderson is unanswerable when he points to a consistent Indian pattern of silence, evasion, and distortion about India's military occupation of Kashmir and its attendant regime of extrajudicial execution, torture, and detention. Many readers will be struck by the evidence Anderson adduces of the insidious dominance of upper-caste Hindus in every realm of social and political life and by his portrait of the primordial politics of caste and religion, which have enshrined a patrimonial state built on nepotism and dynasty worship. Admirers of Gandhi and Nehru will encounter many awkward facts, especially regarding their roles in the partition of India, a calamity usually blamed on British colonial administrators and Indian Muslim leaders.

But even those who assent to most of his criticisms might balk at following Anderson to his final destination, which is to bluntly deny India much of a future in the modern world. This world-historical pessimism is made possible largely by his reflexive distrust of religion and caste and his indifference to the distinctive characteristics of India's politics and economy. For all its lapidary elegance and caustic energy, Anderson's bleakness is a no more reliable guide to India than pro-globalization utopianism, with its cheery promises of imminent Indian superpowerdom, or than the more recent angry disillusion in the West about India's

economy, an attitude that has resurrected nineteenth-century European images of India's incorrigible backwardness and venality.

FAITH OF OUR FATHERS

Students of Marxism's history in Asia will perhaps be less surprised than Indian liberals by some aspects of Anderson's critique, particularly his caustic appraisals of Gandhi and Nehru. In 1939, Leon Trotsky summed up a widespread Marxist suspicion when he denounced Gandhi as an ally of bourgeois capitalism—"a fake leader and a false prophet." The problem, for Trotsky and other communists, was that Gandhi had appropriated the left's form of popular anticolonialism but opposed the Marxist trajectory of proletarian revolution. Marx had seen India as a morass of superstitious, caste-ridden village communities, which industrialization might have made fit for revolution. But Gandhi, deeply hostile to scientism and industrialism, actually advocated the re-creation of self-sufficient village communities.

Anderson's assessment of Nehru is also fairly standard Marxist fare, but Anderson brings to it a special vigor and personal distaste. Nehru was often dismissed by American cold warriors as a pro-Soviet socialist. But as Anderson points out, the "conservative coalition" of upper-caste Hindus who led the anti-colonial movement "neither required nor welcomed an awakening of the poor." When unable to secure hegemony through consent, Nehru and his upper-caste-dominated state resorted to coercion, repressing India's minority populations through military rule and draconian laws. In this Marxist vision of India's revolution, the leaders of the Congress

party enlisted the masses in the struggle only to ignore them after independence, instead manipulating the resources of the state to advance the interests of their own castes, classes, and communities.

Anderson writes that a "rigid social hierarchy was the basis of [India's] original democratic stability," in the first three decades of independence. This arrangement was altered by the rise of anti-Congress Dalit political parties in the 1980s, most visibly in the state of Uttar Pradesh, where one of them has periodically held power ever since. The unleashing of Dalit energies has also restored Ambedkar to his rightful place in India's political and intellectual history. Anderson is a forceful supporter of the scholarly Dalit leader, who was the main author of India's constitution before breaking with his uniformly upper-caste associates. At the same time, the secular rationalist in Anderson cannot endorse the "compartmentalized identity politics" of Ambedkar's latter-day followers, including politicians such as Mayawati, formerly the chief minister of Uttar Pradesh, who have become known primarily for corruption and for building grand public monuments to themselves. These prodigal retailers of collective dignity seek not "to abolish caste, as Ambedkar had wanted, but to affirm it," Anderson writes.

Anderson argues that an even greater impediment to India's progress is the continuing role of religious faith in politics. Postcolonial India has yet to recover from Gandhi's injection of "a massive dose of religion—mythology, symbology, theology—into the national movement." The Hindu nationalist Bharatiya Janata Party (BJP), the emergence of which in the 1980s reshaped Indian politics and culture, is merely the latest symptom of that initial contamination. In Anderson's eyes, Hinduism is written into India's genetic code. But India's primary religion contains a broader range of practices and beliefs than Anderson assumes. Amorphous and protean, Hinduism cannot be used for prolonged political mobilization on confessional grounds alone, as the BJP has discovered; whatever primeval furies it evokes must be combined with rational calculations based on other factors, such as class and caste loyalties.

Anderson does not see how Hindu nationalism has become intertwined with economic liberalization. Beginning in the early 1990s, the growth and opening up of India's economy triggered a middle-class demand for ruthlessly technocratic leaders, along with militant disaffection among those left, or pushed, behind by the state and private business. More recently, a bourgeois elite, which feels besieged by the increasingly assertive have-nots, has begun casting around for sturdier leaders to replace its tainted idol, Prime Minister Manmohan Singh, whose economic reforms, once much loved, are now widely regarded as populist sops to the poor. These groups, along with the country's corporate titans, hope that India's next prime minister will be the Hindu nationalist chief minister of Gujarat, Narendra Modi, who is best known for his suspected complicity in the murder of more than a thousand Muslims during riots in the state in 2002. Owing to these accusations, the U.S. government has barred Modi from entering the United States. But despite (or perhaps because of) his condemnation abroad and at home, Modi, who has presided over strong economic growth in his home state, has leveraged his

Nation builders: Jawaharlal Nehru and Mahatma Gandhi in Bombay, 1946

MAX DESFOR / CORBIS / AP

reputation as a tough guy and transformed himself into a no-nonsense champion of India's long-overdue economic modernization.

Anderson's description of the rise and appeal of the Hindu right misreads this history. He attributes Hindu nationalism's ascent to the fact that by the 1990s, "the social promises of Congress had faded, markets and money filled the air-waves, customary expectations and inhibitions were eroded. In such conditions, anomic modernization unleashed a classic reaction of religious compensation." This sociological explanation elides a peculiar dynamic of Indian politics: it has empowered politicians such as Modi, but its increasingly fragmentary nature can also thwart their ambitions. To extend his appeal outside his relatively small electoral base of anti-Muslim Gujaratis and middle-class Indians, Modi must now present himself to the rest of India as an economic reformer. But this immediately brings him into collision with the many Indians angry at their economic and social marginalization in recent years, not to mention those who vote in national elections for a myriad of regional and caste-based parties.

A MILLION MUTINIES

A deeper problem is that Anderson's obsessive focus on the intersection of politics and religion in India distracts him from examining the successes and failures of those who do not deploy religion as a political weapon: the relatively secular

left. India's communist parties have frequently held power in two major Indian states, Kerala and West Bengal, since the late 1950s. Since 2004, they have propped up Singh's coalition government, exacting his support for social welfare policies as the price for their backing. Meanwhile, the militant Maoist (or Naxalite) peasant movement that began in West Bengal in the late 1960s has mutated, after a long gestation, into an uprising against mining corporations in central India, and the Maoists remain so prevalent—they are present in one-third of India's districts—that Singh has described them as India's "greatest internal security threat." The country also faces a range of other secular-minded agitators, from farmers fighting their dispossession to make way for big dam projects to a movement to carve out a new state in a neglected region of southern India called Telangana; fierce protests, featuring more than a dozen acts of self-immolation, recently forced New Delhi to accede to the movement's demands and begin the process of establishing the new state.

A Marxist examining this variety of political movements might conclude that the contradictions that emerged in 1947 between a bourgeois-ruled Indian state and the mass of India's people—especially the poor, the low caste, and minority groups—have been rendered starker by the new inequalities of global capitalism. Uneven growth seems likely to lead to greater fragmentation and regionalization, especially as the ruling elite loses cohesion and credibility. Certainly, the current clamor by minorities for more small states and greater autonomy is likely only to get louder. Such ferment confirms India's democracy to be an extraordinarily volatile experiment, one that leftists as well as liberals ought to closely monitor. But the rapid decline of, and challenges to, the central state's legitimacy fails to draw Anderson's attention.

India's million mutinies also make the politics of its rival, China, appear insipid, as the once-revolutionary Chinese masses now timidly acquiesce to an imperious state and tawdry consumerism alike. Anderson, however, sees historical progress and what Hegel called "the cunning of reason" manifesting themselves more firmly in China than in India. Based on assumptions that owe more to Weber than to Marx, he seems to believe that China offers a better model for how to abolish feeble ideologies and superstitious practices and achieve authentic modernity in non-Western countries.

Anderson correctly argues that India's independence, expedited by British enfeeblement during World War II, did not result in the widespread provision of public goods, such as primary education and health care. India's bourgeois rulers also failed to achieve control of domestic politics through either consent or coercion. As for the Chinese, they founded their republic through success on the battlefield. The victory of the People's Liberation Army, as Anderson has written,

> far from leaving the economy and society ravaged, delivered recovery and stability. Inflation was mastered; corruption banished; supplies resumed. In the countryside, landlordism was abolished. . . . The People's Republic, embodying patriotic ideals and social discipline, entered life enjoying a degree of popular assent that the Soviet Union never knew.

Meanwhile, more than a century after Marx warned against them and hoped for their eradication by modern science and industry, caste consciousness and religious belief remain sources of bitter division in India and deprive the country of the cohesion and collective energy necessary for national reconstruction. As Weber defined it, true modernity is "a world robbed of gods," and in Anderson's surprisingly Weberian view, India's revolutionaries failed to grasp this as thoroughly as China's, who carried out

> a complete demolition of scriptural Confucianism, which had been the ruling doctrine of China's socio-political order and the moral framework of educated life since Han times. Within a few years, virtually nothing was left of it: an achievement no opponents of any comparable creed, world religions—Christian, Muslim, Hindu, Buddhist—occupying a similar position in the ideological firmament of their civilizations, have ever matched.

Anderson sees both the ineffectually liberal and the overtly feudal and invariably sectarian-minded Indian leaders who inherited an independent state from Gandhi and Nehru as having botched their country's progress. Meanwhile, their Chinese counterparts, inspired by a Leninist ethos, have remained "radical, disciplined, imaginative—capable at once of tactical patience and prudent experimentation, and of the boldest initiatives and most dramatic switches of direction."

Anderson accuses postcolonial Indian intellectuals of peddling an "Indian ideology" infused with their views of India's founders as awe-inspiring men who led a triumphant revolution and

presided over a formidable state apparatus. But his own paean to Chinese leaders exhibits a similar romanticism. Perhaps this reflects the ideological disorientation of the early twenty-first century. Or perhaps Anderson's contrasting views on India and China are consistent with his praise for Fukuyama's "end of history" thesis and with his own admiration for the ideological insouciance of his neoliberal adversaries. Convinced of a new inevitability in human affairs, Anderson admires China's technocratic elites for confidently charting their country's progress to capitalist modernity. And he cannot help but dislike an Indian ruling class that, lurching between a hollow liberalism and a debilitating Hindu confessionalism, fails to get with it.

IRON CAGES

The relentless harshness of *The Indian Ideology* suggests that, as far as Anderson is concerned, "populations as steeped in the supernatural as those of South Asia" may find it impossible to enter Weber's "iron cage"—or "the Golden Straitjacket," in Friedman's phrase—of modernity. It may actually be harder for observers of South Asia to liberate themselves from the iron cage of Western interpretative categories. Anderson, too, assesses India, and its potential for even incremental change, by reference to the sociopolitical ingredients it lacks as opposed to the ones it has. He laments that in India, "caste, not class, and alas, least of all the working-class, is what counts most in popular life." It seems as though Anderson believes that caste cannot be a viable basis for social solidarity and political change. But had he shifted his gaze southward from Uttar Pradesh's self-monumentalizing Dalit leaders, he would have noticed how low-caste Hindus in the state of Tamil Nadu, although also mired in personality politics, have created a social and political movement that has won power and turned the state into a national exemplar of social welfarism.

Religious beliefs and the fear of losing traditional livelihoods shape the political resistance of many Indians in rural areas to aggressive government projects and profit-driven corporate initiatives. But neither the scientific materialist nor the admirer of enlightened bureaucratic states in Anderson is likely to have much time for the tribal peoples in eastern India who recently refused to open up a mountain they consider sacred to a bauxite-mining corporation. Anderson doesn't seem well placed, either, to grasp that for these irrational folks, who fail to prostrate themselves before the modern gods of economic growth, no entity in their cosmology seems more occult, minatory, and unappeasable than the instrumentally rational states and interconnected markets that threaten their traditions and local economies. Indeed, Anderson's avowal of the left's historical defeat slides too easily into resentment of such people, who have failed to shake off their Eastern superstitions and appreciate the Western virtues of reason and enlightenment. It is as though the Marxist worldview, denuded of its original liberationist energy, can only betray its origins in the commercial society of western Europe and the reflexive credence both Marx and expansionist burghers gave to the all-conquering logic of *Homo economicus*.

A PLURAL MODERNITY

Ultimately, the question is whether Anderson's post-Marxist realism, or any other Western analytic framework, can accommodate the complex effects of modernity in India: sometimes baneful and disturbing but also emancipatory—often at the same time. Western observers need to entertain the possibility that institutions of democracy, capitalism, and secularism develop exceptional features in non-Western settings. They must abandon the conventional expectation of most Western sociologists and political scientists—be they Marxist, liberal, or neoconservative—that these quasi-hybrid political forms ought to fit the European norm and that the present and future of Asia should resemble the pasts of Europe and the United States.

Such a radical dismantling of intellectual assumptions—which are rooted in a seemingly ineradicable faith in progressive secularization—would no doubt discomfit Anderson. It would mean acknowledging that the appeal of Modi among the Indian elite today is based less on Hindu confessionalism and other Indian superstitions than on his projected aura of hypermodernity: the very combination of Leninist severity and Henry Ford–style managerial efficiency that Anderson prizes in China's post-Mao technocrats. It would involve recognizing that Anderson's exhortation to Indians to banish the specters of caste and religion from the festival of modernization makes Anderson more akin intellectually to the ostentatiously rational Nehru than to Anderson's hero, Ambedkar, who found in Buddhism an egalitarian alternative to oppressive Hindu hierarchies (a crucial aspect of the Dalit leader's intellectual biography that Anderson ignores).

To propose a plural fate for modernity in the non-Western world is not to suggest that the trajectory of politicized caste, ethnicity, and religion in India or elsewhere leads inevitably to the universal affluence dreamed of by socialists in the past and flat-earth globalizers in the present. For latecomers to modernity, progress of any kind, whether for landless Dalits or gated communitarians in Bangalore, is invariably accompanied by great losses and, as India's faltering economy shows, is far from being continuous or irreversible. Anderson seems alert to the struggles ahead for China, a place of "colossal social energy and human vitality," where, he has written, with characteristic acuity, "emancipation and regression have often been conjoined in the past; but never quite so vertiginously." A similar dialectic of modernity convulses India today, but it will remain invisible to those in the West who assess the country's economic battles with reference to GDP statistics alone or fail to see through the politics of caste and religion to the wider contests for justice, dignity, and freedom.

In Search of the Real China

Outsiders Still See What They Want to See

John Pomfret

My First Trip to China: Scholars, Diplomats, and Journalists Reflect on Their First Encounters With China
EDITED BY KIN-MING LIU. East Slope Publishing, 2012, 316 pp. $28.00.

Over the last decade or so, historians and journalists have chipped away—some with sledgehammers, others with mallets—at several long-standing myths about China's past. China wasn't all darkness and pain before the communist revolution of 1949, and Western efforts to change the country, long portrayed by historians as a tragic dead end, have been far more successful than anyone could have ever dreamed—to cite just two. The weight of these and other revelations should demand a fundamental reassessment of China's position in the world, both in the past and going forward. But don't hold your breath. China scholars and average citizens alike still cling to their own personal notions of the "authentic" China, deeply rooted in the soil of their imaginations.

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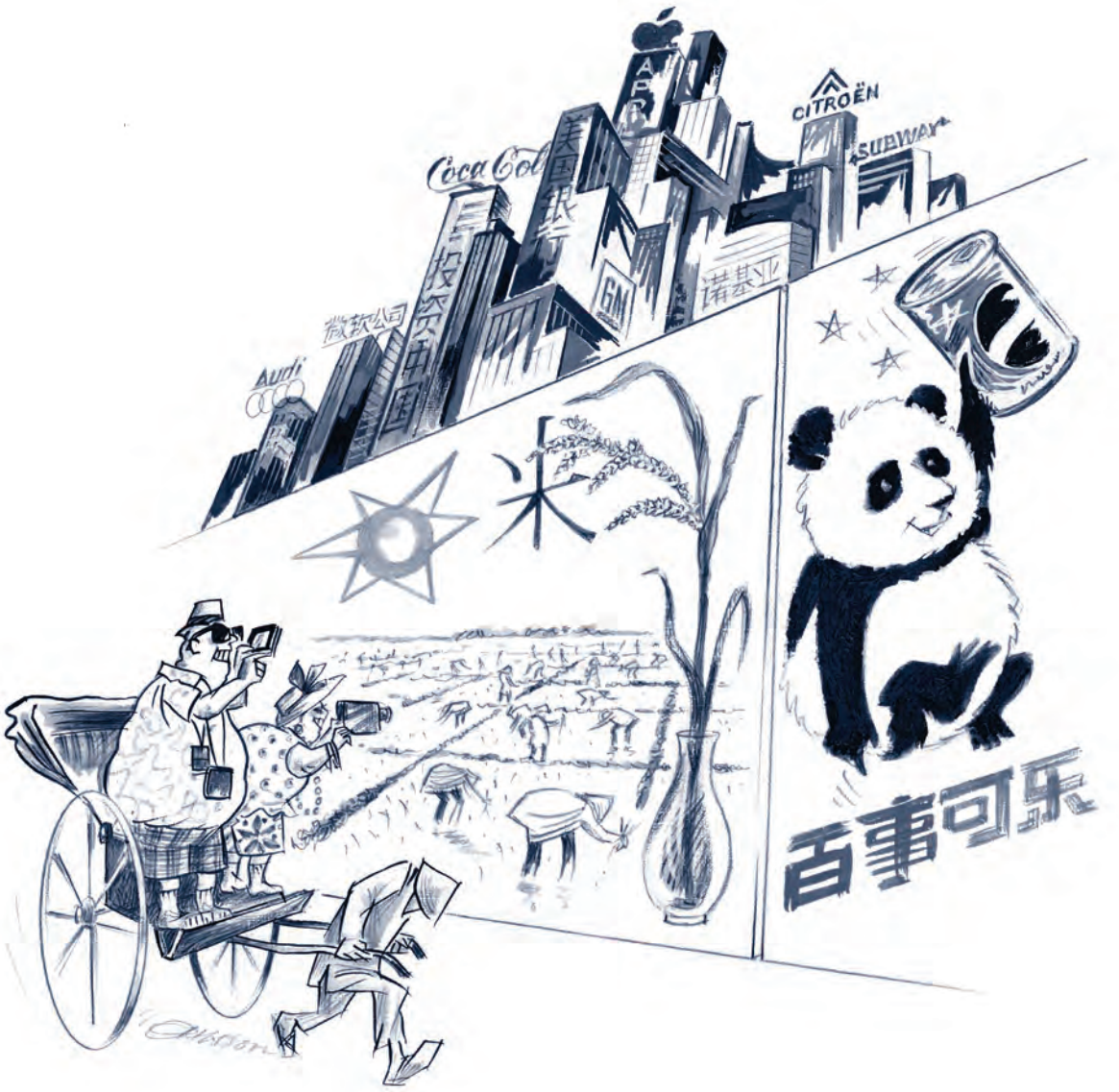
A good example of this complex comes from *My First Trip to China*, a collection of 30 vignettes from a veritable who's who of China experts relating their initial encounters with "the Promised Land," as one of the contributors describes the country. Disillusion and nostalgia flow through the book like a river. The course of China's history was supposed to run across exotic and revolutionary terrain. But sadly, many of these authors seem to say, it hasn't.

One of the fascinating things about *My First Trip* is how little the latest research into China's past has changed the views of the contributors. It's an indication of the tenacity with which many of us China watchers cling to our beliefs—no matter how outdated—about the place. And so the book forces one to ask why so many have harbored such overwrought expectations for China and its revolution, why so many still hold on to those ideas, and why so many react with such vehemence—or incredulity—when they are proved wrong.

REVISIONISM WITH CHINESE CHARACTERISTICS

Aided by the obvious fact that China matters very much to global politics and economics now, recent historians have marshaled a powerful case that China mattered in the past, too. Starting in the late 1990s, scholars began to skewer the notions that imperial China was never an expansionist power (it conquered huge chunks of Central Asia, after all) and that it shunned trade with the outside world. New histories of China's nineteenth-century economy and the anti–Qing dynasty Taiping Rebellion of 1850–64 have placed China at the center of the world. Fluctuations



in China's consumer demand worried the British parliament as much as the spiraling price of cotton from the American South. The Taiping Rebellion inspired Karl Marx and American missionaries alike. China was indeed the Middle Kingdom, not because it was floating out there in isolated Oriental splendor but because it was a kingdom in the middle of the world.

Another flawed idea that contemporary writers have deflated is the notion that life in China before the communist revolution was a nightmare of serfdom and oppression. The Nanjing decade of 1927–37, when the Nationalist leader Chiang Kai-shek ruled, is now understood as a period when the economy expanded, civil society was strengthened, and modern science and education spread throughout the country. Chiang himself no longer comes across as the cartoonish, incompetent baddie depicted in Barbara Tuchman's influential 1970 tome, *Stilwell and the American Experience in China*. He is now seen as a leader,

albeit a flawed one, whose armies fought and died for China. Meanwhile, Tuchman's demigod, U.S. General "Vinegar Joe" Stilwell, who commanded troops alongside Chiang during World War II, has been restored to his status as a mortal, with scholars questioning his leadership and strategy.

Mao Zedong, the subject of several new biographies, has similarly shed the legendary veneer applied to him by Edgar Snow, whose 1937 *Red Star Over China* was the first work in any language to mythologize the Great Helmsman. Research in Soviet archives has revealed that Mao was thoroughly in the pocket of Stalin and has cast doubt on the claim, long accepted by China experts in the United States, that Mao's forces fought hard against the Japanese during World War II. For the most part, it seems, Mao kept his powder dry, built his army, and waited for Chiang's forces to exhaust themselves against the Japanese. And as for the progressive chestnut that in the mid-1940s, Mao pondered positioning himself between Washington and Moscow? That idea now appears to have belonged to the "New Democracy" plan, worked out between Mao and Stalin, which successfully bamboozled a slew of U.S. diplomats into believing that Mao was, as one claimed at the time, a mere "agrarian reformer" and not, as it turned out, a Stalin acolyte.

On other fronts, most historians have stopped describing China's interaction with the Western world with such tired terms as "cultural imperialism." New scholarship has recognized the extent to which both foreigners and Western-educated Chinese supplied the keys to the opening up of the Chinese mind. Realizing how important Westerners are to China's transformation today, historians now acknowledge the central role they played in the past. Americans, Britons, Germans, Japanese, and Russians served as advisers, models, teachers, and guides. American missionaries brought education, science, and Western medicine; the British exported modern administrative techniques; the Germans taught the Nationalist Chinese about modern warfare. Even China's postal service was imported from abroad, from France. The image of a timeless, unchanging China, the passive victim of imperialist depredations, simply does not comport with the facts. "Chinese who embraced the new—when given a chance to do so—always far outnumbered those who did not," writes Odd Arne Westad in *Restless Empire*, a magisterial work on China's ties to the Western world published last year.

Westad's observation should ring true to anyone who has traveled to China in the past 30 years. But the new vision of the country it presents also makes a lot of people uneasy. Westerners are not used to thinking of China as an ever-changing giant that has always, except for an anomalous three-decade detour under Mao, been of the world rather than apart from it. They are troubled to discover a history that is more contested than the somewhat monochromatic story line they have held on to for the past several decades. They are not comfortable with a China that was always more familiar than they wanted it to be.

This vexation is not just the domain of bookworms and old China hands. My wife runs a travel company in China and marvels at the discomfort that her American counterparts feel toward this different China. She once suggested that

one of them advise her clients to visit a Starbucks in our neighborhood, Sanlitun, one of the hipper corners of Beijing, and people-watch as eager shoppers stream through the cavernous Apple store next door. "Why should I send my clients to see that?" the agent asked. "That's not the 'real' China." Everyone wants his own personal rickshaw and rice paddy.

I, too, walk around with my own private China. I think most Chinese want to live as Americans do and aspire to the power and freedom of the United States. But then again, I could be completely wrong.

RED-COLORED GLASSES

A nostalgia for something that might never have existed courses through *My First Trip*. No one describes it better than Orville Schell, the author of the book's foreword and one of the greatest writers on China of his generation. "Just as the last geographically unexplored pockets of our planet were vanishing and leaving us without our accustomed fix of exotica and romance," Schell writes, the Cold War served up Mao's China, "a surprising new surrogate form of the forbidden." Schell paints a China that is breathlessly feminine—"strangely alluring," with "haughty detachment" and "mesmerizing impenetrability and unpossessability." He compares cadging entry into the Celestial Kingdom with the entreaties of a dogged lover. In the years before China opened up, he and the rest of his fellow China watchers, he writes, resembled "a group of forlorn Swanns in love. And like Marcel Proust's anti-hero's unrequited passion for Odette, our infatuation with China was only made more ardent by the hopelessness of any possibility of attention, much less consummation."

Then the visas started trickling out, and those who were invited in embraced another view of China: that of an exclusive club. For many of the writers featured in *My First Trip*, China of the early 1980s was perfect in its own way; they could fantasize that it was unsullied by westernization but still sense that it was on the brink of epochal change. "It seemed to me an ideal period," writes the urban studies scholar Porus Olpadwala, another contributor to the book, who visited China with a delegation of city planners in 1985. China was "the best of two worlds, with the worst of socialism slowly being discarded and capital's travails still some distance away." Nowadays, of course, the country's doors have blown wide open; the once-private China is not so private anymore.

And yet many Westerners still hold on to nostalgia for the goals of China's revolution and harbor sympathy for the Communist Party. Take another contributor, Lois Wheeler Snow, the second wife of Edgar Snow, the American writer who trafficked in the notion that the communist revolution was inevitable and that Mao's dictatorship was necessary to free China from the chains of its Confucian past. Lois Wheeler Snow visited China in 1970 with her ailing husband. Mao invited the couple to the dais at the Gate of Heavenly Peace, overlooking Tiananmen Square, and had a picture of them all taken and then published in the *People's Daily* (an unheeded message to Washington that Beijing was seeking warmer ties). She recalls standing so close to Mao that she "could have touched the mole on his face," as the chairman waved to his adoring masses, "just like . . . the Beatles, Sinatra, Michael Jackson."

Snow seems willing to forgive party central for the Great Leap Forward (an estimated 40 million dead) and the Cultural Revolution (a million or so dead and the ruination of millions more lives), but not the 1989 massacre at Tiananmen Square (in which an estimated 800 people died). "If crop yields were sometimes exaggerated, women's roles somewhat overstated or statistics unproven, sturdy stone and brick houses, reclaimed green fields and orchards gave evidence that hard work had made life better than ever before," she writes of life under Mao. But after 1989, she explains, "I broke with the Chinese leadership. . . . I no longer visit."

Why was Tiananmen the last straw? The answer might lie in Snow's discomfort with the market-oriented path China has taken and with her unmet expectation that the Chinese would somehow leverage communism to free themselves from the West's cycle of worldly desires. Before Deng Xiaoping's economic reforms of the 1980s, Snow writes, quoting her husband, China pursued policies "for the communal good, not for private gain." Although those policies resulted in the deaths of millions, she is saddened to see that today China and the United States are "engaged in capitalist competition." Once again, an American finds that the Chinese resemble Americans more than she is comfortable with.

It is tempting to direct such people to take in China's 2013 summer blockbusters *Tiny Times 1* and *2*. These films tell the story of four Shanghai coeds who swap rich lovers as if they were handbags—a kind of *Sex and the City* meets *The Devil Wears Prada*, as Sheila Melvin put it in *The New York Times*. Perhaps it would also help to point out that more than 50 percent of Chinese now live in cities, up from 19 percent in the 1970s. Rice paddies and egalitarianism beware: this is the real China. *Tiny Times 3* is set to come out next year.

GREAT EXPECTATIONS

Americans of all political stripes have long harbored outsized expectations for China—and those high hopes have made disappointment inevitable. The China scholars Jonathan Mirsky, Steven Mosher, and Perry Link all contributed moving pieces to *My First Trip*. All came away from their initial interactions with the country deflated. Mirsky and Link had both demonstrated against the Vietnam War and were highly critical of U.S. policies in Asia. But their first visits to the mainland, in the early 1970s, brought them face-to-face with Chinese minders who specialized in showing them Potemkin villages, Potemkin workers, even Potemkin subways. When the visitors dared to poke their heads behind the curtain, they were harangued. "In the years since 1973 I have learned much, much more about how wrong I was in the late 1960s to take Mao Zedong's 'socialism' at face value," confesses Link, who later taught East Asian studies at Princeton. "I am a bit puzzled that others among my leftist-student friends from the 1960s sometimes seem reluctant to face this obvious fact."

Mosher, one of the first American graduate students to do fieldwork in China, arrived in 1979 in a village in the Pearl River Delta. He brought with him a faith in Mao's socialism, but disillusion set in fast; the squalid life of rural Guangdong Province disabused him of the notion that China was a workers' and peasants' paradise. Then, he witnessed

the unveiling of China's one-child policy, which played out in a high tide of forced abortions and sterilizations; he saw the operations firsthand. Once a fellow traveler, Mosher quickly became a sworn enemy of China's population polices. "The sense that all of this was truly wicked grew," he writes.

But why did he expect anything better? Olpadwala provides a clue. When he first visited China, in 1985, Olpadwala came from India and was impressed. Compared with the rest of the developing world, China was doing well: it was clean, people had jobs, and there were no slums. Olpadwala found himself disagreeing with the Western members of his delegation. "Where I saw almost everyone housed, they noticed the drabness. . . . Where I saw everyone clothed, they observed sartorial monotony; where I saw shops stocked with basics, they remarked on the lack of variety." Olpadwala's comment gets to the heart of Americans' views of China as opposed to, say, their perspective on India, which Americans rarely compare to more advanced countries. Americans have always expected more from China, and even today, they hold it to a higher standard.

There is another, more practical, less romantic strain in how Americans have looked at China, one illustrated in the contributions of William Overholt, at the time a banker, and Ezra Vogel, a professor emeritus of East Asian studies at Harvard. Although the pragmatic view of China sometimes degenerates into boosterism, it also helps explain why many Americans have stood with China—no matter its governments—over the decades.

Overholt arrived in 1982 and, thanks to connections he had made at the time of China's first mission to the United Nations, was squired around the country by a colonel in the People's Liberation Army. Overholt's Chinese friends peppered him with questions: How does one cash a check in New York? How might they finagle $1 million in interest from a pre–World War II American checking account? Overholt understood then what would not appear plausible to most Westerners until a decade later: that China was on the cusp of an economic revolution like those that had just taken place in South Korea and Taiwan, except with a population almost 20 times as large as the two others' combined. The results would shake the world.

Vogel, who was a member of the Committee of Concerned Asian Scholars, which lobbied against the war in Vietnam, first visited in 1973. But he was less radical, had a less rosy view of communist China, and was more pro-American than many of his comrades, he notes, partially because his father, a Jew, had succeeded in the United States, while other family members died in the Holocaust. Vogel saw the same China as his colleagues did: people were poor, frightened, and cowed by Maoist orthodoxy. Yet, he explains, using language that American Sinophiles of all stripes have employed for centuries, he "wanted Chinese leaders to succeed, to make life better for their people, and wanted to help bridge the gap between China and America." His first visit continues to serve as a bellwether that allows him to defend his personal notion of China, "to tell those Westerners who later complained about limitations [on free expression] . . . how much change had taken place."

THE SEARCH GOES ON

The Chinese, of course, have their own overblown expectations—of the West, specifically the United States, a fact often overlooked by Western scholars somehow embarrassed by the power of Americans to do good. Two of the contributors to *My First Trip* make clear that the U.S.-Chinese relationship has long been a two-way street. Morton Abramowitz visited China in 1978 as a U.S. Defense Department official, accompanying President Jimmy Carter's national security adviser, Zbigniew Brzezinski, whose goal was to fashion a de facto alliance with Beijing against the Soviet Union. Abramowitz's mission was to brief the Chinese on Soviet capabilities on their borders—a huge show of faith from the United States. Abramowitz recalls Brzezinski joking with their hosts, pointing north to the Soviet border and saying, "Out there is the Russian bear and I am the bear tamer." While Abramowitz shared sensitive American intelligence, his counterpart from the People's Liberation Army soaked it in; then, he shook Abramowitz's hand and left without a question. "I was impressed," Abramowitz writes, with "how well China played a weak hand."

Weaker still was China's hand in 1972, when the legal expert Jerome Cohen met with Premier Zhou Enlai along with other American scholars to push the idea of cultural and educational exchange. After cajoling the aging Chinese leader to open up his country, Cohen took a bathroom break with John Fairbank, the legendary China scholar. Suggesting that perhaps the pair had squeezed Zhou a bit too hard, Fairbank gazed at Cohen from across his urinal and quipped, "The missionary spirit dies hard!"

The reality is that the Chinese were desperate for Abramowitz's briefing and for the exchanges offered by Fairbank and Cohen, which would ultimately help propel China again into the modern world. Those exchanges were indeed born from "the missionary spirit"—the profoundly American desire to help China and to shape its future. Often belittled, that desire—leavened by a healthy dose of Yankee self-interest—continues to drive the relationship between the two Pacific powers today. No wonder everyone in China is talking about "the Chinese dream."

And what of the Chinese themselves? Beijing still invests a huge amount of energy—and now capital—in molding Western perceptions of China. (Estimates for the build-out of China's media operations overseas hover well over $200 million.) But the results, like those of the early propaganda tours narrated in *My First Trip*, are less than spectacular. For a while in the late 1990s, it looked as if China was ready to embrace a more sophisticated approach. It offered experts background briefings of substance and allowed more significant and relaxed interactions with opinion leaders and members of the press. But that ended during the reign of Hu Jintao. What has replaced it, curiously enough, seems inspired by the "fickle mistress" of Schell's China: a government that pretends not to care what foreigners think. And so the search for the real China goes on.

Border Battle

The Ugly Legacy of the Mexican-American War

Enrique Krauze

A Wicked War: Polk, Clay, Lincoln, and the 1846 U.S. Invasion of Mexico
BY AMY S. GREENBERG. Knopf, 2012, 344 pp. $30.00 (paper, $16.95).

Every country sooner or later confronts the sins of its past, though rarely all at once. In recent decades, historians of the United States have revealed and explored the sins of American imperialism, recounting in detail Washington's interventions in Latin America, Southeast Asia, and the Middle East. Yet they have largely overlooked American meddling in Mexico. Consequently, few in the United States recognize that the Mexican-American War (1846–48) was Washington's first major imperialist venture. Fewer still would understand why future U.S. President Ulysses S. Grant, who fought in Mexico as a lieutenant in the U.S. Army, would come to see it as the country's most "wicked war."

For Mexicans, the war was a national catastrophe. Their sense of depression receded nearly 20 years later, when Mexican forces fought off a second foreign occupation by France under Napoleon III. Yet the U.S. invasion was too harrowing to forget. It became institutionalized in national myth: in the heroic legend of the *Niños Héroes*, the boy martyrs of the war's final battle, at Chapultepec; in the many monuments at the sites of major battles; and in the museums that house relics of the Mexican resistance. Today, one still sees traces of the war in the defensive and distrustful character of Mexican nationalism. For more than a century and a half, Mexico has remained deeply suspicious of its northern "gringo" neighbors, who might yet seize another slice of territory at a moment's notice.

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CHARACTER DRAMA

In recent decades, a number of worthwhile books have been published, in both Mexico and the United States, on various aspects of the war. Most, however, have been intended for academic audiences. Greenberg's is the first that offers the kind of narrative history that, with sensitivity and balance, introduces the general reader to this remote and largely forgotten drama. It does so by telling the story of the war through the lives of a selection of Americans whose careers it shaped, including U.S. President James Polk, the once and future U.S. senator Henry Clay, and then U.S. Congressman Abraham Lincoln. In Polk, Greenberg identifies an ideology of national supremacy that led to the outbreak of war and shaped its course; through her portrayal of Clay and Lincoln, she gives voice to the war's opponents.

In 1846, war was only one of Polk's options for resolving a number of disputes with Mexico, chiefly over unpaid Mexican debts and the contested southern border of Texas, which the United States had annexed just a year earlier. But Polk never seriously considered any

alternatives. Indeed, Greenberg argues that Polk's image of himself as an armed prophet of manifest destiny was itself the most decisive factor in the outbreak of the war. Polk was fully convinced, Greenberg writes, that "it was God's will that Mexico's richest lands, especially the fertile stretch by the Pacific, pass from its current shiftless residents to hard-working white people better able to husband their resources." When a Mexican cavalry unit attacked a U.S. patrol in a disputed area near the Rio Grande, Polk saw an opportunity to serve his own version of divine justice.

Greenberg argues that Polk's view of the conflict grew out of his experience as a slave owner. Like many Americans who owned slaves in the 1840s—and many who did not—Polk, in large part due to the influence of his wife, Sarah, believed that God had ordained white supremacy. In her memoirs, Sarah recalled telling her husband one afternoon at the White House that "the writers of the Declaration of Independence were mistaken when they affirmed that all men are created equal." Her slaves had not chosen "such a lot in life, neither did we ask for ours; we are created for these places." Her husband, she wrote, was so persuaded that he often cited the conversation to praise her "acumen" on the topic.

To Polk, the intrinsic inferiority of the Mexicans helped justify the use of force against them and even helped explain why they could not repay their debts and why, unlike the French and the Spanish, they remained resistant to selling the United States territory that Polk believed they were not capable of populating, cultivating, or governing properly.

Although a majority of the American electorate shared Polk's ideology of racial supremacy, an unlikely coalition of prominent political figures opposed the war from the start. Dissenters included the pro-slavery U.S. senator from South Carolina John C. Calhoun; former U.S. President John Quincy Adams, who characterized the "outrageous war" as a plot by the slavery states to dominate Congress; and even the commander of the U.S. forces at the border and future U.S. president Zachary Taylor, who believed the annexation of new lands to be "injudicious in policy and wicked in fact."

But a national propaganda campaign won over the public by portraying the war as a great national cause. Politicians, principally southerners, made the case for war in the popular press. In 1846, the New Orleans *Daily Delta* warned that without "active measures" against Mexico, "every dog, from the English mastiff to the Mexican cur, may snap at and bite us with impunity." Pro-war fervor spanned the political spectrum: one of its most articulate advocates was Walt Whitman, then a newspaper editor in Brooklyn, who urged his countrymen to "teach the world that, while we are not forward for a quarrel, America knows how to crush, as well as how to expand!"

In Mexico, too, newspapers expressed a sense of wounded pride. *La Voz del Pueblo* called on the nation to "destroy the unjust usurpers of our rights." Mexican President José Joaquín Herrera, warning of the costs that revenge would carry, attempted to avoid war through diplomacy, but military hard-liners staged a coup and overthrew him. The overwhelming national sentiments, however, were

anxiety and fatalism. "To our detriment the war has begun and we must not lose time," wrote one commentator in the newspaper *El Republicano*. War was the last thing Mexico wanted, but it was also the only honorable response to U.S. aggression.

STARS AND STRIPES

The fighting lasted from April 25, 1846, until September 14, 1847, when Mexicans saw, in the words of one eminent Mexican historian, "the hated banner of the stars and stripes" waving over their center of government, the Palacio Nacional, in Mexico City.

From the beginning, the U.S. military dominated events. In 1846, two separate U.S. contingents executed a pincer movement, by sea and by land, to capture the ports of Alta California and the territory of Nuevo México. In early 1847, Taylor swept through the north of Mexico in a series of bloody encounters until he met the regular Mexican army under General Antonio López de Santa Anna in the first full-scale battle of the war, at La Angostura. Although the battle had no decisive victor, the American public came to see Taylor as a hero (enough to elect him Polk's successor as president). Polk, who distrusted Taylor, eventually decided to transfer part of Taylor's forces to the command of General Winfield Scott, who went on to retrace the route to Mexico City taken by the conquistador Hernán Cortés in 1519. Many U.S. soldiers saw themselves as the heirs to the Spanish, and some even carried a copy of William Prescott's book on the Spanish conquest of Mexico. After winning the decisive battle of Cerro Gordo in April, U.S. forces entered the

Valley of Mexico in the middle of August and fought four major battles—at Padierna, Churubusco, Molino del Rey, and Chapultepec—before seizing Mexico City.

Among the many merits of *The Wicked War*, two are especially impressive: Greenberg's use of personal testimonies and her portrayal of atrocities committed by U.S. forces—events that have been little reported, even by Mexican writers. Greenberg uses a first-person account, for example, to describe a massacre of Mexican civilians by volunteer soldiers from Arkansas:

> The cave was full of volunteers, yelling like fiends, while on the rocky floor lay over twenty Mexicans, dead and dying in pools of blood, while women and children were clinging to the knees of the murderers and shrieking for mercy. . . . Nearly thirty Mexicans lay butchered on the floor, most of them scalped. Pools of blood filled the crevices and congealed in clots.

Such events troubled many U.S. officers, including Scott. In an 1847 letter to the U.S. secretary of war, Scott reported that men under Taylor's command had committed crimes that were "sufficient to make Heaven weep." U.S. militiamen had raped mothers and daughters in the presence of their tied-up husbands and fathers, he wrote, "all along the Rio Grande." Yet as U.S. forces readied their attack on Veracruz, Scott denied requests by European consuls to allow women, children, and the elderly to evacuate the city. He would mercilessly bombard the city, destroying houses, churches, and hospitals. In a letter to his wife, the U.S. Army captain Robert E. Lee, who was at Veracruz and who would later lead the Confederate army during the Civil War, wrote that his "heart bled for the inhabitants."

Greenberg argues that U.S. atrocities in Mexico echoed those of the Indian Wars of the 1830s, including a massacre of Cherokees in 1838, in which Scott participated. "When faced with a 'treacherous race,' the rules of war did not apply," Greenberg writes of the attitude of American commanders. The U.S. public seemed to agree. *The New York Herald* predicted that "like the Sabine virgins," Mexico would "soon learn to love its ravisher." But the love never came, the slaughter continued, and Mexican troops made the American invaders pay dearly in blood. Although estimates differ, Greenberg reports that the United States sent 59,000 volunteers and 27,000 regular troops to fight the war; nearly 14,000 of them died. Of course, the price was even higher for Mexican citizens; estimates suggest that as many as 26,000 died during the war.

The bloodshed fed growing opposition to the war in the United States. Clay, whom Polk had defeated in the presidential election of 1844, emerged as the war's most powerful opponent in Washington. Clay led the Whig Party, which had opposed the annexation of Texas, believing—correctly, it turned out—that it would lead to conflict. By 1847, Clay's opposition had taken on a personal dimension: his son, a graduate of West Point, was killed in February of that year at the Battle of Buena Vista. In a speech to a crowd of thousands in Lexington, Kentucky, only a few weeks later, Clay condemned Polk's war of "unnecessary and offensive aggression" and its "dreadful sacrifices of human

The spoils of war: a poster depicting Zachary Taylor, 1848

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life." He also asked Americans to consider Mexico's point of view. It was Mexico, he argued, that was "defending her fire-sides, her castles and her altars." Making a comparison closer to the American consciousness, Clay drew a parallel with Ireland and the United Kingdom: "Every Irishman hates, with a mortal hatred, his Saxon oppressor," he said.

Clay might not have realized just how apt his analogy was. In September 1846, a small contingent of U.S. soldiers, nearly all recent immigrants from Ireland, had actually switched to the Mexican side. They had changed their allegiance after their first battle, motivated by the plight of their fellow Catholics in Mexico and by resentment of their treatment by the Protestant-dominated U.S. military.

Today, a plaque in Mexico City marks the site where most of them were executed by other U.S. troops. And Mexicans annually commemorate the Battle of Churubusco, where the soldiers were captured, by listening to a band of bagpipers, which is meant to represent the Mexican battalion that was largely formed by these American defectors and that was named for Saint Patrick, *el Batallón de San Patricio*.

MEASURING MIGHT

Although Greenberg did not intend to write a military history, her book could have used less biographical detail and more developed comparisons of the war's opposing armies. In this case, the differences between the two forces were immense.

U.S. troops benefited from major advantages in equipment and training. The U.S. Army's artillery was far more mobile than that of Mexico's forces, and American-made rifles were state of the art, whereas Mexico's guns were relics of the Napoleonic Wars, purchased at a discount on the European market. U.S. officers used advanced training in fields such as engineering to design complex battle plans. And their army's command included many members of the educated elite.

The Mexican army, in contrast, lacked a sizable professional officer corps, and most of its troops came from the poorest segments of society. Whereas volunteers made up three-quarters of U.S. forces, the majority of the Mexican troops were draftees. In the United States, an officer typically ascended to command through his experience on the battlefield; in Mexico, an officer's rank often reflected his social position rather than his achievements. Moreover, the United States subordinated military officers to civilian control; in Mexico, the military maneuvered and fought for political power—consequently, the Mexican military was structured primarily to stage military coups rather than fight foreign invaders.

BACK TO THE BORDER

In February 1848, the two countries signed the Treaty of Guadalupe Hidalgo, in which Mexico accepted the Rio Grande as its northern border and, in exchange for $15 million, ceded the territories now known as New Mexico and California. Polk wanted to annex Baja California as well, and some called for the annexation of Mexico in its entirety. But Nicholas Trist, a diplomat who represented the American side in the negotiations, explicitly defying Polk's instructions and then Polk's orders that he return to Washington, made the final arrangement less harsh. Trist thought Polk's proposed treaty terms went too far. He believed it was his duty to "protect the people of America from the impossible burden of annexing Mexico." And most of all, he had seen firsthand the violence inflicted by U.S. soldiers on Mexican civilians, later calling the invasion "a thing for every right-minded American to be ashamed of." The feelings of Trist, who had intimate knowledge of the war, contrasted sharply with those of the U.S. press. For the editors of *The Democratic Review*, "the brilliant success of our brave and magnanimous army in Mexico" brought "to mind the victorious struggles of our first armies."

Meanwhile, Mexicans greeted their

loss with profound grief. Lucas Alamán, perhaps the greatest nineteenth-century Mexican historian, had watched the final battles for Mexico City with a spyglass from the roof of his house in the barrio of San Cosme. At the time, he had been at work on the final chapters of his great history of the Mexican struggle for independence. In the aftermath of the war, he confronted the cruel paradox of having completed a history of the independence of Mexico just as it endured a new conquest—and at the hands of a country that was not even born when the Spanish conquest created Mexico. Alamán believed that his country was doomed to meet the fate of the Mayas, the Toltecs, and the Aztecs; Mexicans seemed "destined to be one of those peoples who once established themselves on this land and then disappeared from the surface of the earth leaving hardly a memory of [their] existence."

Mexico's fate was not quite so grim, of course. But the wicked war established the boundaries of the deeply unequal relationship between Mexico and the United States that persists today. Mexico's defeat still lingers as a scar on the country's political and popular memory, one that aches in moments as serious as a trade negotiation and as trivial as a soccer game. The combustible nature of Mexican nationalism makes little sense without it.

But in the twenty-first century, both countries have been granted an unexpected opportunity to compensate in part for the past, both practically and symbolically—and it is the United States that can take the initiative. Today, there are millions of Mexicans living in the United States, legally and illegally—in essence, a substantial part of Mexico within American borders. Unlike the small number of Mexicans who lived in the territories annexed by the United States through the treaty of 1848, these people are driven to the United States by economic need, and they in turn fulfill U.S. economic needs. Americans cannot afford the luxury of denying their presence. The passage of legislation providing a route to U.S. citizenship for undocumented immigrants would be an excellent way to confront the sins of the past and for Mexico and the United States to mutually make their peace with it.

The Case for International Law

A Response to "The War of Law"

Harold Hongju Koh and Michael Doyle

In "The War of Law" (July/August 2013), Jon Kyl, Douglas Feith, and John Fonte purport to explain the state of international law and how it "undermines democratic sovereignty." Their portrayal, however, hardly rises above caricature. Their legal prescriptions ignore constitutional history and, if followed, would drastically weaken U.S. foreign policy. The authors may not like the contemporary practice of international law, but their own ideas are painfully antiquated, better suited to an insular nineteenth-century nation than the great power the United States has become.

The authors mount a wide-ranging attack on enemies of their own imagining: dangerous "transnationalists" (including one of us) who are out to undermine "basic American principles" by promoting U.S. compliance with international law. Such compliance, they argue, comes at the expense of the constitutional system, democratic accountability, and U.S. sovereignty. But their hodgepodge of examples proves nothing of the kind.

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AMERICAN AS APPLE PIE

First of all, what "basic American principles" are being violated by the United States' adherence to international law? After all, the very first paragraph of the Declaration of Independence calls for "a decent respect to the opinions of mankind." The founders plainly understood that the nation could not flourish, or even survive, without giving due respect to the laws that governed peaceable relations among sovereign states.

Nor is it clear what constitutional values Kyl, Feith, and Fonte think are threatened by adherence to international law. The founders rejected the right of other countries to hijack the United States' foreign relations: they granted clear supremacy to the Constitution, which no treaty can override, and to Congress, which can supersede any treaty by later legislation. But the framers of the Constitution clearly viewed international law as an essential part of the country's legal order, accountable to and reflective of the will of the American people. Indeed, they set a stringent condition under which international treaties would be considered lawful: passage by a two-thirds supermajority of the Senate.

The authors are particularly incensed by the allegedly novel role of "activist judges" in applying customary international law. Kyl, Feith, and Fonte complain that certain judges cannot be trusted to interpret the law fairly in contested cases. This is an affront to U.S. judges, who swear to uphold the laws of the land, as

well as to the Senate, which painstakingly confirms each one of them. What is equally important, from the days of Chief Justice John Marshall, U.S. courts have repeatedly interpreted and applied customary international law. So this is a judicial tradition at least as American as apple pie.

The authors claim that only elected officials can make international law part of U.S. law. They blame former Secretary of State Hillary Clinton for in effect deeming, on behalf of President Barack Obama, "parts of a treaty binding on the United States, presumably as customary international law, even if that treaty has never been ratified according to the U.S. Constitution, and even if the president has expressly rejected that treaty, as [President Ronald] Reagan did with Additional Protocol I [of the 1949 Geneva Conventions]." But the authors conveniently ignore that in 1987, the Reagan administration accepted much of the very same treaty as the customary international law of armed conflict. After all, U.S. presidents (who surely must qualify as elected officials) have long had the responsibility of recognizing customary international law as part of domestic law. Indeed, one president who regularly did so was Reagan, who in 1982 chose to deem large parts of the UN Convention on the Law of the Sea binding on the United States as customary international law.

Kyl, Feith, and Fonte further argue that Belgian, British, and other European courts have lacked "democratic accountability" when investigating U.S. and Israeli officials for alleged war crimes. But although opinions may differ regarding the wisdom of such prosecutions, there is no denying that they were produced by democratic decision-making; they are the products of prosecutorial decisions that flowed from the elected governments and elected legislatures of close democratic allies. Ironically, if U.S. government officials were ever sued in these countries, their strongest defense would come from the very international laws that the authors decry: in this case, rules that strongly protect foreign officials from criminal suits abroad.

While broadly attacking international law, the authors never acknowledge the costs of failing to endorse international law. They celebrate, for example, the Senate's recent failure to ratify the Convention on the Rights of Persons With Disabilities as a stalwart defense of U.S. national interests. Yet this is a treaty based on decades of settled U.S. law, and it had just received endorsements not just from the Obama administration but also from the former Republican presidential candidates Bob Dole and John McCain. And as a consequence of the Senate's failure to ratify it, Americans with disabilities—including wounded service members—will now enjoy fewer protections when they travel abroad.

The authors similarly suggest that the Senate's repeated refusal to ratify the UN Convention on the Law of the Sea—despite the support of the U.S. business community, the U.S. military, and nearly every president, secretary of state, and secretary of defense from both parties for the last three decades—has been a brave defense of U.S. sovereignty. Again, they never acknowledge the political costs of nonratification: that by staying outside the treaty system, the United States has effectively ceded maritime influence to the Russians in the Arctic and to the Chinese in the South China Sea.

REALITY CHECK

Kyl, Feith, and Fonte are careless in accusing international lawyers of abusing international law to limit U.S. power. The authors chide the former chief prosecutor of the International Criminal Tribunal for the Former Yugoslavia for investigating the bombing of a Belgrade television station by U.S. planes as a potential criminal violation of Additional Protocol I of the Geneva Conventions (which prohibits attacks without warning on such facilities); they suggest that such an investigation violated the sovereignty of the United States, as a nonsignatory to that protocol. But it was NATO, not the United States, that authorized that attack—and 16 of the 19 members of NATO at the time were signatories to Additional Protocol I. By choosing to fight as part of the NATO coalition, the United States could reasonably be held accountable to the international legal rules that bound its coalition partners.

To cure the ills they identify, the authors suggest that Congress pass legislation declaring that various rules of customary international law will no longer be legally binding on the United States. But how would such legislation help the United States, or the world, in any way? While demonizing customary international law, the authors never mention the many ways that customary international law plainly benefits U.S. national interests, from requiring other countries to deny safe haven to terrorists to enforcing intellectual property laws to protecting local Christian populations against religious persecution. Nor do they suggest how the United States should advance its interests in addressing the many global problems—including

climate change, pandemic disease, terrorism, and cybersecurity—that it cannot tackle on its own.

The authors condemn transnationalists for "propound[ing] ideas at odds with the practical requirements of the real world" in arguing that "growing interconnectedness should dissolve international boundaries." But anyone sensitive to the practical requirements of the real world must recognize that growing interconnectedness is already eroding international boundaries. The United States is part of the world's legal networks just as much as it is part of its economic, communications, and transportation networks. In today's vastly interdependent political world, policies adopted by sovereign states inevitably affect the interests of many others. To pretend otherwise is, like King Canute ordering the tide not to come in, to doom oneself to failure.

The founders never accepted the authors' pipe dream of an autonomous nation that could ignore international law while paying no price in terms of global respect and influence. They knew that the world's peoples needed rules to live by. And in most cases, those global rules do not unduly confine Americans. In remarkable ways, building and following international law have freed Americans to do things they never dreamed possible. Thanks to modern international law and treaties, U.S. citizens can now fly abroad protected by international treaties, enter countries with fewer visa restrictions, draw money from foreign ATM machines, and do business overseas subject to legal protections unimaginable just decades ago.

When international law and lawyers help preserve the world's respect for the United States, they advance the country's global interests, rather than undermine its sovereignty or constitutional democracy. The United States can hardly be a global leader unless it takes on the hard task of making and following wise and durable global standards. This, after all, is what the U.S. government demands of countries such as China and Iran. Why should Americans expect any less of themselves?

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How to Copy Right

Is Piracy Productive?

Patent Progress

Steven Tepp

In their essay "Fake It Till You Make It" (July/August 2013), Kal Raustiala and Christopher Sprigman urged the United States to "relax" when it comes to the flagrant disregard for intellectual property laws in China. The authors make two essential arguments: first, that the United States in its early days, like China today, was a "pirate nation," and second, that copying drove the United States' economic growth. As China's economy develops, they say, so, too, will its "balance of interests." Like the United States before it, China will rely less on copying and "adopt a less permissive approach" to copyright infringement—not in response to U.S. prodding but on its own initiative.

Although the authors accurately describe U.S. attitudes toward foreign intellectual property rights before 1891, they misinterpret the results. By deciding to fully recognize foreign copyrights in 1891, the United States actually reaped significant financial rewards. The move opened up entirely new markets to U.S. products, spurring cultural and economic exchanges that helped make the United States the commercial powerhouse that it is today. A Chinese campaign against piracy need not follow further economic growth; it can spur it.

A DEAD END

The authors correctly note that the United States failed to provide copyright protection to foreign creative works through most of the nineteenth century. But they draw from that history the wrong conclusion: that piracy promotes creativity.

If anything, history proves the opposite. The U.S. House Committee on Patents argued as much in an 1890 report: "Since such American publishers pay nothing to the English authors whose stories they appropriate and publish, other American publishers can not afford to pay American authors for writing stories." Consequently, many U.S. writers struggled to establish reputations in the first place, let alone profit from sales abroad (British publishers reciprocally pirated U.S. works).

Lawmakers understood then, as they should now, that piracy of works from abroad discourages creativity at home. In 1891, at the height of its status as a pirate nation, the United States passed the International Copyright Act, which established new protections for foreign works.

What followed, in stark contrast to the prior century, was a boom in creative expression that accelerated U.S. economic development. With the addition of subsequent copyright laws, the United States became the world's leading creator in fields ranging from motion pictures to computer software. Today, U.S. authors and innovators drive industries that support more than 40 million American jobs and account for nearly three-quarters of all U.S. exports.

Those who lived through the age of unchecked American piracy recognized it for what it was: a dead end for creativity.

Today, the United States wants China to do nothing more than what it once did for itself.

WHEN THEFT IS THEFT

Raustiala and Sprigman mislead readers by conflating two very different acts: incremental innovation, in which newcomers improve on and supplement the work of their predecessors, and outright copying. Both Chinese and U.S. intellectual property law provide inventors with many avenues to legally obtain licenses and permissions from those whose achievements they wish to borrow. The resulting work often proves worthy of protection in its own right.

But this happy cycle has little in common with actual theft. Chinese pirates and counterfeiters routinely obtain copies of blockbuster movies, popular music, and other products before they are even lawfully released to the public. They make use of increasingly well-designed websites that deceive U.S. and Chinese consumers into believing that they are buying legitimate goods.

Sadly, the authors would have China's population settle for HiPhones and Guxxi in place of legitimate Chinese versions that could one day compete fairly with U.S. equivalents. And they make no mention of substandard products capable of harming—even killing—Chinese customers. In 2004, counterfeiters sold a bogus baby formula that caused 50 Chinese babies to die of malnutrition and twice as many to suffer severe health effects.

The dangers of China's knockoff economy, of course, extend beyond China's borders and into U.S. markets, threatening public health and even national security. Between 2007 and 2010, U.S. customs officials intercepted roughly 5.6 million fake microchips, many of which came from China and were destined for commercial aviation companies or military contractors. In 2010, federal prosecutors charged a Florida-based company with selling the U.S. Navy thousands of bogus Chinese microchips that could have caused system failures in jets, submarines, and missiles. The U.S. Food and Drug Administration warned last year that unsafe versions of the cancer-fighting drug Avastin had infiltrated the U.S. drug supply. And such incidents are not uncommon: in 2009, Chinese-made goods accounted for roughly 80 percent of the counterfeit products seized in the United States.

Ironically, by minimizing the dangers of Chinese copying, the authors lag behind the latest thinking in China. In recent years, the Chinese government has begun to significantly update its patent, trademark, and copyright laws. Officials ranking as high as the vice-premier level have overseen special enforcement campaigns of unprecedented duration and scope. Most recently, the government adopted a judicial interpretation that provides guidance to all courts in China as to when companies bear responsibility for copyright piracy on their websites. If fully implemented, this guidance would put China on a par with the leading nations of the world. Major Chinese businesses have also made important strides in observing foreign copyrights on their own. In the last few years, the search engine Baidu and the auction website Taobao have closed licensing deals with foreign record and film companies and voluntarily adjusted their internal procedures to remove

counterfeit products at the request of the legitimate rights owners.

Despite these promising signs, China still has a long way to go, especially in its enforcement of intellectual property rights. If China is determined to copy its way to an innovation economy, it should focus on emulating the United States' actual path to success: tapping into the creative potential of its own citizens.

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Raustiala and Sprigman Reply

Steven Tepp offers the conventional wisdom about Chinese copying: the "flagrant disregard for intellectual property laws in China" drastically undercuts innovation and economic growth there and in the United States. China should, in his view, follow Washington's advice and get serious about protecting intellectual property.

Yet China is unlikely to do so, and for good reason: although copying can indeed hurt creativity, it can also spur it, and create new markets. By making goods cheaper, copying expands access to learning, literacy, goods, and technology—all of which are especially important in a highly unequal country such as China. For these reasons, Beijing has strong incentives to stay the course.

Because Chinese copying is rooted in a powerful economic and social logic and not nearly as harmful as many believe, continuing to battle China on the topic is, as we argue in our essay, "not worth the political and diplomatic capital the United States is spending on it." Tepp misses this main point. An obsession with intellectual property rights distracts the United States from addressing the many larger issues in its uniquely significant bilateral relationship with China.

That intellectual property issues are so high on Washington's agenda in its dealings with Beijing is mostly due to the political influence of U.S. businesses. Neither exact copying, which is typically labeled as "piracy," nor copying by enhancing originals, which we call "tweaking," is a grave threat. In China, even outright piracy does far less harm than many suppose. Many Chinese who buy pirated movies, for example, simply cannot afford the originals. Such piracy, therefore, does not result in lost sales. If anything, by building a taste for Western culture and goods, Chinese consumption of copies today may ultimately result in more sales for Western companies in the future, as China grows richer.

By continuing to harangue Beijing about copying, Washington also opens itself up to charges of hypocrisy. Tepp concedes that the United States itself was once a major violator of foreign intellectual property rights. Yet although Tepp is correct that the International Copyright Act became law in 1891, he offers no evidence that this statute was the magic ingredient that ignited an explosion of American creativity. And in reality, the act was far less protective of foreign works than Tepp suggests. Until the mid-1980s, for example, it was still perfectly legal to make unauthorized

copies of books that were not manufactured in the United States or Canada.

By 1891, moreover, the United States was already one of the world's wealthiest nations in terms of per capita GDP. By contrast, the World Bank ranks China today as 90th in per capita wealth. Tepp's claim that "the United States wants China to do nothing more than what it once did for itself" is simply incorrect. What Tepp seems to want, rather, is for China to do as the United States says, not as it actually did.

Tepp also challenges our basic claim that copying can promote creativity. We don't disagree that intellectual property laws have an important role to play in both the U.S. and the Chinese economies. We argue instead that copying has unappreciated virtues. The great success of industries as diverse as fashion and databases—in which substantial copying is perfectly legal—provides abundant evidence that copying can coexist with creativity.

Too often, U.S. policymakers readily assume that intellectual property protections should be as strong as possible. But like so many government regulations, intellectual property laws demand close scrutiny to determine how they actually work—and how the market adjusts when they do not exist. That is why we read the recent moves to update Chinese laws quite differently than Tepp did. Chinese practices, whether related to intellectual property or the environment, rarely reflect formal laws on the books. Moreover, had China really undergone meaningful change, U.S. businesses would not still be pushing so hard to stop Chinese copying.

We do agree wholeheartedly with Tepp about one thing: counterfeit products such as fake drugs and fake airplane parts can cause great harm. We support vigorously enforced consumer protection laws to prevent such dangers. Tepp, however, conflates counterfeits with copies. The HiPhone and Xiaomi phones, which are branded differently from the original products they imitate, are copies; fake Prada sunglasses and fake Patek Philippe watches are counterfeits. Counterfeits misappropriate brand names, whereas copies rework designs but are clearly from different producers. In our original essay, we never used the word "counterfeit," since it was not our subject. We focused instead on China's vibrant knockoff economy and its social and political implications.

China will not change its approach to intellectual property rights easily or rapidly. Eventually, however, that approach will evolve. In the meantime, the U.S. relationship with China is too important to jeopardize over forces the United States can't control—and doesn't need to.

Recent Books

Political and Legal

G. John Ikenberry

The Sea and Civilization: A Maritime History of the World
BY LINCOLN PAINE. Knopf, 2013, 784 pp. $40.00.

In the Western imagination, seafaring began to influence the course of world history with the European discovery of the New World. During the "classic age of sail," spanning the fifteenth through the eighteenth centuries, the Western powers undertook their great voyages of discovery, linking distant regions and establishing European global supremacy. In this fascinating and beautifully written scholarly work, Paine steps back from this Eurocentric view to tell the story of maritime travel through the entire sweep of human history. For thousands of years, people have been launching themselves onto water to fish, trade, fight, and explore—and doing so in ways that have profoundly shaped human institutions and the rise and decline of civilizations. The narrative is more encyclopedic than thematic; Paine does not advance any explicit claims about the relationship between maritime power and world affairs. Nonetheless, with its richness of detail, the book does offer an eloquent vision of how the sea served as a path to the modern world.

Making Human Rights a Reality
BY EMILIE M. HAFNER-BURTON. Princeton University Press, 2013, 296 pp. $75.00 (paper, $27.95).

Over the last 60 years, the international community has constructed a global human rights system, embodied in an expanding array of principles, declarations, treaties, courts, and transnationally organized lawyers and activists. Yet as Hafner-Burton makes clear in this important book, the system's aspirations have far outstripped its ability to enforce international law and protect norms. Hafner-Burton argues that what is needed is not more international law but targeted strategic actions by advanced democracies—the so-called stewardship states—to curb the worst abuses. The book acknowledges that international laws and norms have had an impact, but mainly in stable and developed societies or in countries making transitions to democracy. Unfortunately, the people most at risk live elsewhere, in small, poor, and war-torn countries where appeals to moral or legal principles have little effect. The book argues that fighting systematic human rights abuse requires a strategy of localization, in which outside groups work with domestic counterparts to promote education and the training of military and police forces. Hafner-Burton's sober message is that human rights promotion cannot be separated from the daunting task of building stable, rule-based societies.

Democratic Futures: Revisioning Democracy Promotion
BY MILJA KURKI. Routledge, 2013, 296 pp. $150.00 (paper, $47.95).

This book provides a useful contribution to debates about democracy promotion by looking at what Kurki deems the "hidden" assumptions about political change that inform discussions of the topic. Kurki brings a rather cumbersome critical-theory approach to her inquiry. But it does yield interesting insights into the evolution of ideas about how to promote democracy. Kurki believes U.S. policy thinkers limit themselves by backing a narrow, procedural democratic model tied to elections and laissez-faire capitalism, blinding themselves to alternative models such as those based on European social democratic liberalism and the World Bank's technocratic neoliberalism. But generally, Kurki finds that in recent years, Western thinking on democracy has become less triumphalist and less dependent on one-size-fits-all visions. She seems surprised to find that a growing contestation of ideas has roiled the democracy-promotion establishment. But the book itself is an innovative contribution to that debate.

Exodus: How Migration Is Changing Our World
BY PAUL COLLIER. Oxford University Press, 2013, 320 pp. $27.95.

Collier is best known for his writings on "the bottom billion," the world's poorest people. In this book, he explores the economics and politics of global migration and offers a surprising and controversial case for restricting it. Owing to the global growth of economic inequality, huge numbers of people in poor countries are eager to leave their difficult conditions in search of better lives elsewhere. Although migrants often manage to improve their own lots, Collier argues that the countries they leave behind and the countries that receive them might actually become worse off. He acknowledges the economic benefits receiving countries enjoy from immigration but believes that after a certain point, these benefits are outweighed by the social costs generated by a decline in "mutual regard": that is, the trust and social cohesion necessary for a well-functioning society. For the countries the migrants leave behind, Collier also sees losses, associated with the brain drain and weakened national identity. Collier wisely limits himself to cautious and hedged arguments, because, as he himself warns, debates about restrictions on immigration can quickly get tangled up with the politics of racism.

Water, Peace, and War: Confronting the Global Water Crisis
BY BRAHMA CHELLANEY. Rowman & Littlefield, 2013, 424 pp. $39.95.

Chellaney sketches a bleak picture of water scarcity in Africa, Asia, and the Middle East, regions also struggling with unstable governments and rapidly growing populations. What Chellaney calls "water stressed conditions" are also appearing in developed countries, such as Australia, Spain, and South Korea. Even the deep-water aquifers that support modern agriculture in North America are dwindling. But will the social and environmental stresses of water shortage

lead to conflict and armed violence? On that question, Chellaney's book is more speculative. Conflicts over water have already embroiled states along the Nile basin, in Africa, and along the Tigris-Euphrates basin, in the Middle East, and the war in Darfur has at least partly been driven by clashes over access to water in Sudan's far west. Chellaney makes it clear that such conflicts will become more common as water begins to be "used as a weapon," as a recent U.S. intelligence assessment predicted, at least in a metaphoric sense, as upstream countries deny water to downstream ones. But water scarcity seems less likely to spark resource wars than to more broadly contribute to the general deterioration of social and environmental life on the planet.

Economic, Social, and Environmental

Richard N. Cooper

Balance: The Economics of Great Powers From Ancient Rome to Modern America
BY GLENN HUBBARD AND TIM KANE. Simon & Schuster, 2013, 368 pp. $28.00 (paper, $17.00).

Hubbard and Kane take readers on a rapid romp through imperial history, covering the Roman, Chinese, Spanish, Ottoman, Japanese, and British empires and finding the seeds of their failures in fiscal incontinence and the rise of loss-averse special interest groups. Historians often date the beginnings of imperial declines, identifying them with some external event, usually military in character. The authors argue persuasively that the decay typically starts long before such events and usually originates with some internal change. Against this background, they discuss the looming failures of Europe, the United States, and even California, the world's tenth-largest economy. Their central thesis is that modern democracies have become dysfunctional and can be rectified only by changing the perverse incentives they create for politicians. (It is worth noting, of course, that their historical examples illustrate that dysfunction is hardly limited to democracies.) To accomplish this improvement in democratic governance, Hubbard and Kane propose eliminating safe electoral seats, abolishing term limits, and imposing tight fiscal rules on budgeting.

The Electronic Silk Road: How the Web Binds the World Together in Commerce
BY ANUPAM CHANDER. Yale University Press, 2013, 296 pp. $28.00.

By allowing the cross-border distribution of services by electronic means, the Internet has created many new legal and regulatory challenges. Internet firms, many of which operate from obscure locations, can now provide services that were once impossible to trade over long distances: take, for example, online gambling, which is against the law in many countries but hosted by companies based in Antigua, a small island nation in the Caribbean. The participation of major Internet companies in the U.S. National Security Agency's collection of massive quantities of electronic data, provocatively revealed earlier this year by a former contractor

for the agency, serves as a reminder that these companies capture oodles of information about their customers—and about the friends and contacts of their customers—sometimes in violation of laws protecting personal privacy, especially those in Europe. This interesting book reviews the diverse legal cases that have taken place so far involving such conflicts, including those convened under the General Agreement on Trade in Services of the World Trade Organization. It suggests ways that countries can benefit from the many positive aspects of an open Internet while still preserving democratically determined preferences about what content should be allowed online and what data should remain private.

Just Business: Multinational Corporations and Human Rights
BY JOHN RUGGIE. Norton, 2013, 304 pp. $24.95.

"When in Rome, do as the Romans do" is not always good advice for multinational corporations operating outside their host countries. What might be common practice in one country might be considered unethical or even illegal in another. Indeed, even the laws of one's home country might prohibit practices that have become common owing to weak or nonexistent law enforcement. In 2005, then UN Secretary-General Kofi Annan asked Ruggie to survey expert opinion on the relationship between foreign corporations (and their suppliers) and violations of human rights in the countries in which they do business, including in places where conflict prevents authorities from governing. The result, as presented in this book, is a set of 31 guiding principles for governments and corporations centered on the slogan "Protect, respect, and remedy." The book discusses the personal and substantive challenges Ruggie faced in his work, which was endorsed unanimously in 2011 by the UN Human Rights Council. Senior management of all multinational firms should be aware of these principles.

Austerity: European Democracies Against the Wall
BY LORENZO BINI SMAGHI. Centre for European Policy Studies, 2013, 151 pp. Free online.

Smaghi, a former member of the executive board of the European Central Bank, examines the main characteristics of the European financial crises of recent years, focusing on members of the eurozone. The book offers a useful chronology and a clear exposition, in nontechnical terms, of the origins of the euro crises through 2012. Smaghi argues that most analyses of the eurozone's problems and most proposed remedies have focused on the symptoms rather than the underlying causes of the crises, which lie in the failure of European democracies—aging societies in an increasingly youthful, globalized world—to adapt to fundamental changes at home and abroad. Such adaptation would offend cherished European beliefs and a deeply rooted sense of entitlement to public spending, which politicians, focused on staying in office, are loath to take on. Without being apocalyptic, the author argues that the survival of the euro will require ceding more authority to Europe-wide institutions and to the directly elected European Parliament.

Development Without Aid: The Decline of Development Aid and the Rise of the Diaspora
BY DAVID A. PHILLIPS. Anthem Press, 2013, 234 pp. $99.00 (paper, $29.50).

Phillips takes a dyspeptic view of development aid. He acknowledges that countries and international institutions deliver development aid for many purposes and that aid can be useful, even necessary. But after a fulsome review of aid giving in recent decades, he argues that most aid, even in its new and allegedly improved forms, has not contributed to economic development or even to the alleviation of poverty. Sometimes, it has even been counterproductive, especially in Africa. Aid agencies and nongovernmental organizations have proliferated, their aid programs overwhelming the administrative capacity of some recipient governments and resulting in high transactions costs and perverse incentives for officials and others. This tends to alienate recipient countries—an unfortunate outcome, since economic development requires their high motivation and active engagement. The author sees hope in the growing diasporas made up of emigrants from many developing countries, which often provide their home countries with funds, entrepreneurial energy, technical and managerial experience, and marketing knowledge gained abroad. He argues that with help from such emigrants, private foreign investment is more likely than development aid to lead poor countries out of poverty.

Military, Scientific, and Technological

Lawrence D. Freedman

Learning to Forget: US Army Counterinsurgency Doctrine and Practice From Vietnam to Iraq
BY DAVID FITZGERALD. Stanford University Press, 2013, 304 pp. $45.00.

Wrong Turn: America's Deadly Embrace of Counterinsurgency
BY GIAN GENTILE. New Press, 2013, 208 pp. $24.95.

Hearts and Minds: A People's History of Counterinsurgency
EDITED BY HANNAH GURMAN. New Press, 2013, 304 pp. $18.95.

Although U.S. forces are now out of Iraq and are quickly withdrawing from Afghanistan, debate still rages over counterinsurgency (COIN) and the concept of "winning hearts and minds." Fitzgerald's book is less concerned with the lessons of history than with the history of the lessons, especially those of the Vietnam War. Fitzgerald describes how stories of conflict get told and retold, even while the fighting is still under way, to support shifts in policy and strategy. The U.S. military has always been at best ambivalent about COIN, with a strong preference for recasting every contest in terms that suit more traditional forms of fighting. During the Vietnam War, this preference exasperated COIN enthusiasts, who believed that the war could be won if only the United States

were less dependent on search-and-destroy tactics. But as Fitzgerald notes, it is not clear that any strategy could have succeeded given the underlying politics of the Vietnamese civil war. After the war, most U.S. military strategists took the view that the problem lay with COIN theory rather than their own uncertain application of it, and so they returned to their comfort zone of preparing for large-scale wars. This meant that they were totally unprepared for the Iraq war in 2003.

Fitzgerald's point is illustrated by Gentile's polemic against the "hearts and minds" approach to COIN. Gentile, a professor at the U.S. Military Academy at West Point, shares his own bitter combat experiences in Iraq and vigorously indicts COIN and its proponents. He argues that narratives of Vietnam that he considers misleading harmed U.S. strategy during the Iraq war and strongly disputes the claims of COIN advocates who credit the counterinsurgency-based "surge" for the turnaround in Iraq that began in 2006. Outraged by the hype surrounding General David Petraeus, Gentile seeks to puncture the myth of the general as savior. His point, undoubtedly correct, is that success in wars such as Iraq depends mostly on the underlying political dynamics. In the case of the surge, the fact that members of Iraq's Sunni minority turned against al Qaeda proved far more important than any U.S. tactic. Gentile also challenges the concept of hearts and minds as failing to recognize the unavoidable violence involved in such conflicts. But he pushes his argument too far, suggesting that all military interventions, regardless of the motives and the circumstances, are bound to end in failure.

Gurman offers a more telling critique of the hearts-and-minds approach by looking at the strategy from the bottom up rather than the top down. She and the book's contributors consider the perspectives of the people whose loyalties were at stake during the insurgencies in British Malaya, the Philippines, Vietnam, El Salvador, Iraq, and Afghanistan: villagers caught between local party bosses and militants, communities suspected of harboring insurgents, peaceful dissidents lumped together with crude terrorists, and activists who subverted governments they supposedly supported by building up their own power bases. These stories clarify why it is so difficult for any counterinsurgent military to appear as a benevolent force. The conclusion may be less that it is hard to win over hearts and minds and more that it is easy to lose them, owing to the insensitivity of foreigners, the careless use of firepower, counterinsurgents' readiness to reduce risks to themselves at the expense of endangering host populations, and an inability to grasp foreign cultures and political currents.

Moment of Battle: The Twenty Clashes That Changed the World
BY JAMES LACEY AND WILLIAMSON MURRAY. Bantam Books, 2013, 496 pp. $30.00.

After Thermopylae: The Oath of Plataea and the End of the Graeco-Persian Wars
BY PAUL CARTLEDGE. Oxford University Press, 2013, 240 pp. $24.95.

In 1851, Sir Edward Creasy published *The Fifteen Decisive Battles of the World: From Marathon to Waterloo*. This classic work of military history introduced a

controversial concept—that individual military encounters could change the course of history—and implicitly challenged other military historians to come up with their own lists. Lacey and Murray are the latest to try. They have no doubt that the outcomes of wars can "reverberate down through the ages" and that those outcomes can turn not just on the application of superior resources but also on the quality of generalship. They choose battles that allowed the Western world to take shape, endure, and prevail: the fights of the ancient Greeks against the Persians, the contests that led to the rise of the United Kingdom as a dominant power, four of the critical confrontations of World War II, the French defeat at Dien Bien Phu in 1954, and—not wholly convincingly—the U.S. drive to Baghdad in 2003. These choices invite refutation and alternative suggestions, but in the hands of two such accomplished historians, the accounts of the selected battles are models of lucidity.

In his introduction to an engaging little book on the Battle of Plataea, which took place in 479 BC, Cartledge complains that this victory of a Greek army over the Persians was as decisive as they come and yet invariably gets left out of compilations of great battles such as Lacey and Murray's. One reason is that very few reliable accounts of the battle exist, partly because Athenian chroniclers very likely de-emphasized the leading role played in the victory by their rivals, the Spartans. Indeed, Cartledge demonstrates that the "Oath of Plataea," an inscription in an ancient monument outside Athens that hails the Athenian commitment to the fight, is nothing more than propaganda. This is a challenging book for readers who are not classicists, but it is a fascinating reminder of how the politics of memory shapes the understandings of wars, including their conclusions.

The United States

Walter Russell Mead

Lincoln in the World: The Making of a Statesman and the Dawn of American Power
BY KEVIN PERAINO. Crown, 2013, 432 pp. $26.00.

Like many of his countrymen, Abraham Lincoln entered the world of great affairs from the outside. During the Civil War, he emerged as a deft diplomat and sought to coordinate his military and political policies at home with the needs of U.S. diplomacy. Peraino begins with Lincoln's opposition to the Mexican-American War and chronicles his later management, as president, of relations with France and the United Kingdom during the Civil War. A form of intellectual isolationism frequently mars the work of American historians, who often study U.S. politicians without appreciating how those figures' perceptions of events overseas influenced their ideas about their country's role in global affairs. *Lincoln in the World* avoids this pitfall, and although it is not the final word on some of the subjects it treats, it is an important step toward a richer and more useful understanding of the American past.

Evangelicals and American Foreign Policy
BY MARK R. AMSTUTZ. Oxford University Press, 2013, 272 pp. $29.95.

With the recent emergence on both the left and the right of strong populist opposition to the postwar internationalist consensus, the United States is embroiled in what could be its most searching foreign policy debate since the start of the Cold War. Put on the defensive, liberal internationalists and national security conservatives alike are casting about for new allies as old assumptions and policies come under attack. Amstutz's book represents a timely intervention, highlighting the ideas and priorities of a politically significant constituency that might provide critical support for those who believe that U.S. security and prosperity still require deep global engagement. Today's evangelicals combine, on the one hand, global concerns and humanitarian values that resonate with many liberal internationalists and, on the other, pro-market and antistatist inclinations and ideas on sexual morality that diverge from the liberal conventional wisdom. The portrait Amstutz draws of evangelical foreign policy activism and thought does not always flatter his subject; he is frank about some of the theological, intellectual, and institutional challenges that face American evangelicals seeking to influence U.S. policy and world events.

Presidential Leadership and the Creation of the American Era
BY JOSEPH S. NYE, JR. Princeton University Press, 2013, 200 pp. $27.95.

In this short, tightly focused, and useful book, Nye takes on one of the great myths of modern presidential scholarship. Many political scientists divide U.S. presidents into "transactional leaders," who have relatively modest goals, and "transformational leaders," who set out to recast U.S. institutions and political ideas. Political scientists and media commentators tend to swoon over the transformational leaders. Nye, in contrast, makes a compelling case that transactional leaders, such as Dwight Eisenhower and George H. W. Bush, often get more done than swaggering high rollers, such as Theodore Roosevelt and George W. Bush. It is, however, hard to conclude from the evidence he presents that one style is inherently better than the other. For example, Nye rightly notes that Roosevelt's global diplomacy left few traces in U.S. politics, but that was less because Roosevelt's actions were wrong than because Roosevelt was too far ahead of public opinion: in the early twentieth century, the United States would have been better off if more Americans had understood the dangers brewing in Europe, but the gulf between what public opinion would sustain and what the country needed was too wide for any leader to bridge.

The New Digital Age: Reshaping the Future of People, Nations, and Business
BY ERIC SCHMIDT AND JARED COHEN. Knopf, 2013, 336 pp. $26.95.

The New Digital Age is a tough read. Ideas, examples, anecdotes, speculations, and assertions fly thick and fast, leaving the reader exhausted. Cyberwar, democratization and the Internet, the effects of 3-D printing on transportation networks, the future of education and arms control: there is hardly a subject that escapes

the authors' attention. But many of the topics Schmidt and Cohen treat in passing are so complicated (and so important) that the book sometimes seems superficial and glib. They grasp the accelerating velocity of change in the digital age but do not always communicate its meaning effectively to readers who still atavistically seek knowledge from books. The book lacks an organizing grand narrative that would tie together its blizzard of frequently startling insights into just how much change the future will bring.

This Town: Two Parties and a Funeral—Plus Plenty of Valet Parking!—in America's Gilded Capital
BY MARK LEIBOVICH. Blue Rider Press, 2013, 400 pp. $27.95.

Ce pays-ci ("this country here") is what the denizens of Versailles called their gilded cage in the reign of Louis XIV. "This town" is the name that members of what was once called the American Establishment have given their special place on the Potomac. In the most entertaining and depressing book about the U.S. political system published in many years, Leibovich lets readers peep behind the curtain and see what goes on in the greenrooms and at the parties of the Washington elite. He reveals an ugly spectacle: tribunes of the people transform into corporate shills, money makes the world go round, and insecure arrivistes stroke one another's egos as they bathe in a flowing river of narcissism. It turns out that contrary to the prevalent fears of political polarization, this is a golden age of bipartisanship. Not much happens on the floor of Congress, of course, but when it comes to doing favors for friends, Washington is enjoying a new Era of Good Feelings, in which politicians help their colleagues score regardless of their party affiliation. The Chinese Communist Party once ordered its cadres to read *The Ancien Régime and the Revolution*, Alexis de Tocqueville's account of how the failings of the old elite paved the way for the French Revolution. But today's Washington elite is probably too busy imitating the benighted creatures of Versailles to learn anything useful from their fate.

Western Europe

Andrew Moravcsik

From Stagnation to Forced Adjustment: Reforms in Greece, 1974–2010
EDITED BY STATHIS KALYVAS, GEORGE PAGOULATOS, AND HARIDIMOS TSOUKAS. Columbia University Press, 2013, 320 pp. $55.00.

This is the best volume yet on recent economic policy in Greece. It combines analytic rigor with a command of critical economic, legal, and historical details. Eschewing overly technical analysis, this group of authors recognizes that the causes of Greece's dilemmas and the future trajectory of Greek reform rest above all on domestic politics. Greek politicians, they argue, can act more freely and effectively than many observers realize. Yet the country has been bogged down by two decades of poorly designed and badly executed institutional change, based more on special interest job creation and regulation than on fair-minded redistribution. The unsatisfactory results have now been

locked in thanks to political pressure not just from public-sector employees but also from farmers, truckers, electric power producers, medical professionals, and other powerful beneficiaries. This bodes ill for ongoing EU efforts to impose reform from the outside.

The Passage to Europe: How a Continent Became a Union
BY LUUK VAN MIDDELAAR. TRANSLATED BY LIZ WATERS. Yale University Press, 2013, 392 pp. $40.00.

Van Middelaar, a smart, young political philosopher who now works as a speechwriter for European Council President Herman Van Rompuy, seems well positioned to cut through the myths and stereotypes that obscure how the EU works and why it is in crisis today. His insightful overview of Europe's historical evolution is livened by occasionally revealing anecdotes of behind-the-scenes political intrigue. Yet in the end, he finds it difficult to transcend the same technocratic prescriptions for an "ever-closer union" that have led Europe into its current impasse. He suggests that diplomats, lawyers, bureaucrats, and politicians deepen their cooperation across borders and impose centralized democratic practices on Europe from the top down. But he does not closely analyze the economic incentives, financial pressures, monetary reforms, public support, or partisan coalitions that would be required to make those solutions work, and he fails to adequately answer the critical question facing the continent today: How much integration do Europeans really want?

Angela Merkel: A Chancellorship Forged in Crisis
BY ALAN CRAWFORD AND TONY CZUCZKA. Wiley, 2013, 214 pp. $29.95.

German Europe
BY ULRICH BECK. TRANSLATED BY RODNEY LIVINGSTONE. Polity, 2013, 120 pp. $19.95.

German Chancellor Angela Merkel might well be the most powerful woman in the world. She is now headed for a rare third term as the leader of a global economic powerhouse. More than anyone else, she holds the future of the eurozone in her hands. Yet she remains a divisive and enigmatic figure. Crawford and Czuczka's book, the best biography of Merkel in English, gives readers the facts yet fails to penetrate far into the personality of an intensely private politician whose leadership style is blandly methodical. Despite the book's thin sourcing and repetitive style, the reader does get a strong sense of Merkel's slow but steady approach to governing and her intense commitment to European integration as a means to tame financial markets—elements often overlooked in analyses of the euro crisis. To judge from Crawford and Czuczka's book, Merkel just might triumph in the end.

Beck, a renowned left-leaning sociologist based in London and Munich, takes the opposite view. He thinks Merkel, whom he refers to as "Merkiavelli," is the problem. In his view, economic reforms carried out by Brussels are the only solution to the crisis, and Merkel's myopic electoral opportunism remains the sole obstacle blocking progress. This idealistic view is widely held within Germany's opposition Social Democratic Party, which is perhaps why Beck doesn't

bother to address any of the technical issues surrounding it.

By personalizing European politics, both of these books obscure the real policy tradeoffs that Germany and the other EU countries face today. The polarization the two books illustrate is itself one of the main challenges Merkel faces in realizing any vision for Europe's future.

German Jihad: On the Internationalization of Islamist Terrorism
BY GUIDO W. STEINBERG. Columbia University Press, 2013, 320 pp. $37.50.

This is an important analysis of the sources of the terrorist threat to the West. Steinberg, a German analyst, presents a perspective very different from that held by most Americans. His basic argument is that the recent focus of Islamist terrorists on U.S. and European targets—rather than, say, Saudi Arabian and Egyptian ones—is a response to Western overreaction to 9/11. The idea of a global struggle waged against the "far enemy" was a minority view within jihadist movements until the United States launched its invasions of Afghanistan and Iraq. One piece of evidence Steinberg points to is that in Europe, most jihadist attacks have targeted countries that participated in those U.S.-led wars, such as Germany, Spain, and the United Kingdom. This well-documented alternative view is widely held in Europe and deserves serious attention in the United States, as well.

The Oxford Handbook of the Italian Economy Since Unification
EDITED BY GIANNI TONIOLO. Oxford University Press, 2013, 816 pp. $150.00.

In this volume, experts grapple with one of the great mysteries of modern economic history: Italy's erratic growth. During the Renaissance, parts of the Italian peninsula were among Europe's richest regions, yet the country stagnated from then until well after unification was completed, in 1870. In the early twentieth century, growth picked up, only to be dampened by war, global depression, and fascist mismanagement. After World War II, Italy unexpectedly became western Europe's fastest-growing economy and second-largest exporter. Yet over the past decade, it has again suffered a severe setback, which these authors attribute to large budget deficits, poor adjustment to globalization by big firms, low investment in education and research, perverse wage demands, and the crushing effect of the euro on competitiveness. As one might expect from research sponsored by Italy's central bank, the book downplays that final factor perhaps more than the detailed evidence warrants.

Western Hemisphere

Richard Feinberg

Sustaining Human Rights in the Twenty-first Century: Strategies From Latin America
EDITED BY KATHERINE HITE AND MARK UNGAR. Woodrow Wilson Center Press, 2013, 424 pp. $60.00.

The veteran human rights advocates whose writings are collected here celebrate the forward march of Latin Americans in securing political freedoms, even as the book calls

for more attention to economic, social, and cultural rights. Oddly, the editors have ignored Cuba, whose revolution emphasized these latter categories of rights. Understandably, they dwell on Chile, the birthplace of the contemporary Latin American human rights movement. Essays by Hite and Elizabeth Lira focus on the rights of Chilean victims of state violence and the role of memory in justice, healing, and reconciliation. A superb chapter by Alexander Wilde compares the track records of Chile and Colombia in honoring basic human rights. Other well-informed essays consider the peace-versus-justice debates, the power of civil society to advance rights, and the strengths and shortcomings of the United Nations and the institutions of the inter-American system. The volume suffers from a weakness common to much of the literature on social and economic rights: the failure to contemplate, much less quantify, the implied monetary claims of those who have been deprived of such rights.

New Worlds: A Religious History of Latin America
BY JOHN LYNCH. Yale University Press, 2012, 424 pp. $35.00.

Lynch narrates the 500-year history of the Catholic Church in Latin America with fluidity and intelligence. He appears fundamentally sympathetic to the church's doctrines and faith and adopts a middle-of-the-road position on the institutional church's responses to political and social challenges. He criticizes orthodox bishops who became too close to reactionary elites, condemning the church's record on slavery as "riddled with inconsistency, evasion, and prevarication." But he also criticizes radical liberation theologians for blurring the distinction between Catholicism and Marxism, and he expresses contempt for Fidel Castro, who repressed the Catholic Church while tolerating syncretic Afro-Cuban religious practices. Lynch prefers moderate reformers, such as those who spoke out against the genocide of the Spanish conquest, even as he recognizes their frequent ineffectiveness during periods of polarization. In more recent times, Lynch finds value in the activist responses of church leaders in Brazil and Chile to military repression while expressing disappointment in the complicity of their Argentine counterparts. He concludes that although "tradition confronts modernity, authority and liberty in the Church have remained indivisible, each a restraint on excess in the other."

Cuban Revelations: Behind the Scenes in Havana
BY MARC FRANK. University Press of Florida, 2013, 336 pp. $39.96.

Frank, the dean of resident foreign journalists in Havana, has reported from Cuba since the mid-1990s. In this book, he produces a remarkably rich, gritty account of daily life today in the twilight of Caribbean socialism. Working around a cloistered political system, Frank has cultivated uniquely extensive networks of sources, official and private, that serve him scoops on everything from sugar production to anticorruption trials. He is sympathetic to the revolution's goals but remains cold-eyed in his assessments of the government's actions. The principal contribution of *Cuban Revelations* is

its detailed coverage of the country's recent pro-market economic reforms, of President Raúl Castro's breaking of 50-year-old ideological taboos, and of how ordinary Cubans have perceived these dramatic changes. Among other insights, Frank lists 15 reasons why the unrest sweeping the Arab world is unlikely to reach Cuba, including the fact that in Cuba, "You are allowed to drink, party, and have sex out of wedlock." Drawing on his exclusive access to unpublished public opinion surveys produced by the government, Frank reasons that most Cubans are now in a "gray zone": passive bystanders, restless for change. Castro, with his reforms, is working hard to win them back.

King of Cuba
BY CRISTINA GARCÍA. Scribner, 2013, 256 pp. $26.00 (paper, $16.00).

The Cuban American novelist García tries her hand at political fiction, with only partial success. Neither pro-Castro Cubans nor the Miami exile community will be pleased with her portrayals of their aging archetypal macho men. In García's imagination, the "King of Cuba," an 89-year-old dictator modeled on Fidel Castro, is a narcissistic, manipulative, cruel tyrant: in one scene, he tempts prisoners on a hunger strike with an elaborate banquet. His mirror-image antagonist, in exile in Miami, is equally unappealing: bitter and obsessive, he fantasizes about killing the tyrant and practices his gun skills at a shooting range. Among their shared traits, the two old men fondly recall their numerous sexual exploits, and both struggle vainly against the betrayal of their youthful dreams and the depredations of their aging bodies. García can be devilishly witty and entertaining, but other Latin American authors have produced more finely drawn images of the fading caudillo. Another disappointment is that García's portrait of a stagnant, sinking Cuba, gripped by political unrest, underplays the more hopeful present reality.

Eastern Europe and Former Soviet Republics

Robert Legvold

Fragile Empire: How Russia Fell In and Out of Love With Vladimir Putin
BY BEN JUDAH. Yale University Press, 2013, 400 pp. $30.00.

Among the cascade of recent books about Vladimir Putin, this one stands out for three reasons. First, it is not quite a biography or an explanation of the man but rather a history of how he and those who surround him built the system that has guided Russia for the last 13 years—and now misguides it, Judah argues. Second, in laying out the dysfunctions of a centralized but weak state, an all-powerful but corrupt bureaucracy, and an alienated but impotent society, Judah illustrates his case in particularly dispiriting detail, from the machinations on high to the grubby politics below, from the venal battles in Moscow to the empty despair in godforsaken corners of the hinterlands. Finally, he gathers much of his material from telling interviews with a wide range of sources—opposition leaders, fallen oligarchs, and even dissolute

teenagers in villages on Russia's Chinese border—and weaves them together with a fine selection of secondary sources. Judah packs familiar stories with unfamiliar details and freshens familiar judgments with unfamiliar insights.

Club Red: Vacation Travel and the Soviet Dream
BY DIANE P. KOENKER. Cornell University Press, 2013, 328 pp. $39.95.

Leisure, the counterpoint to work in the eyes of social scientists and planners everywhere, played a particularly utilitarian role in the Soviet Union. In the early years of the Soviet era, vigorous outdoor activity held sway as a restorative and as a repudiation of the pleasure-filled, hotel-bound vacations favored in the West. Gradually, the regime made room for health sanatoriums and vacation travel, although still guided by "scientifically planned and purposeful activities." Ironically, these changes began in 1927, on the eve of Stalin's brutal collectivization of agriculture and first five-year plans. Koenker, with discriminating thoroughness, traces the evolution of Soviet vacationing from that point through the mid-1980s. Over time, Stalinist holidays of fitness and patriotism for the new proletariat gave way to a different model for a different set of beneficiaries, drawn from the Communist Party and bureaucratic elite. By the late 1960s, Soviet vacationers had become less objects of the system and more consumers with a taste for "variety, comfort, service, and family vacations." This is well-told history, a portrait of life in the Soviet Union that will be recognizable to those who lived it.

The Interloper: Lee Harvey Oswald Inside the Soviet Union
BY PETER SAVODNIK. Basic Books, 2013, 288 pp. $27.99.

Lee Harvey Oswald was a tangle of twisted impulses, damaged roots, confused ideals, and shallow convictions. Savodnik follows him from his early days, narrating his youthful dabbling in Marxism and his stint in the U.S. Marine Corps, where, not yet out of his teens, he was already planning to flee to the Soviet Union. He arrived there in 1959, unwanted by the Soviets and filled with half-baked ideas about communism. The authorities shunted him off to Belarus, where a wary KGB could keep an eye on him. Oswald tried to fit in, failed, soured on Soviet life, and asked for the U.S. embassy to give him back his passport less than two years after turning it over. Savodnik recounts almost month by month Oswald's life in Minsk: his work, friends, conversations, and romances, thanks in part to intensive interviews with those who knew him or "handled" him. His firm and convincing conclusion is that Oswald acted alone when he later killed U.S. President John F. Kennedy and acted not out of animus toward Kennedy or even a misbegotten ideological impulse but rather to effect the early culmination of a life for which Oswald could find no resolution.

Vanished by the Danube: Peace, War, Revolution, and Flight to the West
BY CHARLES FARKAS. State University of New York Press, 2013, 490 pp. $26.95.

This memoir is like a photo album of images from Farkas' life arrayed alongside

all the contextual details of the four decades of Hungarian history the author covers. Farkas was born in Hungary in 1925, trained as a lawyer, and left the country as part of the post-1956 exodus, ending up as a library director in a small community in upstate New York. As the relatively privileged son of landlords, he spent his youth like many boys of his age and social class: playing imaginary games, biking, chasing girls, and struggling with school. But what makes his account interesting is the incredible detail with which he relates events, down to the food served, the songs played, and the jokes told at parties. Hardship arrived with World War II, when he and his classmates were conscripted into a labor battalion to dig defensive trenches in Transylvania. Their lives were upended again with the coming of communism, and once more when the Soviets quickly crushed the momentary hope inspired by the Hungarian revolt of 1956.

The Tragedy of a Generation: The Rise and Fall of Jewish Nationalism in Eastern Europe
BY JOSHUA M. KARLIP. Harvard University Press, 2013, 400 pp. $45.00.

Jewish nationalism in the late nineteenth and early twentieth centuries is normally associated with Zionism. But that association overlooks the remarkable alternative forms taken by the idea of a Jewish state. At the turn of the century, many young Jewish intellectuals considered the idea of a homeland in Palestine impractical and unnecessary. They were instead animated by a vision of an autonomous Jewish state within a democratic, multiethnic, and (for many) socialist Russia and eastern Europe. Karlip, with skill and clarity, navigates the many cross-currents and links between Zionism and "diaspora nationalism" and its cultural companion, Yiddishism. He examines and compares the two ideologies' cultural and political aspects, the fluctuating role of socialist ideals in each, and, in particular, their struggles to reconcile old and new Jewishness and classical Judaism with contemporary European culture. The result is a substantial enrichment of Russian, eastern European, and Jewish history. Karlip uses the lives of three seminal figures—Yisroel Efroikin, Zelig Kalmanovitch, and Elias Tcherikower—to tell the story of the movement's early idealism, inspired in part by the 1905 Russian Revolution, through its decay in the wake of World War I and the Holocaust.

Buried Glory: Portraits of Soviet Scientists
BY ISTVAN HARGITTAI. Oxford University Press, 2013, 368 pp. $35.00.

They were men of the system: supremely talented, among the most important theoretical physicists in the twentieth century, and central to the development of nuclear weapons in the Soviet Union. Their critical roles protected them whenever they strayed. Lev Landau, one of the most brilliant scientists in the set, doomed himself to a year in the secret police's prisons by signing a pamphlet that called Stalin a fascist. But his fate would have been far worse if not for the fact that his superior, Pyotr Kapitsa, intervened on his behalf and persuaded the authorities to release him. Kapitsa headed the critical Institute of Physical Problems, which Stalin had created

specifically for Kapitsa in 1934, after refusing to let the physicist return to the United Kingdom, where, since 1921, he had flourished as a researcher. Hargittai, a distinguished Hungarian chemist, relates 12 compact biographies of scientific giants such as Igor Tamm, Andrei Sakharov, Nikolai Semenov, and Yuli Khariton, some of whom he knew personally. His mosaic of a book conveys well the triumphs, tensions, and twists of fortune in this rarified corner of Soviet life.

Middle East

John Waterbury

The Muslim Brotherhood: Evolution of an Islamist Movement
BY CARRIE ROSEFSKY WICKHAM. Princeton University Press, 2013, 384 pp. $29.95.

Ashes of Hama: The Muslim Brotherhood in Syria
BY RAPHAEL LEFÈVRE. Oxford University Press, 2013, 288 pp. $29.95.

The Muslim Brotherhood arose in Egypt in the late 1920s and still acts as a mother ship of sorts for most of the world's Islamist movements. Wickham has studied the group for 20 years and has interviewed virtually all its leaders. She focuses on the current period, dating back to the 1980s, when Brotherhood members began participating in Egyptian parliamentary elections and organizing student and professional associations. She explores how engagement with the broader body politic has affected the values of individual Brothers and the organization as a whole, a topic that gained salience this summer, when the Egyptian military ousted Egyptian President Mohamed Morsi, a former Brotherhood leader, and launched a violent crackdown on the group. Wickham's account predates those developments but nonetheless presages such events. Although she suggests that participation in politics leads to moderation among Islamists, one could just as easily find evidence in the Egyptian experience that state repression has the same effect. In fact, the history of Islamist groups in places such as Morocco, Syria, and Turkey also indicates that repression leads to moderation, as Islamists adopt a self-denying principle of avoiding political victories that might panic their adversaries.

Like Wickham, Lefèvre relies heavily on interviews, in his case to trace the history of the Syrian branch of the Brotherhood. He demonstrates that although the Syrian branch took its inspiration and basic doctrines from Hasan al-Banna, the Egyptian founder of the Brotherhood, the movement in Syria has been autonomous and reflective of its home country's peculiarities. Indeed, both Wickham and Lefèvre demonstrate that the Brotherhood has no international command-and-control system: it is no Comintern and is in fact more decentralized than even al Qaeda. In Egypt and Syria, the Brotherhood represents a broad spectrum of Islamist positions, from puritanical (including an endorsement of violence in some circumstances) to liberal (including respect for religious minorities and women's political rights). In both places, the organization has struggled with internal cleavages between old-guard leaders—veterans of

prison whose priorities lie in social issues and proselytizing—and a younger generation focused on political participation and elections. In Syria, the picture is complicated by differences between the Brotherhood's incarnations in Damascus and Aleppo (more liberal) and Hama (more enamored of violent self-defense).

In both Egypt and Syria, the Brotherhood has been illegal for most of its existence. Despite that, the sibling organizations have practiced meaningful internal democracy within tight hierarchies. Each has an elected consultative council that votes on major policy decisions and leadership changes. These are dynamic organizations, capable of evolution.

The World Through Arab Eyes: Arab Public Opinion and the Reshaping of the Middle East
BY SHIBLEY TELHAMI. Basic Books, 2013, 240 pp. $27.99.

Since the mid-1990s, Telhami has monitored Arab public opinion in six countries that represent the region's spectrum of political and economic types: Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, and the United Arab Emirates. His findings sometimes reflect significant differences in the opinions in these countries but more often demonstrate basic commonalities. At a time when some pundits see crises in Syria and elsewhere leading to the marginalization of the Arab-Israeli conflict in the region's politics, Telhami forcefully pulls readers back to it, labeling it a "prism of pain" through which Arab publics view the region—even if their leaders do not. Arabs overwhelmingly view Israel and the United States as the greatest threats they face. This produces inconsistent preferences: manifested, for example, in their pushing for the establishment of democratic institutions in their own countries while admiring antidemocratic leaders who defy the United States, such as former Iranian President Mahmoud Ahmadinejad. Telhami argues that no U.S. president will make a dent in Arab anti-Americanism so long as Washington maintains its uncritical support for Israel and continues to deploy significant U.S. military forces in the region.

Beyond War: Reimagining American Influence in a New Middle East
BY DAVID ROHDE. Viking, 2013, 240 pp. $27.95.

Drawing on his experience as a *New York Times* correspondent, Rohde argues that U.S. policy in the Middle East should rely less on military strength and that Washington should stop throwing aid money at problems in the region; Rohde notes that at one point, the U.S. Agency for International Development was spending $340 million a month in Afghanistan alone. U.S. policy should focus more on responding to the needs of moderates in Middle Eastern societies and on promoting education, private investment, and public-private ventures that foster innovation, he argues. This is hardly the first book to call for a major recasting of U.S. policy toward the Middle East. But Rohde raises some big structural questions: What determines and sustains U.S. policy in the region? Is it realistic to expect dysfunctional public bureaucracies to foster private innovation? Why do some private actors act as parasites

on public budgets, while others, such as the technologists that Rohde admires, innovate and create wealth? Rohde does not address such questions fully enough, making it difficult to evaluate his proposed paradigm shifts.

Oil for Food: The Global Crisis and the Middle East
BY ECKART WOERTZ. Oxford University Press, 2013, 328 pp. $99.00.

This carefully researched book focuses on food security in the Middle East, especially in the Persian Gulf and on the Arabian Peninsula, but it ranges far beyond that subject to delve into the relative impact of oil and food on international trade and the likely effects of climate change on agricultural markets. Woertz begins in the 1970s, when the Arab-led oil embargo pushed up prices and elicited Western threats to withhold their food exports in retaliatory "food wars." The oil-rich Arab states responded by investing in agricultural production elsewhere, primarily Sudan. Those projects eventually came to naught, although Saudi Arabia ultimately became a net exporter of wheat owing to generous state subsidies (and at the expense of the country's meager ground-water resources). In 2008, agricultural prices surged in the wake of the financial crisis, rekindling concerns about food security in the region. Food importers began to search again for reliable partners in developing countries with unexploited capacity and low productivity. But poor infrastructure, political instability, and red tape discouraged Arab investors from backing projects in countries such as Ethiopia and Pakistan.

Asia and Pacific

Andrew J. Nathan

Transforming India: Challenges to the World's Largest Democracy
BY SUMANTRA BOSE. Harvard University Press, 2013, 352 pp. $35.00.

Bose lucidly analyzes India's "decentered democracy," in which power lies increasingly with the state governments. Their authority grows partly out of the federal constitution, but more substantially, it is the result of the takeover since the 1990s of many state governments by political parties that are rooted in local ethnolinguistic communities and that owe little loyalty to New Delhi. As an example, Bose explores West Bengal, where the long-ruling Left Front coalition built a political machine dependent on landless rural voters, until it was supplanted by a local breakaway faction of the Indian National Congress. He also looks at two communities that are profoundly alienated from the political system: Kashmiri Muslims, who have conducted a long-running rebellion in the face of brutal repression, and tribal groups living in a band of forested districts in the east, where a Maoist (or Naxalite) insurgency has smoldered for decades. The willingness of most Indians to commit to multiple social identities has produced a distinctive form of democratic politics. In revealing both the violence and the vitality of India's democracy, Bose sees the country's future prosperity and stability as anything but assured.

The Logic and Limits of Political Reform in China
BY JOSEPH FEWSMITH. Cambridge University Press, 2013, 229 pp. $85.00 (paper, $27.99).

In recent years, grass-roots political reforms in China have drawn much hopeful attention in the West. Some townships have held elections for government leaders, a number of cities have opened their budgets to public scrutiny, and in the prosperous city of Wenzhou, the government has allowed associations of private businesses to advise it on policy. But Fewsmith's careful analyses of roughly a dozen such experiments show that none was democratic in the Western sense. Although varying in form, they have all involved local elites, but not the general public; they have delegated influence over only a narrow range of decisions; and they have avoided mobilization around real conflicts of interest. Some reforms were designed to help the Communist Party recover a measure of prestige in the aftermath of corruption scandals; others, to promote the careers of the officials who sponsored them. Power over local affairs has remained vested in bureaucracies at higher levels, and the party's secretive Organization Department has retained control over officials' careers. As innovative officials moved on to new jobs, their efforts were revealed as nothing more than displays of "authoritarian consultation."

Brothers at War: The Unending Conflict in Korea
BY SHEILA MIYOSHI JAGER. Norton, 2013, 608 pp. $35.00.

Tyranny of the Weak: North Korea and the World, 1950–1992
BY CHARLES K. ARMSTRONG. Cornell University Press, 2013, 328 pp. $35.00.

Jager's magisterial history of the Korean War incorporates all the latest research, material from newly opened archives, and lots of photographs. It covers the international context, the war on the ground, and controversies over germ warfare and prisoners of war. Although the story of atrocities committed by North Korean and Chinese troops has been told many times before, Jager gives equal attention to lesser-known atrocities perpetrated by U.S. and other allied troops and even by South Korean troops against their own people. She argues that the bitterness of the conflict helped harden Cold War antagonisms in Asia. The war was interrupted by an armistice in 1953 but has not formally ended. The second half of the book traces the history of North-South competition for the "mantle of Korean legitimacy" up to the present. After starting out in the weaker position, South Korea seems to have won the struggle, leading Jager to wonder whether North Korea's only way out is to become an economic dependent of China—specifically, a virtual "fourth province" of northeastern China.

Armstrong also examines the competition for legitimacy between the two Koreas during the Cold War. His book builds on the work of projects hosted at the Wilson Center, in Washington, D.C., and on his travels to various capitals; the result is a superb example of international history that makes use of multiple archives. In a pattern that continues today, Pyongyang's provocations and

intransigence abroad and tyranny at home were rooted in its unenviable geostrategic position as the focus of conflict and competition among several great powers. To benefit from those rivalries, North Korea employed what Armstrong calls "masterful manipulation." Relations between the Kim dynasty and its patrons in Moscow, Beijing, and East Berlin were even worse than the outside world suspected. Yet all sides were trapped by their need for one another. As the Kims progressively destroyed the North Korean economy, they became increasingly dependent on outside help and increasingly unwilling to acknowledge the assistance. This rich analysis shows how the region's weakest state has so often managed to dominate the region's diplomatic agenda.

The Tragedy of Liberation: A History of the Chinese Revolution, 1945–1957
BY FRANK DIKOTTER. Bloomsbury, 2013, 400 pp. $30.00.

Dikotter probes beneath the surface of what some still see as a relatively benign early phase of Mao's rule, when the Communists restored political order and the economy, combated social evils, and allowed a modicum of personal freedom. He reveals the cost of what he calls a policy of "calculated terror and systematic violence." This is the second book in his projected People's Trilogy series, which aims to expose the impact of Maoism on ordinary people. Dikotter is a pioneering Western user of Chinese provincial archives, and given China's vast size and social complexity, his project is opening up a vast, comprehensive panorama of suffering. To carry out land reform in poor villages where there were no landlords, the poor attacked one another, and the losers' meager possessions were redistributed. Revolutionary authorities executed alleged counterrevolutionaries to fulfill quotas. Excessive grain requisitions by the government drove many peasants to starvation. In the cities, old housing was destroyed, and people were rushed into new buildings that were badly constructed and inadequate for their needs. By using the unexpurgated versions of Mao's orders contained in the provincial archives, Dikotter traces the blame for these outrages directly to Mao.

The Chinese Question in Central Asia: Domestic Order, Social Change, and the Chinese Factor
BY MARLÈNE LARUELLE AND SÉBASTIEN PEYROUSE. Columbia University Press, 2013, 271 pp. $60.00.

Chinese inroads into Central Asia look less impressive when viewed from the local point of view than they do from the conventional vantage point of the global strategic chessboard. Of the five states in the region that emerged from the collapse of the Soviet Union, four have joined China and Russia in the Shanghai Cooperation Organization, acceded to China's demand to rein in their Uighur diasporas so that they cannot coordinate with Uighurs in western China to push for greater autonomy, and expanded their economic ties with China. But Laruelle and Peyrouse's travels in the region revealed that these states view the SCO as marginal to their main security worries, such as local insurgencies and instability in Afghanistan. They distrust

China's reliability on border security and view their economic relationships with China as unequal. Many of their intellectuals think that China is mishandling the Uighur problem and that instability in China could spill over and affect their countries. The regional states are also divided among themselves over many issues, including the management of water resources and competition for Chinese trade and transit routes. Theirs is a pragmatic accommodation with China, buttressed more than anything else by the economic benefits that the arrangement offers corrupt elites.

Citizenship and Its Discontents: An Indian History
BY NIRAJA GOPAL JAYAL. Harvard University Press, 2013, 376 pp. $45.00.

Who is a citizen, and what rights does that status entail? These questions are especially tough for India, with its history of communal divisions, diasporas, and refugee inflows. Muslims who fled to Pakistan at the time of the partition and then came back had a harder time getting citizenship than Hindus in the same situation. Some state governments have refused to implement citizenship rights for certain tribal populations, even though their rights are recognized by the national government. Since India does not recognize citizenship based on birth on Indian soil, some refugee communities have remained stateless for several generations. At the other end of the spectrum, wealthy foreigners of Indian ethnicity can purchase the status of Overseas Citizen of India. The country's complex system of quotas and entitlements at once privileges and stigmatizes the poor, members of lower castes, and tribal populations. Jayal argues that India's history as a society built on the exclusionary logics of castes and tribes continues to clash with its self-image as an inclusive democracy.

Africa

Nicolas van de Walle

Battleground Africa: Cold War in the Congo, 1960–1965
BY LISE NAMIKAS. Stanford University Press, 2012, 288 pp. $60.00.

Civil Wars in the Democratic Republic of the Congo, 1960–2010
BY EMIZET FRANÇOIS KISANGANI. Lynne Rienner, 2013, 254 pp. $58.50.

Congo
BY THOMAS TURNER. Polity Press, 2013, 240 pp. $64.95 (paper, $22.95).

Africa boosters, who argue that the region has finally turned a corner and sits on the cusp of a major economic breakthrough, rarely mention the Democratic Republic of the Congo, whose population remains poorer than it was at independence, in 1960. Yet this massive country in the continent's center covers nearly as much territory as western Europe and neighbors nine other African states, so it is hard to believe that the continent's economic prospects are not at least in part tied to those of Congo. These three new books offer keen insights into the political and civil strife that have wracked Congo for decades and that the country seems far from resolving.

Namikas offers a fine history of the Cold War politics of Congo during the early 1960s, informed by access to recently declassified archival material in Moscow and Washington. She focuses on the diplomatic tug of war over Congo that took place among Belgium, the Soviet Union, the UN, and the United States as the newly independent country drifted from crisis to crisis. Namikas explains that for Western diplomats, who knew so little about the dynamics of ethnic political competition within Congo, the ideological competition between the West and communism represented the only framework through which they could understand—or, more often, misunderstand—the country. By the mid-1960s, the Soviet Union had backed off, recognizing that it had too little at stake in central Africa to justify provoking a dangerous confrontation with the United States. The Soviet retreat allowed the United States and its allies to help President Mobutu Sese Seko solidify his rule over the country, which he renamed Zaire. For the next several decades, Mobutu proceeded to run the country into the ground with the full support of the Western powers.

Kisangani's book is also primarily historical, analyzing half a dozen episodes of conflict in different parts of Congo going back to the 1960s. For Kisangani, the country's instability stems from the failure of the central state to accommodate the aspirations of regional elites in the provinces, who respond by provoking ethnic disputes as a way of getting attention from the central authorities. External actors then insert themselves into the ethnoregional revolts and manipulate them in order to advance their own interests. The book ends with a not entirely satisfying call for the decentralization of state power, which Kisangani sees as the only way to overcome the difficulty of integrating all the regions of this vast and highly diverse nation with little infrastructure and a central state never far from collapse.

Turner's book is less systematic in its coverage of the conflict but wisely focuses on just several themes that explain the persistence of instability. Much more than Kisangani, Turner emphasizes the role of external actors and is extremely critical of the cynical manipulations of neighboring countries, such as Rwanda, and the incoherence of Western governments' policies on Congo during the last two decades, especially that of the United States. The most notable example of the inefficacy of Western-led interventions is MONUSCO (the UN Organization Stabilization Mission in the Democratic Republic of the Congo), the UN's largest-ever peacekeeping force, which, since its establishment in 1999, has failed to contribute much to the cause of lasting peace in the country. Turner's analysis suggests that even if Kisangani is right to advocate political decentralization at the domestic level, political stability will also require a broader regional framework involving several neighboring governments.

Oil Wealth in Central Africa: Policies for Inclusive Growth
EDITED BY BERNARDIN AKITOBY AND SHARMINI COOREY.
International Monetary Fund, 2012, 247 pp. $25.00.

This IMF report on the oil-rich economies of central Africa contains few novel insights, but it does shed some light on

the fiscal affairs of some of the most corrupt states in the world. Without attracting much outside scrutiny, these countries have managed to squander enormous amounts of oil money while barely improving the lives of their citizens. The report reveals some particularly damning facts: for instance, Cameroon cannot account for an estimated 35 percent of its oil revenues since 1977. The report's central argument is that these states could improve how they spend their oil wealth, increasing economic growth and alleviating poverty in the process. Each of these countries lags sharply behind other countries at its national income level in terms of social indicators such as literacy and infant mortality. The contributors, mostly staff economists of the IMF, are too polite to acknowledge that the improvements in policy they advocate are highly unlikely to come about so long as the governments that rule these countries continue their practice of using oil wealth to purchase the loyalty and unity of elites.

Authority Stealing: Anti-corruption War and Democratic Politics in Post-military Nigeria
BY WALE ADEBANWI. Carolina Academic Press, 2012, 482 pp. $55.00.

Although Adebanwi's book ranges broadly across recent Nigerian history, its central purpose is to assess postcolonial Nigeria's most serious campaign to eradicate large-scale corruption. In 2003, President Olusegun Obasanjo appointed Nuhu Ribadu as chair of the Economic and Financial Crimes Commission, a position he would retain until 2008, when Obasanjo's successor, Umaru Yar'Adua, removed him. During his tenure, Ribadu became a hero to many Nigerians for transforming the commission into a relatively effective anticorruption vehicle, indicting hundreds of prominent Nigerians for various economic crimes. In 2009, following several attempts on his life amid fierce counterattacks by many of the powerful people he had taken on, Ribadu left the country. Although the book meanders a bit and could have been improved by some aggressive editing, it tells an engaging story, full of striking details about the numerous cases that marked Ribadu's tenure. Readers will be rewarded with a thorough education in the personalities, practices, and political culture that allow billions of dollars of Nigerian state revenues to disappear every year.

Letters to the Editor

A FAR CRY FROM FAILURE

To the Editor:

Stephen Biddle and Karl Eikenberry are outstanding public servants and scholars, but their respective articles on Afghanistan ("Ending the War in Afghanistan" and "The Limits of Counterinsurgency Doctrine in Afghanistan," September/October 2013) convey excessively negative assessments of how the war is going and of Afghanistan's prospects. Their arguments could reinforce the current American malaise about the ongoing effort and thereby reduce the odds that the United States will continue to play a role in Afghanistan after the current NATO-led security mission there ends in December 2014. That would be regrettable; the United States should lock in and solidify its gains in Afghanistan, not cut its losses.

Biddle argues that the U.S. Congress and other donors are unlikely to keep funding the Afghan government after 2014. Based on this conclusion, he states that the only other viable options for Washington are to broker a power-sharing deal between the Afghan government and the Taliban or to end its mission immediately.

This argument hinges on Biddle's assessment of U.S. politics more than any military or strategic analysis. His reference to U.S. policy in Vietnam in 1973–75 is overdone. A more relevant historical precedent for Afghanistan is the fact that Washington has maintained long-standing security and economic commitments to partners such as Egypt, Greece, Israel, South Korea, Taiwan, and Turkey. These cases belie the contention that the United States has too short an attention span to sustain aid to important allies over a protracted period. Future U.S. commitments to Afghanistan would probably incur only ten percent of the cost and casualties of the war to date. If the mission succeeds, moreover, Congress is likely to continue to provide funding. It is a curious and circular argument to say that because the mission might fail in the future—due to Washington's undependable staying power—the United States should throw in the towel and concede defeat now.

Eikenberry makes some reasonable points about the excessive hopes placed in comprehensive counterinsurgency doctrine over the past decade or so, including in Afghanistan. Many of his specific critiques ring true. But Eikenberry underrates how far Afghanistan has come—in part due to his own efforts as U.S. military commander in Afghanistan and then U.S. ambassador to Kabul. The Afghan security forces have many good leaders and dedicated troops; they now lead 99 percent of all combat operations and sustain 200 or more fatalities a month without cracking. That represents a partial success of the counterinsurgency policy that Eikenberry criticizes. So does the community of Afghan reformers that Eikenberry and others personally helped nurture in recent years. It is true that counterinsurgency strategy may have fallen short of its proponents' aspirations and may require an overhaul before being applied to future conflicts. But that fact does not make

the overall concept or its application in Afghanistan a failure.

Even if political reforms and counterinsurgency have not achieved the loftier goals that U.S. policymakers once imagined for Afghanistan, the United States can still achieve its core strategic goals there by building up a state that is at least resilient enough to fend off the Taliban in most population and economic centers. The situation in Afghanistan today is a far cry from failure, and the case for pulling up stakes and coming home now is strategically unpersuasive.

MICHAEL O'HANLON
Senior Fellow and Director of Research, Foreign Policy, Brookings Institution

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THE REAL DRONE DEBATE

To the Editor:

In their respective articles "Why Drones Work" and "Why Drones Fail" (July/August 2013), Daniel Byman and Audrey Kurth Cronin make arguments that are not mutually exclusive. Byman emphasizes that U.S. drone strikes have decimated al Qaeda's senior leadership; Cronin, that they have galvanized extremist recruiting and soured foreign public opinion of the United States. Both points are undoubtedly true, and to argue otherwise in either case would be to deny the basic realities of U.S. drone warfare.

Both authors neglect to mention, however, that the use of drone strikes needs to be tempered by the domestic political realities in the countries where they are carried out. Only then can drone warfare achieve the benefits outlined by Byman while minimizing the drawbacks explained by Cronin.

The recent history of U.S. drone strikes in Pakistan provides a good example of

this concept. The relative scarcity of drone strikes in 2007–8 was commensurate with the Pakistani government's ability to handle the political fallout. The infrequent strikes kept public discontent to a simmer and allowed the host government to avoid publicly denouncing them. These strikes stand in contrast to those in 2009–12, when the sheer number of strikes blew the cover off the program, inflamed public sentiments, and forced the Pakistani government to halt its support.

Drone strikes should be just one tool in a larger counterterrorism framework, used only in accordance with a host government's political legitimacy. Like all things, drone strikes work best in moderation. Their use need not be governed by the false all-or-nothing proposition outlined by Byman and Cronin.

ANISH GOEL
Senior Director for South Asia, U.S. National Security Council, 2008–11

ARCTIC BUNGLE

To the Editor:

Scott Borgerson ("The Coming Arctic Boom," July/August 2013) is right to argue that "Alaska should invest its considerable wealth in its underdeveloped university system, finance ambitious infrastructure projects, and create policies that attract talented immigrants and encourage them to start new businesses, such as renewable energy ventures."

Unfortunately, the recently passed Alaskan Senate Bill 21 reduces the income Alaskans receive from oil produced on public lands. Alaska has already begun to run deficits, is unable to finance university investments, and, for the fourth straight year, has frozen funding for basic classroom instruction.

Oil companies have high profit margins yet pay less for extracting oil in Alaska than in Norway or countless other countries. Alaskan Governor Sean Parnell is squandering an opportunity to convert oil wealth into human and physical capital. Alaska's oil resources are finite, and the state should invest the profits now in capital development and economic diversification.

MIKE WENSTRUP
Chair, Alaska Democratic Party

Foreign Affairs (ISSN 00157120), November/December 2013, Volume 92, Number 6. Published six times annually (January, March, May, July, September, November) at 58 East 68th Street, New York, NY 10065. Print subscriptions: U.S., $54.95; Canada, $66.95; other countries via air, $89.95 per year. Canadian Publication Mail–Mail # 1572121. Periodicals postage paid in New York, NY, and at additional mailing offices. POSTMASTER: Send address changes to *Foreign Affairs*, P.O. Box 60001, Tampa, FL 33662-0001. From time to time, we permit certain carefully screened companies to send our subscribers information about products or services that we believe will be of interest. If you prefer not to receive such information, please contact us at the Tampa, FL, address indicated above.

U.S. Postal Service Statement of Ownership, Management & Circulation (Required by 39 USC 3685)

1. Publication Title: FOREIGN AFFAIRS
2. Publication No: 204-580
3. Filing Date: 9/30/13
4. Issue Frequency: Bimonthly
5. No. of issues Published Annually: Six
6. Annual Subscription $44.95
7. Complete Mailing Address of Known Office of Publication (Street, City, Country, State & Zip + 4) (Not Printer): FOREIGN AFFAIRS, 58 East 68th Street, New York, NY 10065
8. Complete Mailing Address of Headquarters or General Business Office of the Publisher (Not Printer): FOREIGN AFFAIRS, 58 East 68th Street, New York, NY 10065
9. Full Names and Complete Mailing Addresses of the Publisher, Editor & Managing Editor:

Publisher:	Editor:	Managing Editor:
Lynda Hammes	Gideon Rose	Jonathan Tepperman
FOREIGN AFFAIRS	FOREIGN AFFAIRS	FOREIGN AFFAIRS
58 East 68th Street	58 East 68th Street	58 East 68th Street
New York, NY 10065	New York, NY 10065	New York, NY 10065

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The Council on Foreign Relations, Inc.
FOREIGN AFFAIRS
58 East 68th Street
New York, NY 10065

11. Known Bondholders, Mortgages, and Other Security Holders OWNING OR Holding 1 percent or more of Total Amount of Bonds, Mortgages, or Other Securities: None.
12. For completion by nonprofit organizations authorized to mail at special rates: The purpose, function and nonprofit status of this organization and the exempt status for Federal income tax purposes has not changed during the preceding 12 months.
13. Publication Name: FOREIGN AFFAIRS
14. Issue Date for Circulation Data Below: Jul/Aug 2013

15. Extent and Nature of Circulation:

	Average No. Copies Each Issue During Preceding Twelve Months	Actual No.Of. Copies Issue Published Nearest to Filing Date
A. Total Number of Copies (net press run)	208,411	207,500
B. Paid Circulation (By Mail and Outside the Mail)		
1. Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (Included paid Distribution above nominal rate, advertisers proof copies, and exchange copies)	104,109	104,916
2. Mailed In-county Paid Subscriptions Stated on PS Form 3541 (Included paid Distribution above nominal rate, advertisers proof copies, and exchange copies)	0	0
3. Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS	32,642	35,489
4. Paid Distribution by Other Classes of Mail Through the USPS (e.g First-Class)	13,231	13,239
C. Total Paid Distribution (Sum of 15b (1), (2), (3), and (4))	149,982	153,644
D. Free or Nominal Rate Distribution (By Mail and Outside the Mail)		
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2. Free or Nominal Rate In -County Copies Included on PS Form 3541	0	0
3. Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g. First-Class Mail)	0	0
4. Free or Nominal Rate Distribution Outside the Mail (carriers or other means)	7,192	7,292
E. Total Free or Nominal Rate Distribution (Sum of 15d (1), (2), (3) and (4))	7,192	7,292
F. Total Distribution (Sum of 15c. and 15e.)	157,174	160,936
G. Copies not Distributed (See Instructions to Publishers #4 (page 3)	51,237	46,564
H. Total (Sum of 15f and g)	208,411	207,500
I. Percent Paid (15c divided by 15f times 100)	95%	95%

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